WELAND

Product Manual

Edition 6

Welcome to Weland AB!

Weland AB is a manufacturing family company with a factory and head office in Smålandsstenar, Sweden. Since the start in 1947, Weland AB has experienced a substantial expansion. Even if the company has become larger, we still have the same goals as before

to be flexible and to provide the same level of service to all of our customers, both large and small.

In Smålandsstenar, we have approximately 250 employees and a manufacturing area of approximately 80,000 m^2.

Among the very first products that Weland manufactured in Smålandsstenar were wing nuts, but since the 1960s pressure-welded grating has been the backbone of the company and of the various products that Weland makes.

Today, we manufacture a wide range of different products, such as gratings, gangways for disabled people, spiral staircases for indoor and outdoor applications, straight flight staircases, railings and various other steel products.

In addition, sheet metal working using laser and water cutting, punching, folding and machining on a subcontracting basis is a significant part of our business in Smålandsstenar.

This is where Weland AB started in 1947 with the production of wing nuts, among other things.

CE marked products

Weland is certified in accordance with EN 1090 for CE marking. Weland has been certified by Nordcert in cooperation with SFK-Certificering.

The CE marking means that we have certified production control and that our products meet the requirements stipulated in the Construction Product Regulation (CPR) and EN 1090 for load-bearing steel structures.

ISO 9001 and 14001

Weland AB is certified in accordance with the ISO 9001 standard for quality management systems and the ISO 14001 standard for environmental management systems.
These certifications mean the business is audited at regular intervals by an external accredited certification body, which ensures compliance with the requirements in the standards as well as ensuring that we are continuously improving in the areas of quality and environment.

The certificates are available for downloading from our website, www.weland.se

Grating products

Grating

Project development, terminology, etc.

Plank type flooring, slit plank type flooring

Fixings

Kerb angle frames

Gangways for the disabled

See pages 6-83

Staircases and railings

Spiral staircases for evacuation and industry

Spiral staircases for residential and office indoor applications

Straight staircases

Special staircases

Stair treads and landings

Railings

See pages 84-187

Mezzanines and gangways

Mezzanine

Gangways

See pages 188-203

Sheet metal working

Automatic punching

Slitting of coils

Bending

Finishing of cut surfaces

Multi-operation machining

Design

Control measurement

Laser cutting

Materials handling

Sheet metal and tube in stock

Cutting machining

Punching, nibbling, and panel folding

Welding

See pages 204-231

Other products

Cat ladders

Labelling goods

Cantilever Racks

Pallet racks

Profiles

Collision protection

Expanded metal

Outdoor furniture

Surface treatment

Entrance gratings, Kåbe Original

Group products

See pages 232-286

Grating products

Grating

Weland manufactures gratings in three different versions: pressure welded grating, A-type grating and eco-grating.

Each version is available in many dimensions, different mesh widths, materials and surface treatments.

Applications for gratings

The gratings have many areas of application, both for indoor and outdoor use. The gratings offer good properties for use for e.g. walkways, vehicular gratings, entrance gratings, fences, burglary protection, gangways for the disabled, false ceilings, etc.

Planning

Questions you should ask yourself when planning gratings and that you should take into consideration include:

- *Bearing capacity and load capacity of the grating*
- *Environment in which the grating is to be placed*
- *Permeable for objects, light and fluids*
- *Does the grating require anti-slip protection*

Read more about designing on pages 45-53.

Three different types of grating

Pressure welded grating

Weland pressure welded grating is manufactured according to the resistance welding method. The load bearing bars are joined with the cross bars under high pressure and high amperage. The material at the welding points is heated and welded together without additives. This method produces welded joints with no slag. Zinc or paint therefore adheres well to these surfaces.

This manufacturing method for pressure welded grating gives a welded joint at each connection between load bearing and cross bars. This provides the grating with extremely good durability, strength, and a high bearing capacity.

Pressure welded grating is made either from steel or stainless steel.

Normally, gratings are hot dip galvanised for maximum rust protection.

Pressure welded grating types H3, H6 and N6 are kept in stock for immediate delivery.

A-type grating

Weland A-type grating is the original type of grating. A-type grating comprises flat steel that is cut into lengths for both the load bearing bars and the cross bars. The punched out load bearing bars are laid together with the cross bars to produce a mesh pattern, and the grating is supplied with edging bars on two sides.

A-type grating is made of steel, stainless steel or aluminium. Aluminium A-type grating an extremely light grating with good bearing capacity.

Normally, gratings are hot dip galvanised for maximum rust protection.

A-type grating types A22x22 and A33x11 is kept in stock for immediate delivery.

Eco-grating

Weland has developed a new series of grating manufactured from hot dip galvanised steel, Z 275. Eco-gratings are adapted for environments where corrosion is not a problem. This version is the same as the traditional pressure welded grating.

The steel is hot dip galvanised already during the manufacture, as opposed to traditional pressure welded grating, which is hot dip galvanised after manufacture. This procedure entails less energy consumption during manufacture. The effect of this is a reduced environmental impact, and it is consequently better for the environment.

Eco-grating has the same bearing capacity, durability and strength as a traditional pressure welded grating.

Despite its thinner zinc layer, eco-grating has good rust protection. It is used in less corrosive environments, where wind and weather do not have a particularly large impact on the grating.

Eco-grating type H6 with a 34 x 75 mm mesh is kept in stock for immediate delivery.

Walkway Pages 12-17

Our customers normally order stock grating panels, which are available in three different mesh widths and grating heights.

Quick deliveries and no waste!

Vehicular gratings Pages 18-21

We stock vehicular gratings in the most commonly occurring formats for varying loads. Custom-made gratings in other mesh widths and dimensions are manufactured according to your wishes.

Anti-slip grating Pages 22-24

The serrated top edge provides extra grip and is therefore used in environments where oil spillages occur. Serrated gratings can also be the solution outdoors where snow and ice cause problems.

Entrance Gratings Pages 25-33

Entrance gratings are made for all possible entrances, from large entrances at shopping centres to door entrances in small properties. These are available in three different versions; pressure welded entrance gratings, A-type entrance gratings and AR1-type entrance gratings.

Grating, full-size Pages 34-35

We manufacture and stock full-size pressure welded grating. The grating formats are 3000 x 1000, 6000 x 1000 and 8000 x 1000 mm.

The gratings can also be cut prior to delivery.

Coarse-mesh grating Page 36

Coarse-mesh grating is used for a wide range of purposes, such as protective grids, gates, anti-burglary guards of various kinds, fences, false ceilings, barriers, espaliers and display racks. The gratings are available in two different mesh sizes.

A-type grating Pages 37-40

Weland A-type grating, with flat steel in both directions, looks the same today as when we started manufacturing gratings.

Heavy duty A-type vehicular grating is presented on page 40

Stainless steel grating Pages 41-42

Stainless steel gratings are available in two versions. Pressure welded gratings and A-type gratings. Stainless steel gratings are available in two material grades, EN 1.4301 and EN 1.4404.

Aluminium grating Page 43

Weland aluminium gratings are lightweight, stable gratings that are used in environments where specific requirements are stipulated. Manufactured in aluminium grade EN AW-5754.

Eco-grating Page 44

Pressure welded grating manufactured from hot dip galvanised steel, Z 275. Eco-gratings are adapted for environments where corrosion is not a problem. Eco-grating H6 is available for immediate delivery.

The hard way: gratings for adjustment during assembly

Heavy

A 3 or 6-metre long grating mat is so heavy that one person cannot carry it. Already here, the costs for handling this alternative increase.

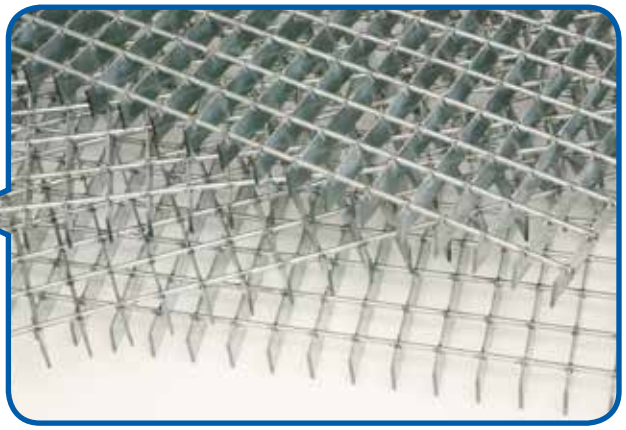
Cutting

The grating must be cut to the correct size, which takes time. This demands great accuracy from the fitter to obtain straight, good-looking, cross-sections. Moreover, the ends are dangerously sharp and, without hot-dip galvanisation, dis-colouring due to corrosion might appear eventually.

Wastage

Apart from the time needed for handling the raw format and cutting, there is also excess material, which most likely cannot be used and will be thrown away instead.

Buy standard format gratings instead, and save time, money and resources!



The easy way: standard format grating

Easy to order

Weland standard format gratings are available off the shelf in lengths from 300 to 2000 mm in 1 cm intervals.

More information is available on our website, **www.weland.se**

Easy to handle

In the vast majority of cases, the weight of the gratings is not heavier than one person can manage. Because all of the gratings have edge bar all round, there are no sharp edges to injure the fitter.

Better corrosion protection

Standard format gratings are hot dip galvanised after the edge bars have been welded on. This means that the corrosion protection is equally good across the entire grating.

Walkway grating H3 – standard grating

Pressure welded grating type H3 is the most common grating that is sold from our stock.

Walkway H3 is available in **two stock heights**, and each height is available in numerous stock formats that can be delivered immediately from our stock.

Walkway gratings can be used in most environments.

Stock kerb angle frames, see pages 72-75

Stock formats, walkways H3

Mesh width: c/c 34 x 37 mm
Grating height: 25 and 30 mm
All gratings with edge bar 25 x 2 mm
Hot dip galvanised.

Grating height 25 mm = Permitted span 1200 mm
Grating height 30 mm = Permitted span 1500 mm

Length x width	Length x width	Length x width
300 x 1000	700 x 1000	1100 x 1000
310 x 1000	710 x 1000	1110 x 1000
320 x 1000	720 x 1000	1120 x 1000
330 x 1000	730 x 1000	1130 x 1000
340 x 1000	740 x 1000	1140 x 1000
350 x 1000	750 x 1000	1150 x 1000
360 x 1000	760 x 1000	1160 x 1000
370 x 1000	770 x 1000	1170 x 1000
380 x 1000	780 x 1000	1180 x 1000
390 x 1000	790 x 1000	1190 x 1000
400 x 1000	800 x 1000	1200 x 1000
410 x 1000	810 x 1000	1210 x 1000
420 x 1000	820 x 1000	1220 x 1000
430 x 1000	830 x 1000	1230 x 1000
440 x 1000	840 x 1000	1240 x 1000
450 x 1000	850 x 1000	1250 x 1000
460 x 1000	860 x 1000	1260 x 1000
470 x 1000	870 x 1000	1270 x 1000
480 x 1000	880 x 1000	1280 x 1000
490 x 1000	890 x 1000	1290 x 1000
500 x 1000	900 x 1000	1300 x 1000
510 x 1000	910 x 1000	1310 x 1000
520 x 1000	920 x 1000	1320 x 1000
530 x 1000	930 x 1000	1330 x 1000
540 x 1000	940 x 1000	1340 x 1000
550 x 1000	950 x 1000	1350 x 1000
560 x 1000	960 x 1000	1360 x 1000
570 x 1000	970 x 1000	1370 x 1000
580 x 1000	980 x 1000	1380 x 1000
590 x 1000	990 x 1000	1390 x 1000
600 x 1000	1000 x 1000	1400 x 1000
610 x 1000	1010 x 1000	1410 x 1000
620 x 1000	1020 x 1000	1420 x 1000
630 x 1000	1030 x 1000	1430 x 1000
640 x 1000	1040 x 1000	1440 x 1000
650 x 1000	1050 x 1000	1450 x 1000
660 x 1000	1060 x 1000	1460 x 1000
670 x 1000	1070 x 1000	1470 x 1000
680 x 1000	1080 x 1000	1480 x 1000
690 x 1000	1090 x 1000	1490 x 1000
		1500 x 1000
		1600 x 1000
		1700 x 1000
		1800 x 1000
		1900 x 1000
		2000 x 1000

Walkway grating H6 – slightly lighter grating

Pressure welded grating type H6 is a grating with the same bearing capacity as H3, but with a slightly longer distance between the cross bars. It is therefore a slightly lighter walkway.

Walkway H6 is available in **three stock heights**, and each height is available in numerous stock formats that can be delivered immediately from our stock.

Stock kerb angle frames, see pages 72-75

Stock formats, walkway grating H6

Mesh width: c/c 34 x 75 mm
Grating height: 25, 30 and 40 mm
All gratings with edge bar 25 x 2 mm
Hot-dip galvanised.

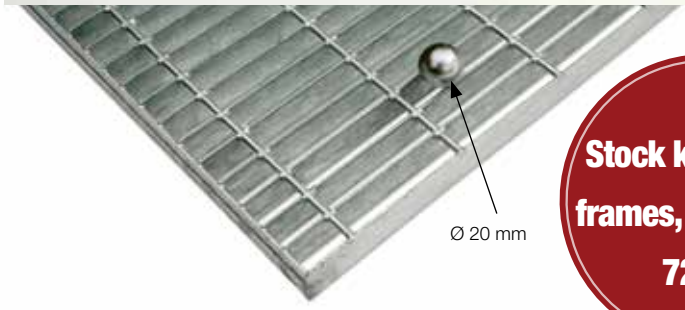
Grating height 25 mm = Permitted span 1200 mm
Grating height 30 mm = Permitted span 1500 mm
Grating height 40 mm = Permitted span 2000 mm

Length x width	Length x width	Length x width
300 x 1000	700 x 1000	1100 x 1000
310 x 1000	710 x 1000	1110 x 1000
320 x 1000	720 x 1000	1120 x 1000
330 x 1000	730 x 1000	1130 x 1000
340 x 1000	740 x 1000	1140 x 1000
350 x 1000	750 x 1000	1150 x 1000
360 x 1000	760 x 1000	1160 x 1000
370 x 1000	770 x 1000	1170 x 1000
380 x 1000	780 x 1000	1180 x 1000
390 x 1000	790 x 1000	1190 x 1000
400 x 1000	800 x 1000	1200 x 1000
410 x 1000	810 x 1000	1210 x 1000
420 x 1000	820 x 1000	1220 x 1000
430 x 1000	830 x 1000	1230 x 1000
440 x 1000	840 x 1000	1240 x 1000
450 x 1000	850 x 1000	1250 x 1000
460 x 1000	860 x 1000	1260 x 1000
470 x 1000	870 x 1000	1270 x 1000
480 x 1000	880 x 1000	1280 x 1000
490 x 1000	890 x 1000	1290 x 1000
500 x 1000	900 x 1000	1300 x 1000
510 x 1000	910 x 1000	1310 x 1000
520 x 1000	920 x 1000	1320 x 1000
530 x 1000	930 x 1000	1330 x 1000
540 x 1000	940 x 1000	1340 x 1000
550 x 1000	950 x 1000	1350 x 1000
560 x 1000	960 x 1000	1360 x 1000
570 x 1000	970 x 1000	1370 x 1000
580 x 1000	980 x 1000	1380 x 1000
590 x 1000	990 x 1000	1390 x 1000
600 x 1000	1000 x 1000	1400 x 1000
610 x 1000	1010 x 1000	1410 x 1000
620 x 1000	1020 x 1000	1420 x 1000
630 x 1000	1030 x 1000	1430 x 1000
640 x 1000	1040 x 1000	1440 x 1000
650 x 1000	1050 x 1000	1450 x 1000
660 x 1000	1060 x 1000	1460 x 1000
670 x 1000	1070 x 1000	1470 x 1000
680 x 1000	1080 x 1000	1480 x 1000
690 x 1000	1090 x 1000	1490 x 1000
		1500 x 1000
		1600 x 1000
		1700 x 1000
		1800 x 1000
		1900 x 1000
		2000 x 1000

Walkway grating N6
- smaller mesh for special requirements

Pressure welded grating type N6 is a walkway that satisfies Swedish Standard SS-EN ISO 14122-2 (the Machinery Directive). One requirement that is satisfied is that a ball with a diameter of 20 mm must not be able to fall through the walkway.

Walkway N6 is available in two stock heights, and each height is available in numerous stock formats that can be delivered immediately from our stock.



Stock kerb angle frames, see pages 72-75

Load bearing bar height 25 mm

Length x width	Length x width	Length x width
500 x 1000	900 x 1000	1290 x 500
590 x 1000	990 x 1000	1290 x 883
600 x 1000	1000 x 1000	1290 x 1000
690 x 1000	1090 x 1000	1300 x 1000
700 x 1000	1100 x 1000	1400 x 1000
790 x 1000	1100 x 1100	1500 x 500
800 x 1000	1190 x 1000	1500 x 1000
890 x 500	1200 x 1000	
890 x 883		
890 x 1000		

Load bearing bar height 30 mm

Length x width	Length x width	Length x width
500 x 1000	1000 x 1000	1500 x 1000
600 x 1000	1100 x 1000	1600 x 1000
700 x 1000	1200 x 1000	1700 x 1000
800 x 1000	1300 x 1000	
900 x 1000	1400 x 1000	

Stock formats, walkway grating N6

Mesh width: c/c 17 x 75 mm
Grating height: 25 and 30 mm
All gratings with edge bar 25 x 2 mm
Hot dip galvanised.

Grating height 25 mm = Permitted span 1300 mm
Grating height 30 mm = Permitted span 1600 mm

Vehicular gratings

Stock kerb angle frames, see pages 72-75

Stock vehicular grating

We stock vehicular gratings in the most commonly occurring formats for varying loads. See stock formats in the table.

Stock vehicular gratings are available for immediate delivery, providing you with simple planning and easy handling of the gratings.

H3 vehicular grating are available with load bearing bar heights ranging from 35 to 80 mm in order to satisfy your load requirements.

Vehicular grating is available in two grating widths, 700 and 1000 mm, with varying grating lengths. The mesh width is c/c 33 x 37 mm (H3).

All stock vehicular gratings are supplied with edging bars and the entire gratings are hot dip galvanised as their surface treatment.

Vehicular grating type H3 can also be custom-made (non-stock item) in order to meet particular specifications and requirements.

Heavy duty A-type grating may also be an alternative to the pressure welded vehicular grating. This grating can withstand very high point loads. Can be manufactured for any load. See page 40.

The hard way: gratings for wadjustment during assembly

The easy way: standard format grating

Max. permitted span for vehicular gratings

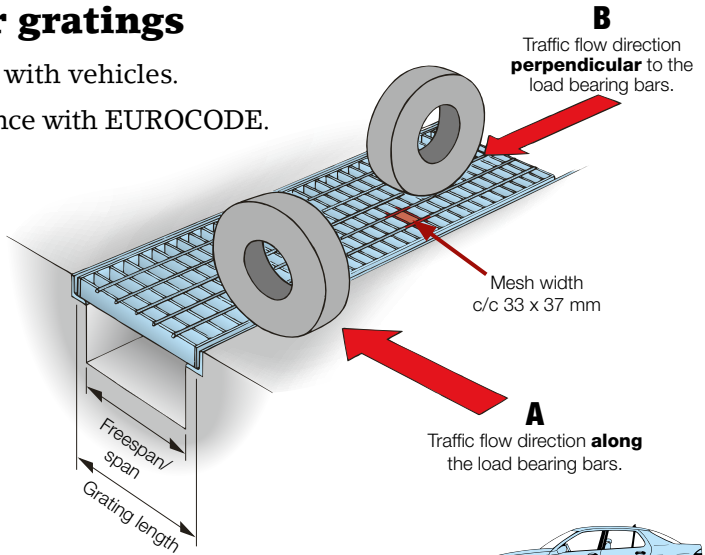
The tables below give examples of various load cases with vehicles.

The values that are specified are calculated in accordance with EUROCODE.

The area of the pressure surface and the traffic flow direction are crucial for determining the type and dimensions of the grating.

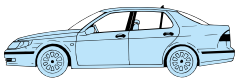
Weland's design office can help you if you need advice or have questions about dimensioning.

Note that, for heavy goods vehicles there are two tables, depending on the traffic flow direction required (see illustration to the right).



Private cars max. 3 tonnes

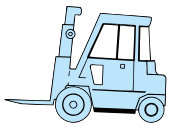
Load: 10 kN/wheel
Load area: 100 x 100 mm



	Freespan (mm)									
	300	400	500	600	700	800	900	1000	1100	1200
Grating no.	2	4	6	8	11	14	17	19	22	24

Fork lift trucks

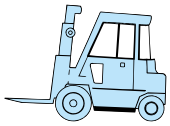
Fork lift trucks with pneumatic tyres.
Load area: 200 x 200 mm



Fork lift truck class	Fork lift truck's net weight (tonnes)	Lift capacity (metric tonne)		Freespan (mm)									
				300	400	500	600	700	800	900	1000	1100	1200
FL1	2.1	1.0	Grating no.	1	3	5	8	11	14	17	19	22	24
FL2	3.1	1.5	Grating no.	2	3	6	8	11	14	18	19	22	24
FL3	4.4	2.5	Grating no.		4	6	9	12	16	16	21	23	25
FL4	6.0	4.0	Grating no.			7	10	13					

Fork lift trucks

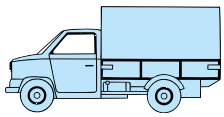
Fork lift trucks with homogeneous tyres.
Load area: 200 x 200 mm



Fork lift truck class	Fork lift truck's net weight (tonnes)	Lift capacity (metric tonne)		Freespan (mm)									
				300	400	500	600	700	800	900	1000	1100	1200
FL1	2.1	1.0	Grating no.	2	3	6	8	11	14	17	19	22	24
FL2	3.1	1.5	Grating no.	2	4	6	8	12	15	18	20	23	25
FL3	4.4	2.5	Grating no.			7	10	13					

Vehicles with total weight between 3-16 tonne

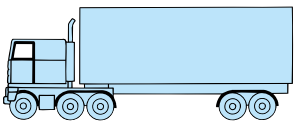
Calculation value: 45 kN
Load area: 200 x 200 mm



	Freespan (mm)									
	300	400	500	600	700	800	900	1000	1100	1200
Grating no.	2	4	6	9	12	16	18	21	23	25

Heavy goods vehicles (general traffic)

Load: 105 kN/wheel
Load area: 600 x 200 mm



		Freespan (mm)									
		300	400	500	600	700	800	900	1000	1100	1200
Traffic flow direction **A**, along the load bearing bars.	Grating no.	2	4	6	9	12	15	18	20	23	25
Traffic flow direction **B**. Perpendicular to the load b. bars.	Grating no.	2	4	7	10	13					

Example, how you read the tables

The requirement is a grating that can cope with heavy trucks and a freespan of 600 mm.

The traffic flow direction should be along the load bearing bars.

See the table on page 20. Heavy goods vehicles. Look up freespan 600 mm and traffic flow direction A.

You then find that grating no. 9 is recommended.

Look up grating no. 9 in the table below, where there is information on name, grating format and dimensions for suitable kerb angle frame.

Grating No.	Free span (mm)	Name	Grating format Width x Length x Height (mm)	Part no.	Weight (kg/each)	Dimensions kerb angle frame (mm)
1	300	H3 35/3	360 x 1000 x 35	3530361001	12.1	L-40 x 40 x 3
2	300	H3 50/3	390 x 1000 x 50	5030391001	18.0	L-55 x 55 x 3
3	400	H3 40/3	470 x 1000 x 40	4030471001	17.4	L-45 x 45 x 3
4	400	H3 50/4	490 x 1000 x 50	5040491001	30.3	L-55 x 55 x 3
5	500	H3 45/3	580 x 1000 x 45	4530581001	23.0	L-50 x 50 x 3
6	500	H3 50/4	590 x 1000 x 50	5040591001	36.0	L-55 x 55 x 3
7	500	H3 60/4	615 x 1000 x 60	60406151001	44.0	L-65 x 65 x 3
8	600	H3 50/4	690 x 1000 x 50	5040691001	41.7	L-55 x 55 x 3
9	600	H3 60/4	715 x 1000 x 60	60407151001	50.7	L-65 x 65 x 3
10	600	H3 70/4	735 x 700 x 70	70407350701	42.9	L-75 x 75 x 3
11	700	H3 50/4	790 x 1000 x 50	5040791001	47.4	L-55 x 55 x 3
12	700	H3 60/4	815 x 1000 x 60	60408151001	57.4	L-65 x 65 x 3
13	700	H3 80/4	850 x 700 x 80	8040850701	55.5	L-85 x 85 x 3
14	800	H3 50/4	890 x 1000 x 50	5040891001	53.1	L-55 x 55 x 3
15	800	H3 60/4	915 x 1000 x 60	60409151001	64.1	L-65 x 65 x 3
16	800	H3 70/4	935 x 700 x 70	70409350701	53.7	L-75 x 75 x 3
17	900	H3 50/4	990 x 1000 x 50	5040991001	58.8	L-55 x 55 x 3
18	900	H3 80/4	1054 x 700 x 80	80410540701	67.9	L-85 x 85 x 3
19	1000	H3 60/4	1114 x 1000 x 60	60411141001	77.5	L-65 x 65 x 3
20	1000	H3 70/4	1135 x 700 x 70	70411350701	64.5	L-75 x 75 x 3
21	1000	H3 80/4	1150 x 700 x 80	8041150701	73.8	L-85 x 85 x 3
22	1100	H3 60/4	1215 x 1000 x 60	60412151001	84.2	L-65 x 65 x 3
23	1100	H3 80/4	1250 x 700 x 80	80412500701	79.9	L-85 x 85 x 3
24	1200	H3 60/4	1315 x 1000 x 60	60413151001	90.9	L-65 x 65 x 3
25	1200	H3 80/4	1350 x 700 x 80	80413500701	86.0	L-85 x 85 x 3

For information on the loading values, see Weland's website ***www.weland.se*** *or contact our sales department!*

Anti-slip grating

Serrated version - extra anti-slip grating

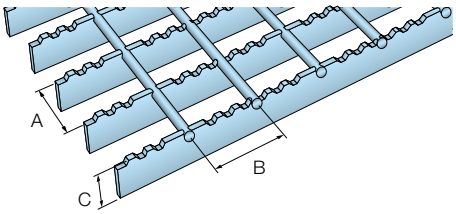
We manufacture pressure welded grating that has a serrated top (anti-slip grating). The serrated top of the grating provides extra anti-slip protection in slippery environments, such as where oil spillages occur. Serrated gratings can also be the solution outdoors where snow and ice cause problems.

The anti-slip gratings HN9-T and JN9-T are also available with round bars. Every other load bearing bar has been replaced with a round bar. This keeps the weight down and the requirement for a maximum mesh opening of 15 mm is satisfied. These gratings are specially designed for the offshore industry.

Anti-slip gratings are available with load bearing bar heights ranging from 25 to 50 mm in order to satisfy your load requirements.

Anti-slip gratings are custom-made (non-stock items) to meet your particular specifications, requirements and wishes.

Stock kerb angle frames, see pages 72-75



Anti-slip grating type H4-T

H4-T is manufactured from pressure welding grating with a mesh width c/c 33 x 50 mm. The load bearing bar heights in stock are 25, 30, 35 and 40 mm. The standard width is 1000 mm.

H4-T is also manufactured in other load bearing bar heights and is a non-stock item.

H4-T	Mesh width A x B (mm)	Load bearing bar C (mm)	Part no. untreated	Weight untreated (kg/m²)	Weight Galv. (kg/m²)
25/2	33 x 50	25	HS04252	14.6	15.7
25/3	33 x 50	25	HS04253	20.6	21.6
30/3	33 x 50	30	HS04303	24.1	25.3
35/3	33 x 50	35	HS04353	27.6	29.0
40/3	33 x 50	40	HS04403	31.2	32.7

Anti-slip grating type H9-T

H9-T is manufactured from pressure welding grating with a mesh width c/c 33 x 100 mm. The load bearing bar heights in stock are 25 and 30 mm.

H9-T is also manufactured in other load bearing bar heights and is a non-stock item.

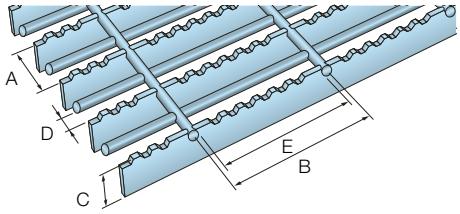
H9-T	Mesh width A x B (mm)	Load bearing bar C (mm)	Part no. untreated	Weight untreated (kg/m²)	Weight Galv. (kg/m²)
25/3	33 x 100	25	HS09253	20.1	21.2

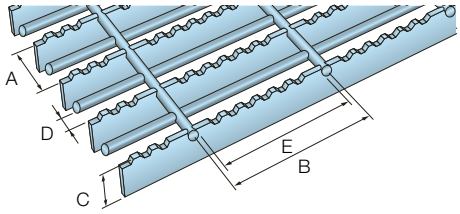
Anti-slip grating type N9-T

N9-T is manufactured from pressure welding grating with a mesh width c/c 17 x 100 mm. The load bearing bar heights in stock are 25 and 30 mm. The standard width is 1000 mm.

N9-T is also manufactured in other load bearing bar heights and is a non-stock item.

N9-T	Mesh width A x B (mm)	Load bearing bar C (mm)	Part no. untreated	Weight untreated (kg/m²)	Weight Galv. (kg/m²)
25/3	17 x 100	25	NS09253	37.1	39.0
30/3	17 x 100	30	NS09303	44.0	46.2





Anti-slip grating type JN9-T

JN9-T is manufactured of pressure welding grating with a mesh width of c/c 41 x 100 mm (AxB) and a mesh opening of 15 x 92 mm (DxE). Every other load bearing bar has been replaced with a round bar. This keeps the weight down and the requirement for a maximum mesh opening of 15 mm is satisfied. The load bearing bar heights in stock are 25, 30, 35 and 50 mm.

JN9-T is also manufactured in other load bearing bar heights and is a non-stock item.

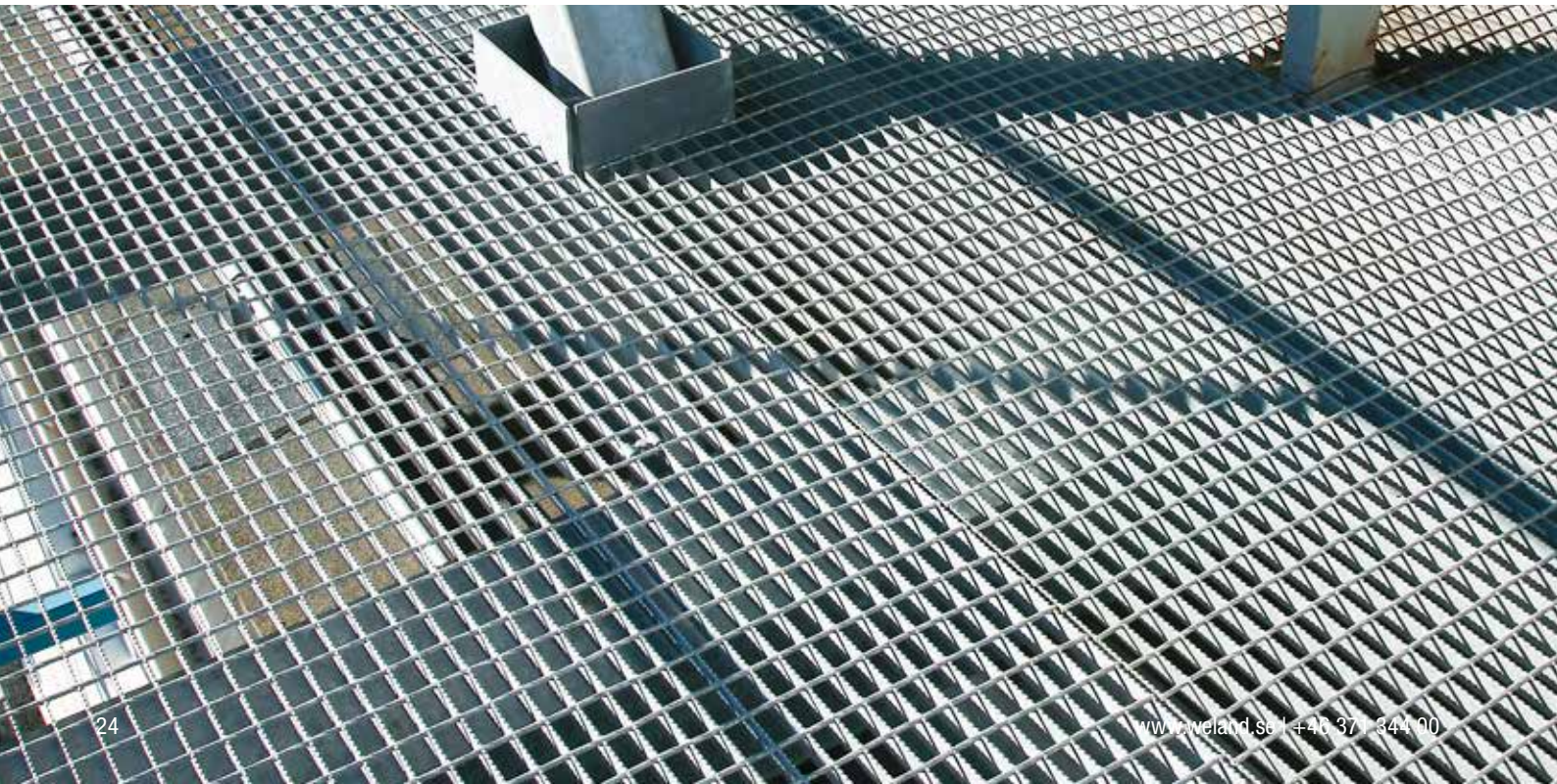
JN9-T	Mesh width A x B (mm)	Load bearing bar C (mm)	Part no. untreated	Weight untreated (kg/m^2)	Weight Galv. (kg/m^2)
25/5	41 x 100	25	JNS09255	33.7	35.4
30/5	41 x 100	30	JNS09305	38.5	40.4
35/5	41 x 100	35	JNS09355	43.3	45.4
50/5	41 x 100	50	JNS09505	57.6	60.5

Anti-slip grating type HN9-T

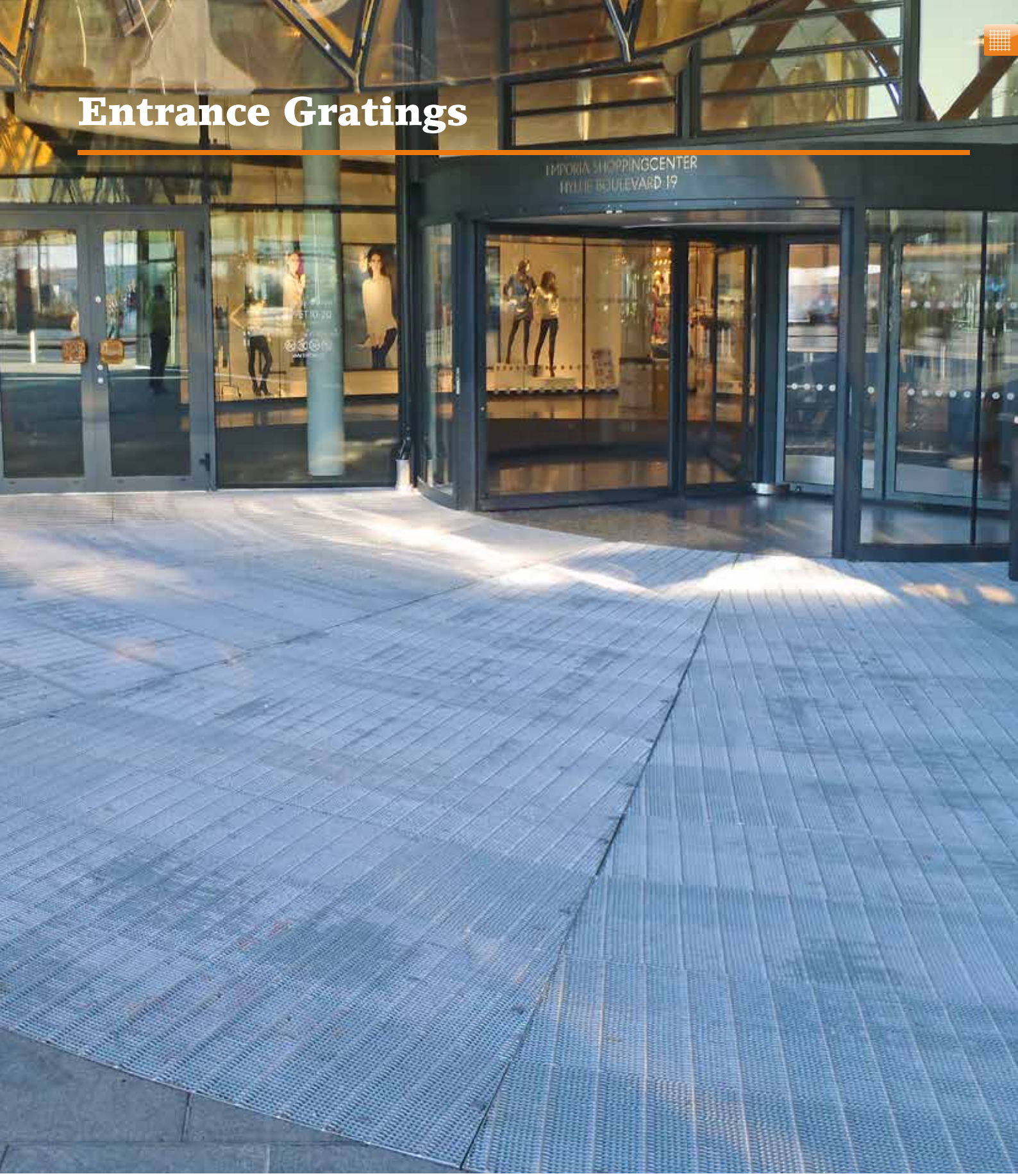
HN9-T is manufactured of pressure welding grating with a mesh width of c/c 35 x 100 mm (AxB) and a mesh opening of 13 x 92 mm (DxE). Every other load bearing bar has been replaced with a round bar. This keeps the weight down and the requirement for a maximum mesh opening of 15 mm is satisfied. The load bearing bar height held in stock is 25 mm.

HN9-T is also manufactured in other load bearing bar heights and is a non-stock item.

HN9-T	Mesh width A x B (mm)	Load bearing bar C (mm)	Part no. untreated	Weight untreated (kg/m^2)	Weight Galv. (kg/m^2)
25/3	35 x 100	25	HNS09253	23.3	24.5



Entrance Gratings



Stock and custom-made entrance gratings

Weland manufactures entrance gratings for all imaginable entrances, from large entrances at shopping centres to doors in small properties.

Entrance gratings are manufactured in three different versions; pressure welded entrance gratings, A-type entrance gratings and AR1-type entrance gratings.

Entrance gratings are stocked for immediate delivery, providing you with simple planning and easy handling. Weland also manufactures custom-made entrance gratings to meet your wishes.

Entrance gratings, pressure welded

Pressure welded entrance gratings have the same design as normal pressure welded gratings. The difference is that entrance gratings have a closer mesh width (see table).

Weland pressure welding gratings type B9, N6 and N9 are three versions that are used.

The gratings are available in heights ranging from 20 to 50 mm.

The gratings are supplied as standard in hot dip galvanised version.

Entrance gratings Type B9, N6 and N9

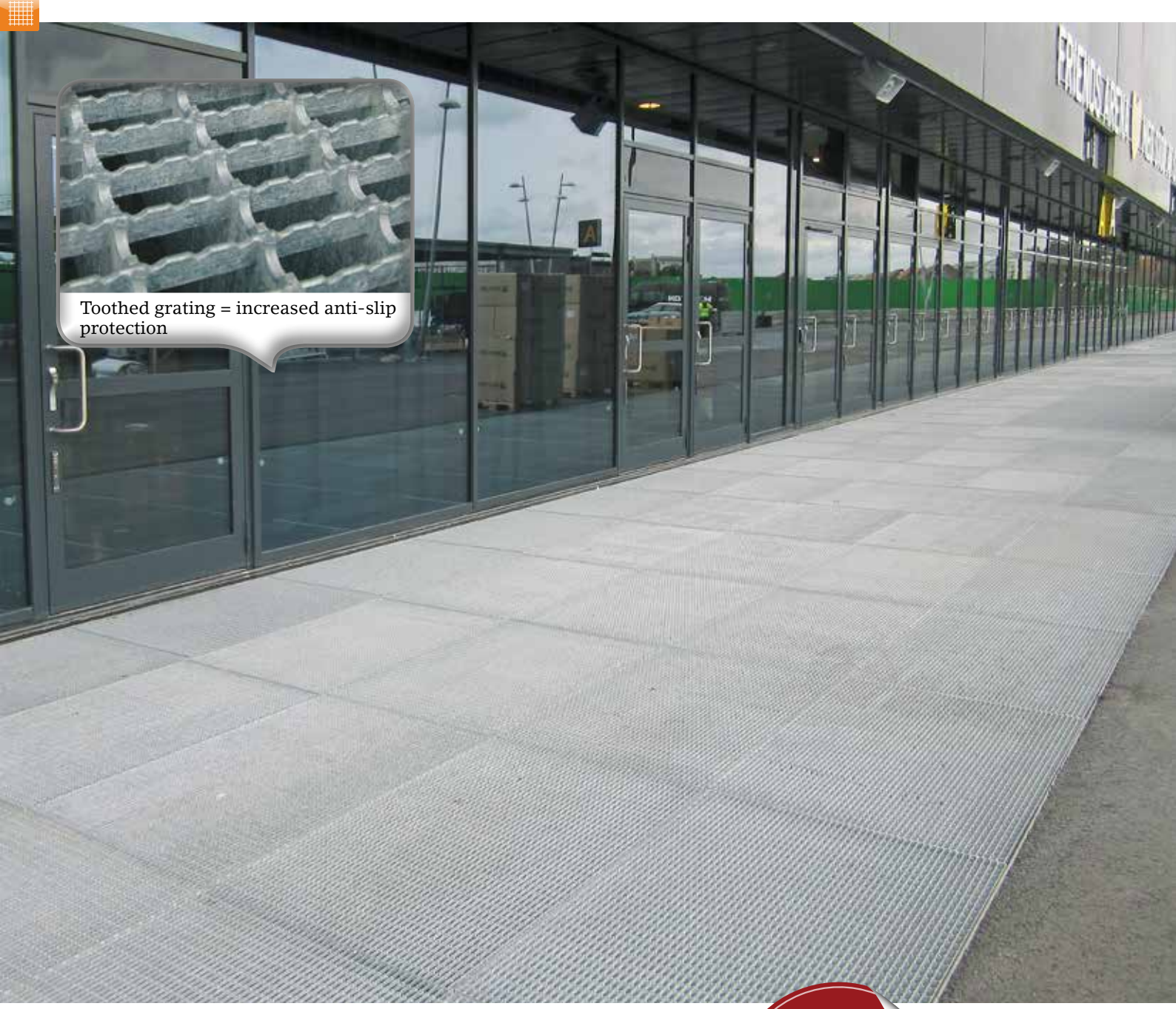
B9, N6 and N9 are non-stock items and are custom-made according to your wishes. The entrance gratings are supplied with edging bars the same height as the load bearing bars.

Stock kerb angle frames, see pages 72-75

Type	Load bearing bar height (mm)	Mesh width c/c (mm)	Max. span (mm)	Part no.	Weight (kg/m^2)
B9	20	12 x 100	1400	BD092031	41.7
B9	25	12 x 100	1600	BD092531	51.5
N6	20	17 x 75	1000	ND062021	20.3
N6	25	17 x 75	1400	ND062521	25.1
N6	30	17 x 75	1600	ND063021	29.8
N9	20	16 x 100	1200	ND092031	29.7
N9	25	16 x 100	1600	ND092531	36.7
N9	30	16 x 100	1800	ND093031	43.7
N9	35	16 x 100	2200	ND093531	53.5
N9	40	16 x 100	2400	ND094031	60.7
N9	50	16 x 100		ND095031	75.0

Stainless Steel Entrance Gratings

Some mesh widths and bearing bar heights can also be manufactured in stainless steel.



Toothed grating = increased anti-slip protection

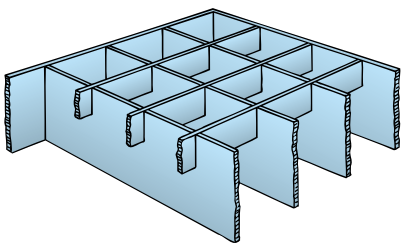
Entrance Grating Type A

Entrance grating types A22x22 and A33x11 are kept in stock for immediate delivery. In addition to the stocked entrance gratings, Weland can manufacture type A entrance gratings according to your needs and wishes.

A22x22 and A33x11 are suitable in all entrances where you want an almost self-servicing, dirt collection function in a deeper recess.

The entrance grating is constructed from flat bars running in both directions. The mesh widths that are used are c/c 22 x 22 and 33 x 11 mm with a grating height of 25 mm.

Hot-dip galvanised version.

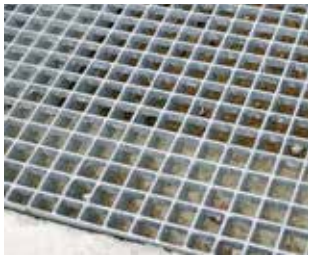


Stock kerb angle frames, see pages 72-75

Stocked type A22x22

Stocked in several sizes and can also be custom-made.

Mesh width c/c 22 x 22 mm.
Height 25 mm.
Edge bar 25 x 2 mm.



Size (mm)	Part no.	Weight (kg/item)
300 x 600	AD222225203060	5.5
400 x 600	AD222225204060	7.1
400 x 700	AD222225204070	8.2
500 x 700	AD222225205070	10.1
500 x 800	AD222225205080	11.5
500 x 900	AD222225205090	12.9
500 x 1000	AD222225205100	14.4
600 x 800	AD222225206080	13.6
600 x 900	AD222225206090	15.3
600 x 1000	AD222225206100	17.0
600 x 1200	AD222225206120	20.4
700 x 900	AD222225207090	17.7
700 x 1000	AD222225207100	19.6
700 x 1200	AD222225207120	23.5
800 x 1000	AD222225208100	22.2
800 x 1200	AD222225208120	26.7
1000 x 1000	AD222225210100	27.5
1000 x 1200	AD222225210120	33.0

Stocked type A33x11

Stocked in several sizes and can also be custom-made.

Mesh width c/c 33 x 11 mm.
Height 25 mm.
Edge bar 25 x 2 mm.

Size (mm)	Part no.	Weight (kg/item)
300 x 600	AD331125203060	5.7
400 x 600	AD331125204060	7.4
400 x 700	AD331125204070	8.6
500 x 700	AD331125205070	10.5
500 x 800	AD331125205080	12.0
500 x 900	AD331125205090	13.5
500 x 1000	AD331125205100	15.0
600 x 800	AD331125206080	14.2
600 x 900	AD331125206090	16.0
600 x 1000	AD331125206100	17.8
600 x 1200	AD331125206120	21.3
700 x 900	AD331125207090	18.5
700 x 1000	AD331125207100	20.5
700 x 1200	AD331125207120	24.6
800 x 1000	AD331125208100	23.3
800 x 1200	AD331125208120	27.9
1000 x 1000	AD331125210100	29.8
1000 x 1200	AD331125210120	34.5

Stock type A33x11 Serrated

Stocked in several sizes and can also be custom-made.

Mesh width c/c 33 x 11 mm.
Height 25 mm.
Edge bar 25 x 2 mm.

Size (mm)	Part no.	Weight (kg/item)
700 x 1000	AT331125207100	16.5
800 x 1000	AT331125208100	19.3
1000 x 1000	AT331125210100	26.3
1000 x 1200	AT331125210120	28.0

Entrance Grating Type AR1

Cantilevered entrance grating in hot dip galvanised steel. Suitable for all entrances where you want an almost self-serviced dirt collection function in a deeper recess.

The entrance grating is constructed from 3 mm flat bars running in both directions and comes with Ø 4 mm round bars to give a close-meshed pattern, mesh width – *see the relevant table*.

AR1 gratings are stocked in 2 different versions as shown in the tables. Gratings with scraper strip and rubber strip can also be made to order.

Hot-dip galvanised version.

AR1-25 - with scraper strip

Entrance grating with scraper strip of punched steel profiles. Stocked in several sizes and can also be custom-made.

Mesh width 43 x 5 mm (free opening)
Load bearing bar 25 x 3 mm
Edge bar 25 x 3 mm
Round bar Ø 4 mm

Size (mm)	Part no.	Weight (kg/item)
490 x 790	AR0125349791	8.5
490 x 990	AR0125349991	10.7
590 x 790	AR0125359791	10.3
590 x 990	AR0125359991	12.9
790 x 990	AR0125379991	17.2

AR1-25 - with rubber strip

Entrance gratings with ribbed rubber strip. Stocked in several sizes and can also be custom-made.

Mesh width 43 x 5 mm (free opening)
Load bearing bar 25 x 3 mm
Edge bar 25 x 3 mm
Round bar Ø 4 mm

Size (mm)	Part no.	Weight (kg/item)
490 x 790	AR0125349792	9.3
490 x 990	AR0125349992	11.6
590 x 790	AR0125359792	11.2
590 x 990	AR0125359992	14.0
790 x 990	AR0125379992	18.8

Entrance grating with adjustable legs

The type A33x11 entrance grating is constructed from flat bars running in both directions with a 50 mm deep edge bar all way round.

Supplied with or without adjustable legs, which are available in two lengths.

Hot-dip galvanised version.

Stock entrance grating with adjustable legs

Including 4 adjustable legs. Leg heights 110 to 160 and 135 to 210 mm.

Mesh width c/c 33 x 11 mm.
Height 25 mm.
Edge bar 50 x 5 mm.

Leg height (mm)	Size (mm)	Part no.	Weight (kg/item)
110-160	500 x 1000	167A0501011	23.2
135-210	500 x 1000	167A0501021	23.8
110-160	700 x 1000	167A0701011	29.2
135-210	700 x 1000	167A0701021	29.8
110-160	1000 x 1000	167A1001011	40.2
135-210	1000 x 1000	167A1001021	40.8

Stock entrance grating without adjustable legs

Size (mm)	Part no.	Weight (kg/item)
500 x 1000	167A0501001	20.0
700 x 1000	167A0701001	26.0
1000 x 1000	167A1001001	37.0

Stock adjustable legs

Description	Leg height (mm)	Part no.	Weight (kg/item)
For corner installation	110-160	165111611	0.81
For corner installation	135-210	165132111	0.95
For side installation	110-160	165111621	0.70
For side installation	135-210	165132121	0.87

Entrance grating with L-profile edge bar

The entrance grating is made of pressure welded grating (N6) with an L-profile edge bar. The edge bar has the dimensions 35 x 20 x 3 mm. The entrance grating is stocked in the following sizes. Hot-dip galvanised version.

For the entrance grating, there is a kerb angle frame available in L-angle bar (40 x 20 mm) with embedment ties. Hot-dip galvanised version.

Stock kerb angle frames, see pages 72-75

Stock entrance grating type N6

Mesh width c/c 17 x 75 mm.
Height 20 mm.

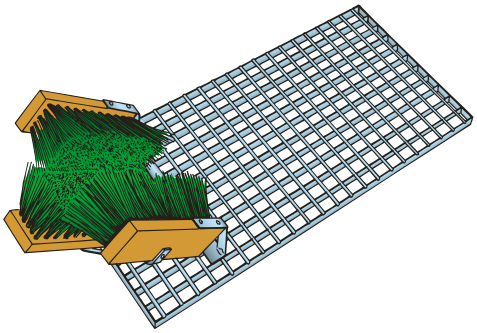
Size (mm)	Part no.	Weight (kg/item)
500 x 315	1670503221	5.4
600 x 315	1670603221	6.3
700 x 315	1670703221	7.2
1000 x 486	1671004861	14.8

Foot Scraper

A robust foot scraper for when you need to make it easier to clean dirt from shoes. Suitable at, for example, sports centres, golf clubs, stables, etc.

The foot scraper has three brushes mounted on a grating.

Hot-dip galvanised version.



Foot scraper with three brushes

Size (mm)	Part no.	Weight (kg/item)
Unspecified	11239	8.8

Entrance mats with rubber strips

Weland also stocks the Kåbe Original entrance mat.

The Kåbe Original Entrance Mat is an excellent complement to Weland's entrance gratings. By combining the products, you obtain an effective solution against dirt from the street.

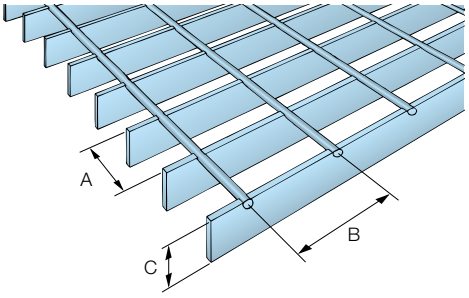
See more about the Kåbe Original entrance mat on pages 274-277.

Grating, full-size

Weland manufactures various types of full-size pressure welded grating.

The full-sizes that are available are 3 x 1, 6 x 1 or 8 x 1 metres, with varying mesh widths and load bearing bar heights.

Some of these are also held in stock, which means rapid deliveries directly from our stock. These gratings can also be supplied cut according to your wishes with a short delivery time.



Stock grating, full-size

Stocked formats according to table.

The gratings are available for immediately delivery.

Stock grating, full-size

Hot-dip galvanised version.

Grating Type	Mesh width c/c (mm) A x B	Load bearing bar (mm) C	Material thickness, load bearing bar (mm)	Grating format Length x Width (mm)	Edge bar (mm)	Part no.	Weight Galvanised (kg/each)
H3 25/3	34 x 37	25	3	3000 x 1000	25 x 2	2533001001	63.9
H3 30/3	34 x 37	30	3	3000 x 1000	25 x 2	3033001001	74.8
H3 40/3	34 x 37	40	3	3000 x 1000	25 x 2	4023001001	101.4
H3 25/3	34 x 37	25	3	6000 x 1000	without	2536001001	126.0
H3 30/3	34 x 37	30	3	6000 x 1000	without	3036001001	145.0
H3 40/3	34 x 37	40	3	6000 x 1000	without	4026001001	198.0
H6 25/3	33 x 75	25	3	3000 x 1000	without	HD06312531	66.0
H6 30/3	33 x 75	30	3	3000 x 1000	without	HD06313031	75.0
H6 25/3	33 x 75	25	3	6000 x 1000	without	HD06612531	132.0
H6 30/3	33 x 75	30	3	6000 x 1000	without	HD06613031	146.0
H6 35/3	33 x 75	35	3	6000 x 1000	without	HD06613531	174.0
H6 40/3	33 x 75	40	3	6000 x 1000	without	HD06614031	198.0
N6 25/2	17 x 75	25	2	6000 x 1000	without	N2526001001	150.0
N6 30/2	17 x 75	30	2	6000 x 1000	without	N3026001001	179.0

Standard manufacture, pressure welded grating

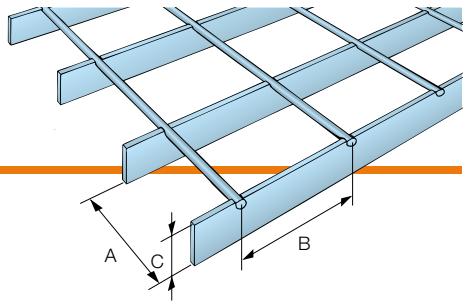
Weland manufacture pressure welded grating as standard according to the following type designations and mesh widths. The gratings are supplied either untreated or hot dip galvanised.

Other mesh widths and load bearing bar dimensions can be produced to order.

Grating Type	Mesh width c/c (mm) A x B	Load bearing bar (mm) C	Material thickness load bearing bar (mm)
B9	12 x 100	20	3
B9	12 x 100	25	3
N6	17 x 75	20	2
N6	17 x 75	25	2
N6	17 x 75	30	2
N9	17 x 100	20	3
N9	17 x 100	25	3
N9	17 x 100	30	3
N9	16 x 100	35	3
N9	16 x 100	40	3
N9	16 x 100	50	3
N9-T	17 x 100	25	3
N9-T	17 x 100	30	3
F4	25 x 50	80	5
H3	33 x 37	20	2 or 3
H3	33 x 37	25	2 or 3
H3	33 x 37	30	2 or 3
H3	33 x 37	35	3
H3	33 x 37	40	2 or 3
H3	33 x 37	45	3
H3	33 x 37	50	3 or 4
H3	33 x 37	60	4
H3	33 x 37	70	4
H3	33 x 37	80	4
H4	33 x 50	20	3
H4-T	33 x 50	25	2 or 3
H4-T	33 x 50	30	3
H4-T	33 x 50	35	3
H4-T	33 x 50	40	3
H6	33 x 75	20	3
H6	33 x 75	25	2 or 3
H6	33 x 75	30	2 or 3
H6	33 x 75	35	3
H6	33 x 75	40	2 or 3
H9-T	33 x 100	25	3
HN9-T	35 x 100	25	3
J9	41 x 100	20	3
JN9-T	41 x 100	25	5
JN9-T	41 x 100	30	5
JN9-T	41 x 100	35	5
JN9-T	41 x 100	50	5
I4	68 x 50	20	2
I9	100 x 100	25	2

Find more information about individual full-size gratings on our website, www.weland.se.

Coarse-mesh grating



Weland coarse-mesh pressure welded gratings I4 and I9 are used for a wide range of purposes, such as protective grids, gates, anti-burglary guards of various kinds, fences, false ceilings, barriers, espaliers and display racks.

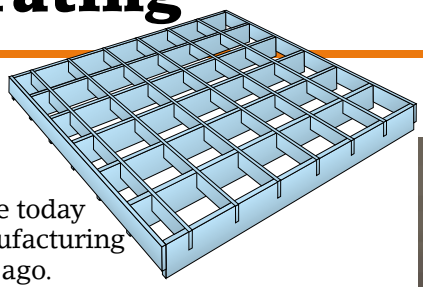
The gratings are available in two different mesh sizes. Different sizes are manufactured according to specifications, requirements, and wishes. Gratings are non-stock items.

The gratings are supplied hot dip galvanised as standard, but can also be supplied powder coated.

Coarse-mesh grating, non-stock item

Grating Type	Mesh width c/c (mm) A x B	Load bearing bar (mm) C	Weight (kg/m²) Untreated	Weight (kg/m²) Galvanised
In4	68 x 50	20/2	7.5	8.1
In9	100 x 100	25/3	8.8	9.3

A-type grating



Weland A-type grating with flat steel in both directions looks the same today as when we started manufacturing A-type grating 50 years ago.

A-type grating comprises flat steel that is cut into lengths for both the load bearing bars and the cross bars. The punched out load bearing bars are laid together with the cross bars to produce a mesh pattern, and the grating is supplied with edging bars on two sides.

A-type grating is made of steel, stainless steel or aluminium. Aluminium A-type grating an extremely light grating with good bearing capacity, see more on page 41.

Steel A-type grating can be hot dip galvanised for maximum rust protection.

A-type grating dimensions/loads

The distance between the load bearing bars and the dimensions of these are absolutely crucial for the grating's load bearing capacity. Weland A-type gratings are manufactured as standard with load bearing heights from 20 to 60 mm and are suitable for most types of loading.

Surface treatment

Weland A-type grating is delivered as standard hot dip galvanised according to SS-EN ISO 1461.

Even other surface treatments can be provided, for example, different types of painting, anodising, etc.

See more about surface finishes on pages 270-271.

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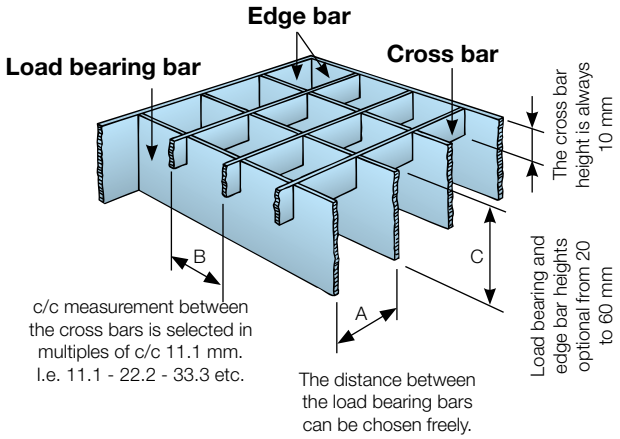
Stock kerb angle frames, see pages 72-75

A-type grating, mesh width

Weland A-type grating is manufactured as standard with the mesh widths 22 x 22 mm and 33 x 11 mm. Other mesh widths can be manufactured on request, however, only within certain given limits.



The distance between load bearing bars:
This measurement is basically optional, although it should not exceed 100 mm.

The distance between the cross bars:
This dimension is locked to multiples of 11.1 mm. I.e. 11.1 - 22.2 - 33.3 - 44.4 mm, etc.

Weland A-type gratings always come with edge bar size 20 x 3 mm for load bearing bar 20 mm and 25 x 2 mm for other load bearing bars.

Contact Weland for help and advice when designing!

Mesh widths and weights, A-type grating

Grating Type	Mesh width A x B (mm)	Load bearing bar C (mm)	Edge bar	Weight untreated (kg/m^2)	Weight Galv. (kg/m^2)
A22x22	22 x 22	20/2	20 x 3	20.0	22.0
A22x22	22 x 22	25/2	25 x 2	24.0	26.0
A22x22	22 x 22	30/2	25 x 2	27.0	29.0
A22x22	22 x 22	40/2	25 x 2	34.0	36.0
A22x22	22 x 22	50/2	25 x 2	40.0	44.0
A33x11	33 x 11	20/2	20 x 3	23.0	25.0
A33x11	33 x 11	25/2	20 x 3	25.0	27.0
A33x11	33 x 11	30/2	25 x 2	27.0	30.0
A33x11	33 x 11	40/2	25 x 2	32.0	34.0
A33x11	33 x 11	50/2	25 x 2	36.0	39.0

*For information on the loading values, see Weland's website **www.weland.se** or contact our sales department!*

Stock

A-type grating types A22x22 and A33x11 are kept in stock and are available for immediate delivery. This provides you with simple planning and easy handling.

Weland also manufactures custom-made A-type gratings (non-stock items) in order to satisfy your wishes and requirements.

Stocked type A22x22

Stocked in several sizes and can also be custom-made.

Mesh width c/c 22 x 22 mm Height 25 mm. Edging bar 25 x 2 mm

Size (mm)	Part no.	Weight (kg/item)
300 x 600	AD222225203060	5.5
400 x 600	AD222225204060	7.1
400 x 700	AD222225204070	8.2
500 x 700	AD222225205070	10.1
500 x 800	AD222225205080	11.5
500 x 900	AD222225205090	12.9
500 x 1000	AD222225205100	14.4
600 x 800	AD222225206080	13.6
600 x 900	AD222225206090	15.3
600 x 1000	AD222225206100	17.0
600 x 1200	AD222225206120	20.4
700 x 900	AD222225207090	17.7
700 x 1000	AD222225207100	19.6
700 x 1200	AD222225207120	23.5
800 x 1000	AD222225208100	22.2
800 x 1200	AD222225208120	26.7
1000 x 1000	AD222225210100	27.5
1000 x 1200	AD222225210120	33.0

Stocked type A33x11

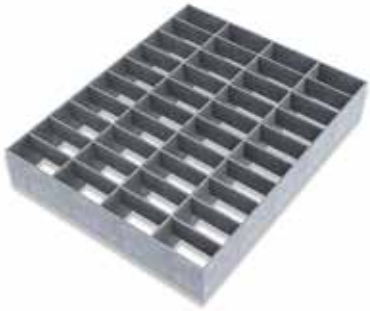
Stocked in several sizes and can also be custom-made.

Mesh width c/c 33 x 11 mm Height 25 mm. Edging bar 25 x 2 mm

Size (mm)	Part no.	Weight (kg/item)
300 x 600	AD331125203060	5.7
400 x 600	AD331125204060	7.4
400 x 700	AD331125204070	8.6
500 x 700	AD331125205070	10.5
500 x 800	AD331125205080	12.0
500 x 900	AD331125205090	13.5
500 x 1000	AD331125205100	15.0
600 x 800	AD331125206080	14.2
600 x 900	AD331125206090	16.0
600 x 1000	AD331125206100	17.8
600 x 1200	AD331125206120	21.3
700 x 900	AD331125207090	18.5
700 x 1000	AD331125207100	20.5
700 x 1200	AD331125207120	24.6
800 x 1000	AD331125208100	23.3
800 x 1200	AD331125208120	27.9
1000 x 1000	AD331125210100	29.8
1000 x 1200	AD331125210120	34.5

Examples of grating in various versions

Grating with narrow dimension for the cross bars. Bearing capacity in the load bearing bar direction.



Gratings can be manufactured in any mesh width.

Grating with the same dimensions for load bearing bars and cross bars.

Gratings can also be manufactured with angled cross bars.

A-type grating with special mesh width as protection for ventilation drums. Manufactured in Cortén.

Heavy duty A-type grating

Grating for extra large loads

Heavy duty A-type grating is a robust grating that can cope with very high spot loads and general loads. The gratings are made to order.

The grating height, i.e. the height of the load bearing bars, can be selected freely. The dimensions of the cross bars are selected according to the load situation and the traffic flow direction over the grating, if applicable.

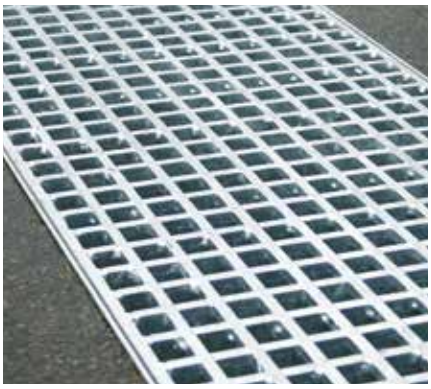
The cross bars can be of the same dimensions as the load bearing bars.

The mesh width is basically optional.

Weland's grating for extra large loads is supplied hot dip galvanised as standard.

Vehicular gratings

Vehicular gratings are a good alternative to heavy-duty A-type gratings. This grating can also withstand heavy spot loads and general loads. Read more about this product on pages 18-21 (vehicular grating).



A-type grating for extreme loads. Flat load bearing bar 40x10 mm c/c 40 mm, Square cross bar 10x10 mm c/c 40 mm.

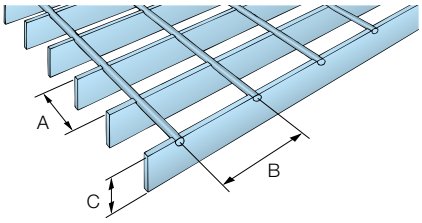
Heavy duty A-type grating in shotblasting shop, 120 mm grating height.

Stainless steel grating

Pressure welded grating

Weland pressure welded stainless steel gratings are manufactured in the same way as other pressure welded gratings, but from material grades EN 1.4301 or EN 1.4404.

The gratings are delivered with edging bars and are available in untreated or pickled version according to your wishes. Gratings are non-stock items.



Grade EN 1.4301

Standard width 1000 mm. Available in untreated or pickled version.

Grating Type	Mesh width c/c A x B (mm)	Load bearing bar C (mm)	Weight (kg/m²)
N9 RF-T	16 x 100	25/3	36.0

Grade EN 1.4404

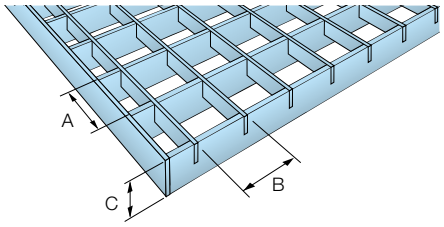
Standard width 1000 mm. Available in untreated or pickled version.

Grating Type	Mesh width c/c A x B (mm)	Load bearing bar C (mm)	Weight (kg/m²)
H3 RF	33 x 37	25/3	22.5
H3 RF	33 x 37	30/3	26.0
H3 RF	33 x 37	50/3	40.0
H6 RF	33 x 75	20/3	17.0
H6 RF	33 x 75	25/2	13.2
H6 RF	33 x 75	25/3	20.0
H6 RF	33 x 75	30/3	24.0
N6 RF	17 x 75	25/2	25.0

A-type grating

Weland stainless steel A-type grating is manufactured in the same way as other A-type grating, but from material grade EN 1.4404.

The gratings are delivered with edging bars and are available in untreated or pickled version according to your wishes. The A-type grating is a non-stock item.

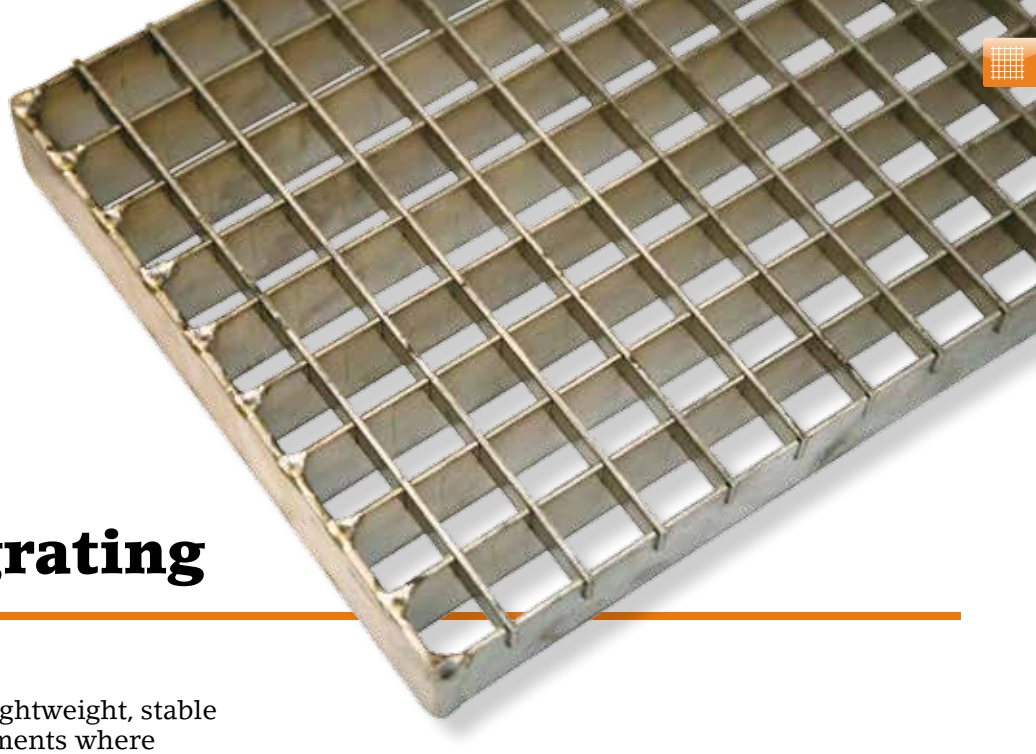


Grade EN 1.4404

Available in untreated or pickled version.

Grating Type	Mesh width c/c A x B (mm)	Load bearing bar C (mm)	Weight (kg/m²)
A22x22 RF	22 x 22	25/2	24.0
A22x22 RF	22 x 22	30/2	27.0
A22x22 RF	22 x 22	25/3	33.0
A22x22 RF	22 x 22	30/3	38.0
A33x11 RF	33 x 11	25/2	25.0
A33x11 RF	33 x 11	30/2	27.0


Boo Vårdcentral
Edövägen 2



Aluminium grating

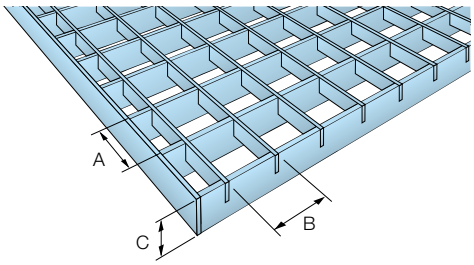
Weland aluminium gratings are lightweight, stable gratings that are used in environments where specific requirements are stipulated.

The aluminium grating's load bearing bars and cross bars are made of aluminium grade EN AW-5754.

Flat load bearing and cross bars are put together the same as A-type grating.

As standard, the mesh width is c/c 22 x 22 mm and 33 x 11 mm, but other mesh widths can also be manufactured on request.

Aluminium grating always comes with edge bars all round with the same height as the load bearing rods.



Stock kerb angle frames, see pages 72-75

Aluminium gratings, mesh widths and weights

Grating Type	Mesh width A x B (mm)	Load bearing bar C (mm)	Weight (kg/m²)	Max. span* (mm)
A22x22	22 x 22	25/2	9.8	850
A22x22	22 x 22	30/2	10.8	1050
A22x22	22 x 22	25/3	12.4	1000
A22x22	22 x 22	30/3	14.3	1200
A33x11	33 x 11	25/2	9.2	750
A33x11	33 x 11	30/2	10.6	900
A33x11	33 x 11	25/3	12.0	850
A33x11	33 x 11	30/3	13.2	1050

* Applies for pedestrian traffic 5 kN.

Eco-grating

Weland has a new series of pressure welded gratings manufactured from hot dip galvanised steel, Z 275. The steel is hot dip galvanised right from the manufacture of the load bearing bars and the cross bars, as opposed to pressure welded gratings which are hot dip galvanised after manufacture.

Eco-gratings are adapted for environments where corrosion is not a problem.

A thinner layer of zinc means a reduced impact on the environment. Energy consumption during manufacture is also reduced.

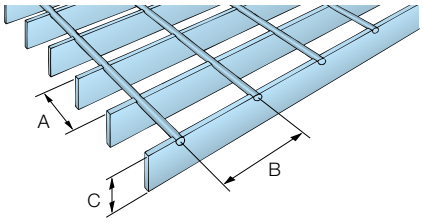
This version is the same as the traditional pressure welded grating. Eco-grating has the same bearing capacity, durability and strength as pressure welded grating.

Eco-grating H6 is available for immediate delivery in accordance with the following table.

Stock kerb angle frames, see pages 72-75

Advantages of Eco-grating:

- *Better for the environment*
- *Just a strong*
- *Good rust protection*
- *Immediate delivery*
- *No price addition for any adjustment cutting!*
- *All gratings are provided with edging strips!*



Stock eco-grating type H6

Length x width	Mesh width c/c A x B (mm)	Load bearing bar C (mm)	Part no.	Weight (kg/each)
700 x 1000	34 x 75	30	MGH63020701001	11.8
900 x 1000	34 x 75	30	MGH63020901001	14.9
1000 x 1000	34 x 75	30	MGH63021001001	16.5
1200 x 1000	34 x 75	30	MGH63021201001	19.8

Project planning, terminology etc.

On the following pages, you can find information on the gratings' terminology, surface treatment, dimensions, mesh widths and tolerances etc.

Planning

Our drawing office at Weland is at your service for questions regarding dimensioning, drawing and design of Weland products.

Marking

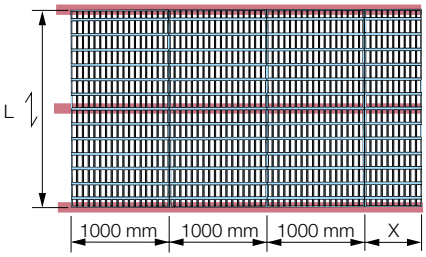
Each grating is provided with a substantial identification tab with clear characters that refer to the layout drawing, which makes the assembly work easier.

Choice of grating length and layout

During all planning involving pressure welded grating, you should as far as possible adjust the layout based on the grating's standard width (1000 mm) to obtain the most economical alternative.

If the grating is to be laid across several supports, it is best to choose grating that covers several supports. The sagging during loading is less, the patterning is much more beautiful and there is a fewer number of joints.

To prevent incorrect placement of the load bearing rod (the grating's bearing structure), avoid grating with square dimensions.



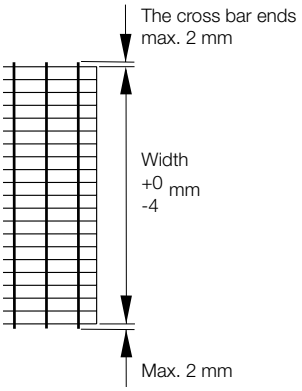
Pressure welded grating, grating tolerances

Length, width and diagonal dimensions

Max. tolerances +0 -4 mm.

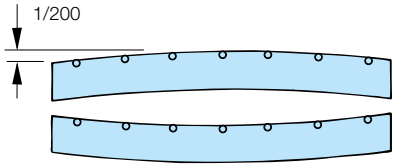
Max. length of cross bar ends

2 mm.

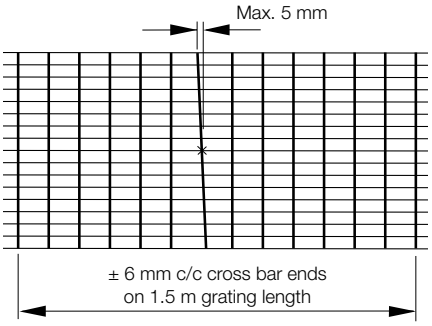


Load bearing bar deflection

Max. load bearing bar deflection is 1/200 of the span.



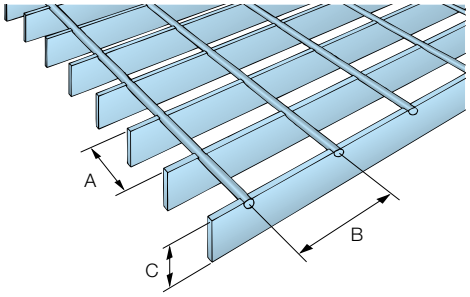
Cross bar division



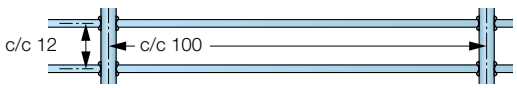
Cross bar division, mesh widths

Grating Type	Mesh width c/c AxB (mm)	Load bearing bar heights C (mm)
B9	12 x 100	20, 25
N6	17 x 75	20, 25, 30
N9, N9-T	16 x 100	20, 25, 30, 35, 40, 50
F4	25 x 50	80
H3	33 x 37	20, 25, 30, 35, 40, 45, 50, 60, 70, 80
H4, H4-T	33 x 50	20, 25, 30, 35, 40
H6	33 x 75	20, 25, 30, 35, 40
H9-T	33 x 100	25
HN9-T	35 x 100	25
J9	41 x 100	20
JN9-T	41 x 100	25, 30, 35, 50
In4	68 x 50	20
I9	100 x 100	25

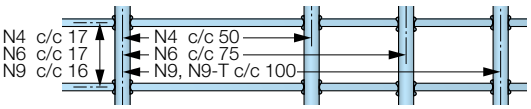
*For information on the loading values, see Weland's website **www.weland.se** or contact our sales department!*



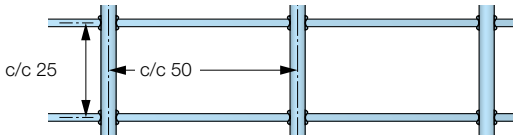
Type B9



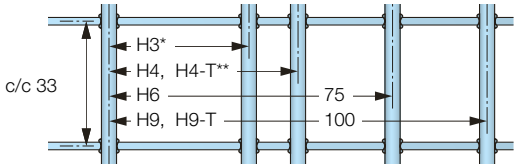
Type N



Type F4

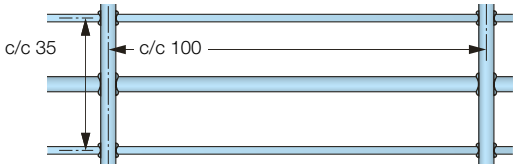


Type H

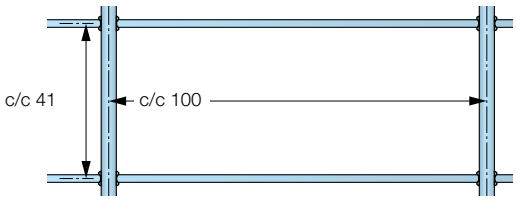


* H3 c/c 37 **H4, H4-T c/c 50

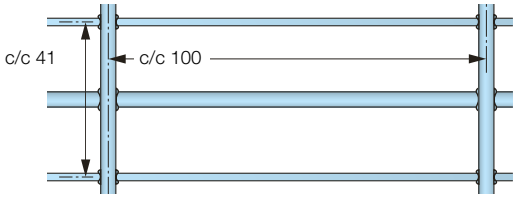
Type HN9-T



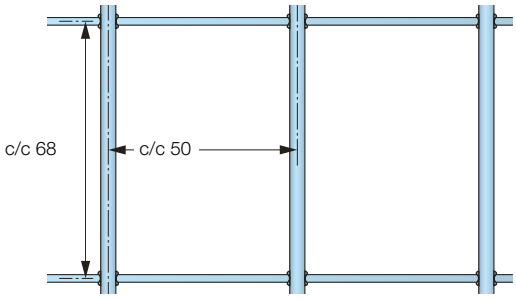
Type J9

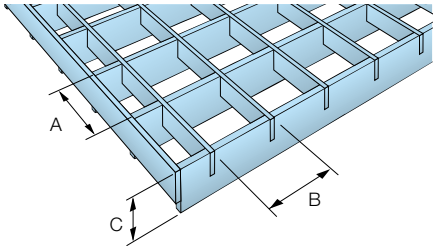


Type JN9-T



Type I4

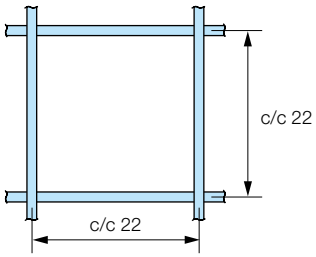




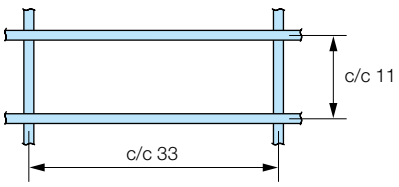
A-type grating, mesh widths

Grating Type	Mesh width c/c AxB (mm)	Load bearing bar heights C (mm)
A22x22	22 x 22	20, 25, 30, 40, 50
A33x11	33 x 11	20, 25, 30, 40, 50

Type A22x22



Type A33x11



Grating dimensions pressure welded grating

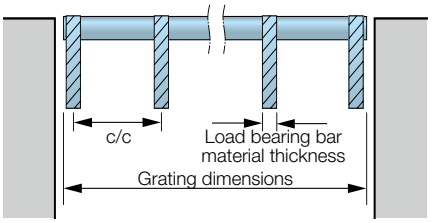
The table on page 49 sets out the construction dimensions in which the grating can be obtained (with full mesh).

Marked dimensions specify standard widths.

Example: When ordering a channel with Type N grating, 1x 600 x 16,885 mm (= grating dimensions), the grating is manufactured in the following sections: 16x 600 x 1000 and 1x 600 x 880 (880 is closest to 885 according to table).

Grating dimensions

= Construction dimensions with whole mesh widths. Marked dimensions specify standard widths.



* c/c 34 applies for

Walkway grating H3 25, 30 and 40
Walkway grating H6 25, 30 and 40

and

Type H3 25/2, 30/2, 40/2
Type H3 20/3, 25/3, 30/3, 35/3, 40/3, 45/3, 50/3
Type H4 20/3
Type H3 RF 50/3
Type H6 RF 25/2, 25/3

** The distance between the load bearing bars for grating type N9 is as follows:

Height 20-30 = c/c 17
Height 35-50 = c/c 16

Grating dimensions for grating type

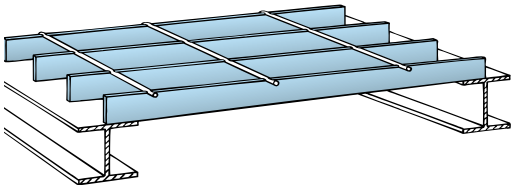
c/c measure = the distance between the load bearing bars

H c/c 33 (mm)	H RF c/c 33 (mm)	* c/c 34 (mm)	F c/c 25 (mm)	D c/c 22 (mm)	N c/c 16 (mm)	N c/c 17 (mm)	N RF, N9** c/c 16 (mm)	B c/c 12 (mm)	J c/c 41 (mm)	JN9-T c/c 41.6 (mm)	HN9-T c/c 35 (mm)
1000	**995**	**1000**	**1000**	**1000**	**1000**	**1000**	**993**	**700**	**1000**	**1000**	**1000**
966	958	962	973	972	982	983	976	685	957	955	961
933	925	927	949	950	966	965	960	672	914	915	926
900	892	893	923	928	949	949	943	659	872	874	890
867	859	858	898	906	933	931	926	646	830	832	855
834	826	825	873	884	916	914	909	633	788	791	820
801	794	790	849	862	900	897	892	620	745	750	785
768	761	756	825	840	883	880	876	608	700	709	750
734	729	722	799	818	867	862	860	596	662	668	714
700	696	687	774	797	850	845	844	584	621	626	679
668	663	653	750	775	834	827	828	571	580	585	644
635	630	618	725	753	817	811	812	559	540	544	608
602	597	584	700	731	801	793	795	547	500	503	573
568	565	551	674	709	784	776	778	535	456	462	538
534	532	516	650	687	768	759	761	522	416	421	503
500	500	485	625	665	751	742	745	511	375	380	467
469	467	451	600	643	734	724	729	**500**	334	338	432
436	434	417	575	621	717	707	712	485	293	297	397
403	401	383	550	599	700	690	691	473	252	256	362
370	368	348	526	577	683	673	674	460	211	215	326
337	335	314	**500**	555	665	656	657	448	171	174	291
304	302	280	475	533	649	639	641	436	130	132	256
271	269	246	451	511	632	622	625	424	89	91	221
238	236	211	426	490	616	605	609	411	48	50	185
205	203	178	401	468	600	587	593	399			150
171	170	144	377	446	583	570	577	387			115
139	137	109	352	424	568	553	561	374			80
106	105	75	327	402	550	536	545	362			44
73	72	40	302	380	534	519	529	350			
40	37		278	358	**518**	**502**	513	338			
			253	336	500	486	497	326			
			228	314	483	469	481	313			
			204	292	465	452	465	301			
			179	270	449	435	449	289			
			154	248	433	418	432	276			
			130	226	416	400	416	264			
			105	204	400	383	400	252			
			81	182	383	366	383	240			
			56	160	367	349	367	228			
			32	139	351	332	350	215			
				117	334	315	334	203			
				95	318	298	318	191			
				73	302	280	302	178			
				51	285	262	285	166			
				29	269	246	269	154			
					252	229	252	142			
					236	212	235	130			
					220	195	219	117			
					203	178	202	105			
					187	160	186	93			
					171	143	169	80			
					154	126	153	68			
					137	109	136	56			
					122	92	119	44			
					105	74	102	31			
					89	57	85	19			
					72	40	68				
					56	23	51				
					40		34				
					24		17				

Terminology, pressure welded grating

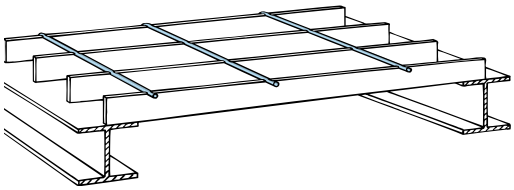
Load bearing bar

Upright positioned load bearing bars/flat bars. The load bearing bar constitutes the load bearing structure in the grating.



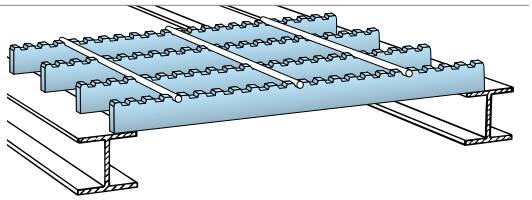
Cross bar

Bars that connect the load bearing bars at right angles. Joined with pressure welding.



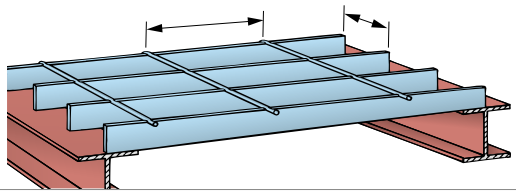
Grating serrated version

Load bearing bar with serrated top for extra anti-slip protection.



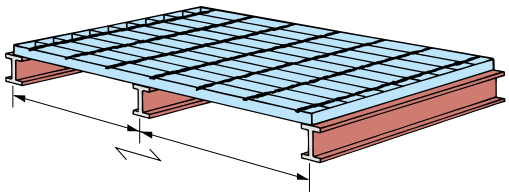
Mesh width

c/c dimension between the load bearing and cross bars.



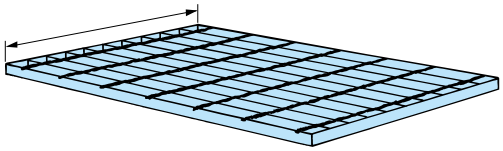
Grating length, span or load bearing dimensions

Grating length = the load bearing length incl. edge bar.
The span is the distance between two supports. The grating can be placed with advantage across two or more supports. The direction of the load bearing bars is marked with ⟷ on the drawing. In the dimension specification, the load bearing bar size is given first, e.g. 815 x 1000 mm.



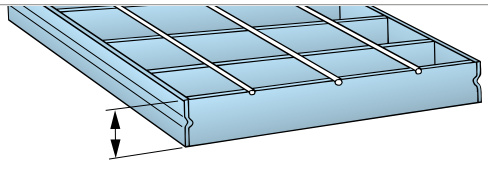
Grating width (cross bar dimensions)

Grating width = the cross bar length.



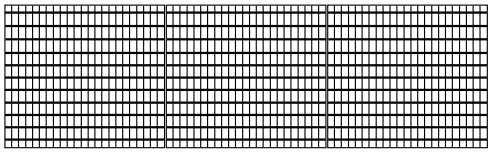
Grating height

Grating height = the load bearing height



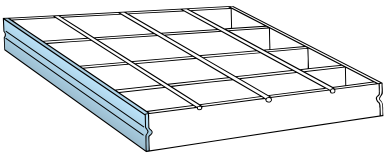
Coincident cross bars

The grating can be assembled with coincident cross bars. Delivered for an additional charge.



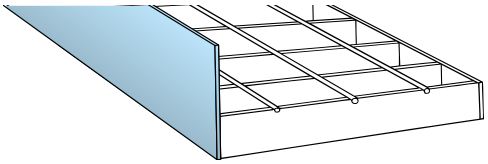
Edge bar

Flat bar that is welded at right angles to the load bearing bar ends and connects these.



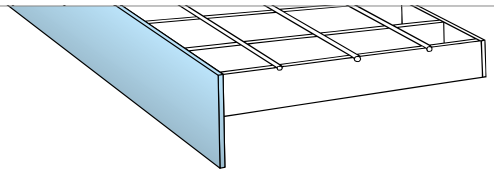
High edge bar (kick strip)

Edge bar that is higher than the load bearing bars and with the projecting section above the grating.



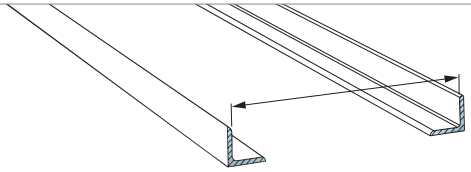
Deep edge bar

Edge bar that is higher than the load bearing bars and with the projecting section below the grating.



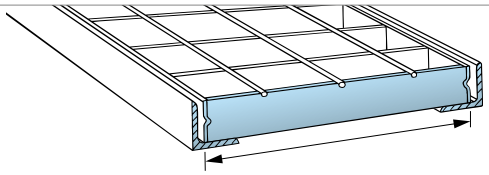
Hole dimensions

The "rigid" dimensions of the opening in which the grating will lie.



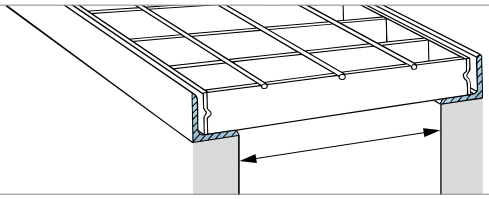
Grating dimensions

The exact dimensions of the grating. The grating must always be 6-10 mm smaller than the hole dimensions. This is true for both length and width.



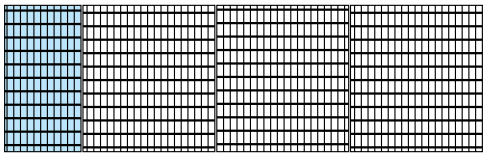
Freespan

The open space that the grating will cover (The distance between the inner edges of the supports).



Adapter section

Grating that is cut across the width from standard widths 500, 700 or 1000 mm.



Recess

A collective term for all types of cutting and fitting. See below.

Straight cutting

Cutting at right-angles to the load bearing and cross bars.

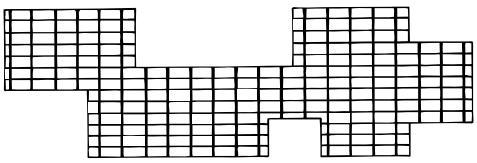
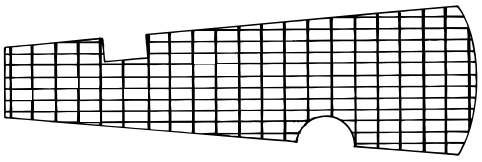


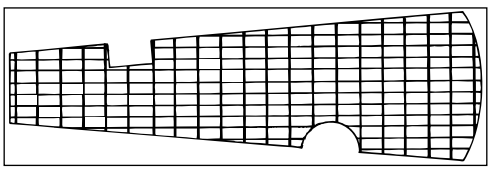
Figure cutting

Cutting that is not at right-angles to the load bearing and cross bars.



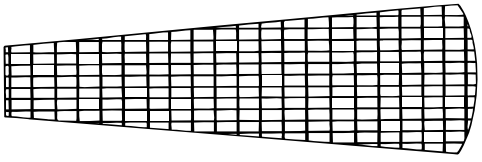
Gross area

The area that is obtained when the area is calculated based on our standard widths 500 and 1000 mm.

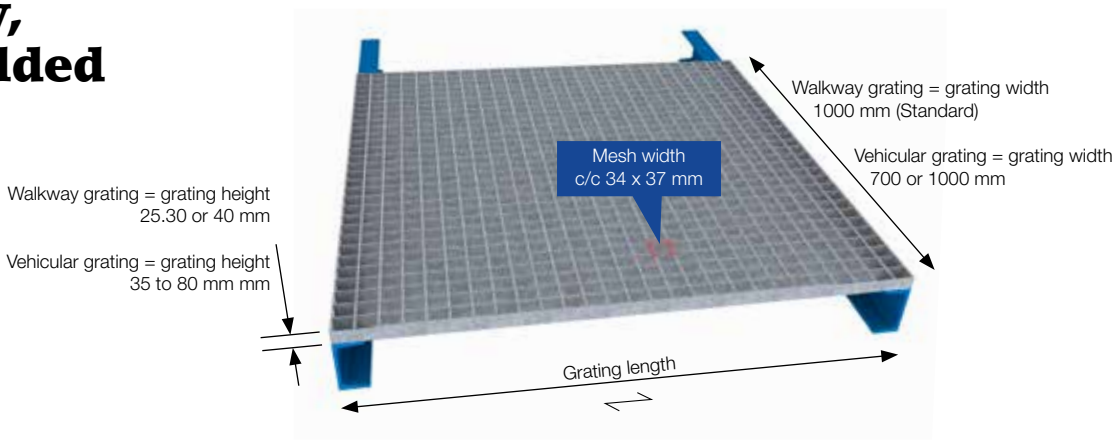


Net area

The grating's net area including any recess.

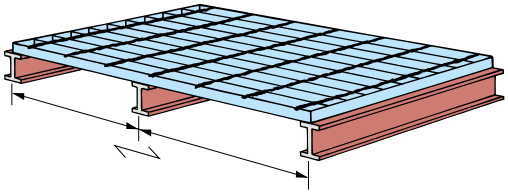


Terminology, pressure welded walkways



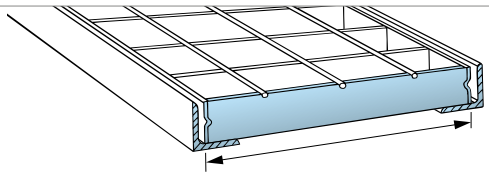
Dimensions/ layout

Grating length = the load bearing length incl. edge bar. The span is the distance between two supports. The grating can be placed with advantage across two or more supports. In the dimension specification, the load bearing bar size is given first, e.g. 810 x 1000 mm.



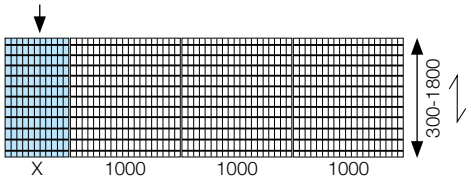
Grating dimensions

The grating dimensions are the exact dimensions of the grating. The grating must always be 6-10 mm smaller than the hole dimensions (the rigid dimensions of the opening in which the grating will lie). True for both length and width.



Width dimension/ adapter section

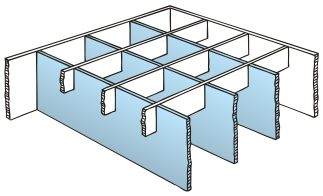
The grating's standard width is 1000 mm. To obtain the complete layout dimension, an adapter section is frequently needed. The adapter section is cut at the closest load bearing bar. In this way, the adapter section has edge bar all round. All cut surfaces are cold galvanised.



Terminology, A-type grating

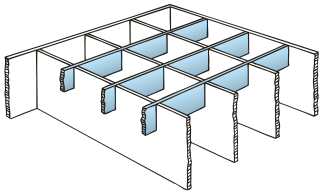
Load bearing bar

Upright positioned load bearing bars/flat bars. The load bearing bar constitutes the load bearing structure in A-type grating. This measurement is basically optional, although it should not exceed 100 mm.



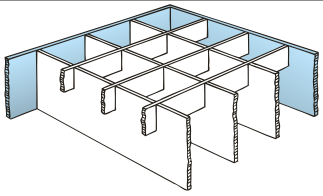
Cross bar

Flat bars that connect the load bearing bars at right angles. c/c measurement between the cross bars is selected in multiples of c/c 11.1 mm. I.e. 11.1 - 22.2 - 33.3 etc.



Edge bar

Flat bars that are welded around. Connects together load bearing bars and cross bars.

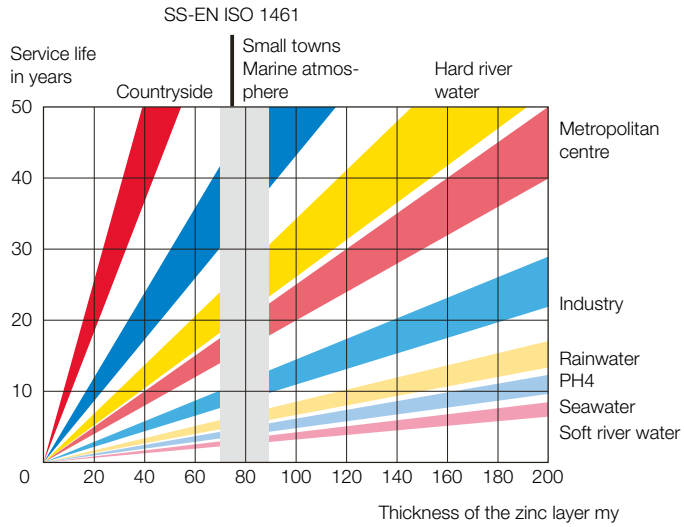


Surface treatment

Hot dip galvanisation

Weland's products are delivered as standard hot dip galvanised according to class SS-EN ISO 1461.

The diagram shows the average service life for different thicknesses of zinc in different environments.



Treatment of stainless steel

Stainless steel can be sand-blasted, pickled or electrolyte treated to obtain a good surface finish.

See more about surface finishes on pages 270-273.


p. 55-58

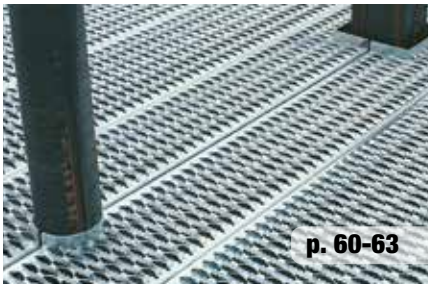
Plank type flooring

Plank type flooring is used for all types of industrial flooring, mezzanine floor structures, gangways, etc. Plank type flooring can cross spans of up to 2 metres.


p. 59

Fire suppression plank

Plank type flooring that has been specially developed for fire extinguishing pits in transformer substations etc.


p. 60-63

Slit plank type flooring

Slit plank type flooring can be used for most types of industrial flooring, gangways, treads, etc. Thanks to the serrated top, slit plank type flooring offers good anti-slip properties.

Plank type flooring, slit plank type flooring

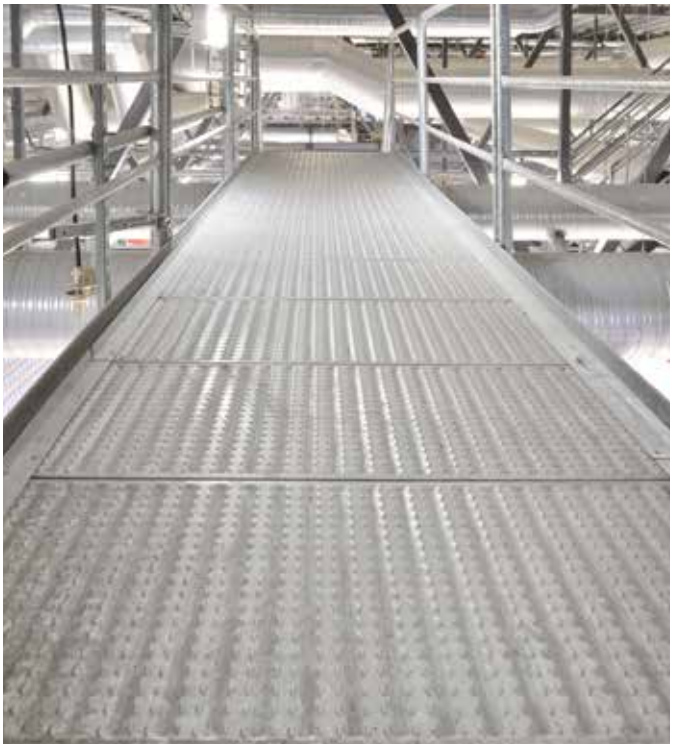
Weland manufactures plank type flooring and slit plank type flooring that is used, for example, for industrial flooring, mezzanine floor structures, gangways, etc.

Plank type flooring

Plank type flooring is used for all types of industrial flooring, mezzanine floor structures, gangways, etc. The plank type flooring can cross spans of up to 2 metres, which means that the supporting beams can be placed further apart and the assembly is faster.

The illustrations below show plank type flooring compared to grating and chequer plate.

Plank type flooring is manufactured from profiled sheet metal and only weighs 21.8 kg/m². Normal chequer plate including extra support weighs 50 kg/m² or more. Plank type flooring is hot dip galvanised as standard and is manufactured in closed, open, slit or perforated versions.



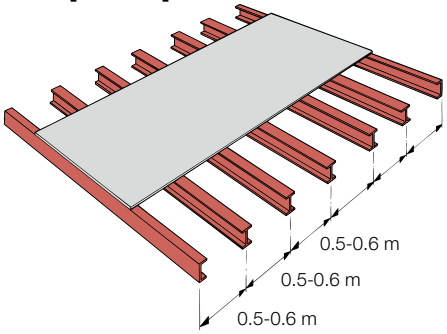
Advantages of Plank Type Flooring

- *Good total economy thanks to low weight and longer permitted spans for pedestrian traffic.*
- *Easy to adjust and fit on-site*
- *Good anti-slip protection for plank type flooring is better in the slit or perforated version (LDS and LDP).*
- *The open plank type floorings (LDH, LDS and LDP) have good permeability but are not seen as open as grating when used at heights.*
- *Ready to use closed flooring without further superstructure (LDT)*
- *More flexible handling thanks to its low weight*

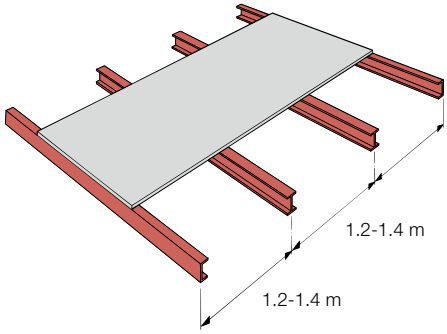
Long spans and simpler frame

Open plank flooring is a strong, lightweight design, which permits spans up to 2000 mm. Considerable material savings are made thanks to a simpler and less dense supporting frame than for other types of industrial flooring. For spans greater than 1500 mm the planks should be connected together.

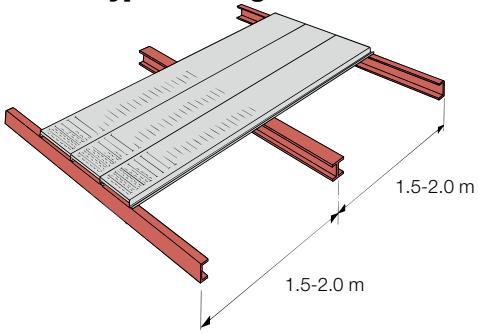
Chequered plate



Grating

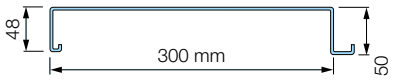


Plank type flooring



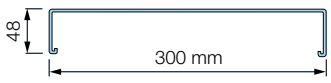
Construction profiles – type B

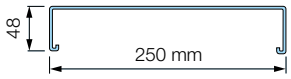
Plank type flooring is manufactured in 4 different patterns, 2 different profiles, and 3 different widths. We can supply plank type flooring in different lengths, up to 6000 mm. Plank type flooring has construction profiles that are 300 mm wide. These profiles hook into each other and are locked during installation.



End profiles – type A

End profiles are used to obtain the exact width and as finish along the edges. The desired construction dimensions can be obtained using the construction profiles.





Easy to handle and install

Thanks to the low weight of the plank profiles (300 mm wide = 7.4 kg/m), the assembly is made easier and the planks can be laid by hand, without the help of a crane of similar.

Plank type flooring is hooked together during installation and fixed with thread-pressed screws to the supporting beams.

Read more about fixings on pages 64-71.

Cutting/planning

We can cut and process the plank type flooring in complete accordance with our customers' wishes. It is an advantage to do these operations at the factory prior to hot dip galvanisation for the best results. For cut-outs where the "support line" is cut, the planks are reinforced with LU profile.

We help with the planning and design of your plank type flooring and, if wanted, with the supporting beams. Contact us at an early stage.

Stock

The 6000 mm length is held in stock. Custom-made lengths according to your wishes are non-stock items.

Surface treatment

Plank type flooring is delivered as standard hot-dip galvanised according to SS-EN ISO 1461.

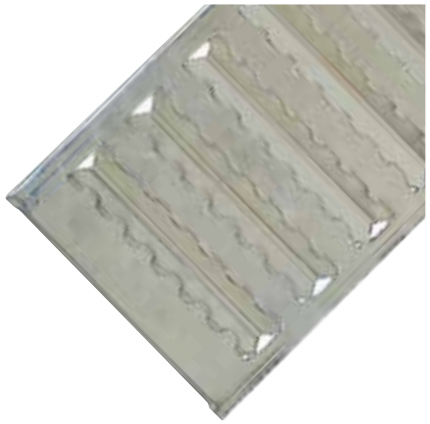
Read more about surface finishes on pages 270-273.

Closed plank type flooring, LDT

Properties:
This plank type has an embossed pattern offering good anti-slip protection.

Applications:
Wherever a closed floor is needed. Because the planks are closed, insulation can be installed in or under the planks. The 6000 mm length is held in stock.

Construction profiles	End profiles
300 mm	200 mm
	250 mm
	300 mm



Holed plank type flooring, LDH

Properties:
In principle, it is a closed plank type flooring that is supplemented with punched oval holes, 15 x 69 mm, to let through light, dirt and fluid.

Applications:
Whenever a relatively smooth, yet pervious floor is required. Suitable when, for example, wheeled objects will be moved across the floor. The 6000 mm length is held in stock.

Construction profiles	End profiles
300 mm	200 mm
	250 mm
	300 mm

Slit plank type flooring, LDS

Properties:
Just like LDH, a plank type with great permeability for dirt and liquids. The serrated top provides extremely good anti-slip protection.

Applications:
Wherever there are strict requirements for anti-slip protection. The 6000 mm length is held in stock.

Construction profiles	End profiles
300 mm	200 mm
	250 mm
	300 mm

Perforated plank type flooring, LDP

Properties:
Very good anti-slip protection, but not as great a permeability as LDS. This type has smaller openings (holes Ø 10 mm and 4 mm drain holes) and thus provides more safety from objects falling through the openings.

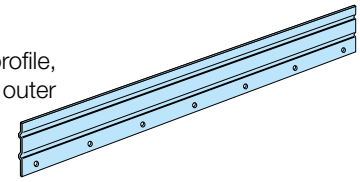
Applications:
Wherever there are strict requirements for anti-slip protection and where no objects are allowed to fall through the openings. The 6000 mm length is held in stock.

Construction profiles	End profiles
300 mm	200 mm
	250 mm
	300 mm

Accessories for plank type flooring

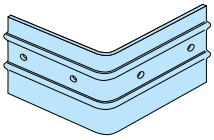
Kick strip

Kick strip LK140 is a special profile, located at all openings and all outer edges of the plank.



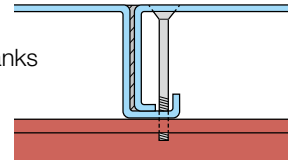
Corner for kick strip

Outside and inside corners at 90° angles are available for kick strips.



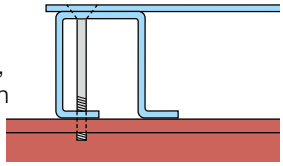
Rubber strips

Installed in the joints between the planks (LDT) as a seal and to provide sound and vibration insulation.



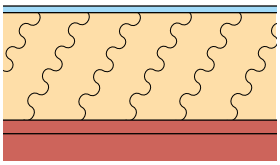
Reinforcement profile

Profile LU43 is used as reinforcement, plank edging and as a border profile in the case of longitudinal cutting of the plank.



Acoustic insulation

Insulating boards are installed under the planks (LDT) and secured with clips.



For information on the loading values, see Weland's website ***www.weland.se*** *or contact our sales department!*

Plank type flooring for fire suppression

Weland has developed a special plank type flooring for fire suppression. Plank type flooring has been developed for fire extinguishing pits in transformer substations etc. The planks are easy to install and remove during repair and maintenance work.

In the event of a fire, where burning transformer oil escapes into the transformer building, the oil runs through the perforations in the flooring and is smothered due to the lack of oxygen in the pit below the flooring. It takes just approx. 5-15 seconds before the fire is completely extinguished.

Tests have been carried out in co-operation with the rescue services in Gislaved.

The oil is tipped out over the transformer pit.

The flames are extinguished after 5 seconds.

After 8 seconds, the fire under the grating is extinguished.

Slit plank type flooring

Slit plank type flooring can be used for most types of industrial flooring, gangways, treads, etc. Thanks to its serrated top, slit plank type flooring offers very good anti-slip protection and lets through dirt, oil and other spillages. Because of this, slit plank type flooring does not normally require cleaning.

Slit plank type flooring has high load-bearing capacity, which means the support beams can be placed further apart, and thus, made cheaper.

Easy to handle and install

Slit plank type flooring is manufactured as "plank", which means that even longer planks are easy to handle during assembly. The "planks" are never that heavy that one man cannot carry them.

After laying, the slit plank type flooring is secured with fixings available for plank heights 40 and 70 mm.

Read more about fixings on pages 64-71.

Anti-slip protection

Slit plank type flooring is manufactured as standard with serrated slits, which provides the maximum anti-slip protection.

Safe

In certain environments, for example the offshore industry, there is a requirement that a 15 mm diameter ball cannot fall through the grating. Slit type plank flooring has a mesh opening of 45 x 14 mm.

High load-bearing capacity

Slit type plank flooring is manufactured as standard in two different heights - 40 and 70 mm. Slit type plank flooring has a very high load-bearing capacity.

Areas of application

Work platforms

Slit plank type flooring used for work flooring makes a very non-slip floor, e.g. as a work platform/mezzanine. This work flooring does not normally need cleaning as slit type plank flooring has great permeability.

Gangways

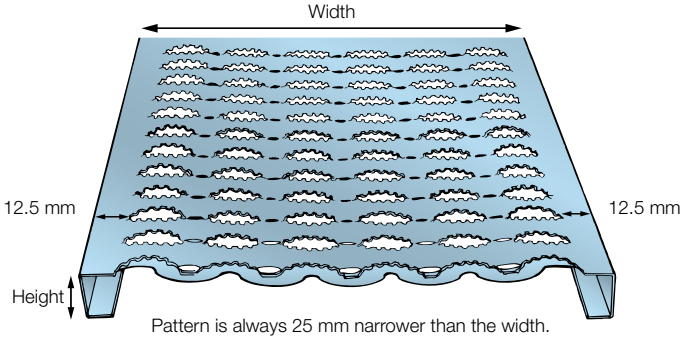
For inclined gangways that need to have a good grip on the gangway surface, then, slit type flooring has extremely good grip due to its serrated upper side.

Scaffolding

Slit type plank flooring for scaffolding is anti-slip. The planks are light and equipped with secure, easy-to-install hooks that prevent the planks from sliding.

Industrial flooring

Slit plank type flooring is light and very permeable to dirt and liquids. Slit type plank flooring has a mesh opening of 45 x 14 mm. This prevents objects with a diameter larger than 15 mm from falling through.



Pattern is always 25 mm narrower than the width.

Stainless steel

Slit type plank flooring in stainless steel EN 1.4301 or EN 1.4404 is manufactured in 1.5-mm thick material, in grating widths of up to 250 mm.

Aluminium

Slit type plank flooring in aluminium is manufactured in 3-mm thick material in widths of up to 370 mm.

Surface treatment

Hot dip galvanisation is by far the dominant surface treatment for slit type plank flooring. Complies with the requirements according to SS-EN ISO 1461. Painted or untreated planks can also be supplied.

Read more about surface finishes on pages 270-273.

Size

Slit type plank flooring is made in widths from 130 to 500 mm and lengths of up to 4 metres.

Standard slit plank type flooring

Slit plank type flooring is manufactured as standard from 2 mm sheet metal. The manufacturing process is completely automated and starts with coils (sheet metal on rolls). The sheet metal is punched, folded and cut.

Cutting of the slit plank type flooring's longitudinal measurement is based on 15 mm separation between meshes. For example, length 2600 mm, separation 15 mm = 2595 or 2610 mm

Slit plank type flooring with special dimensions is manufactured to order.

Standard length

The standard length is 3000 mm. This length is kept in stock. The maximum length that can be formed is 4000 mm. The pattern is always 25 mm narrower than the width.

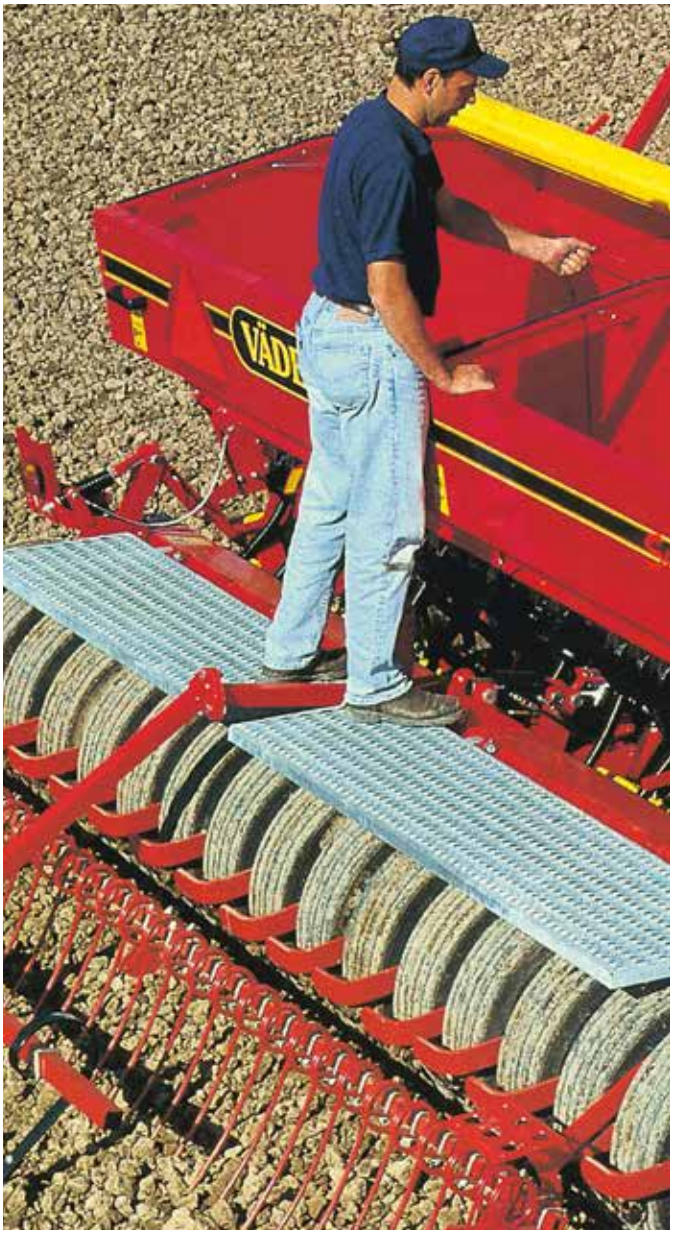
Dim. Width x height	Part no.	Surface treatment	Weight (kg/m²)
130 x 40	SD1304020	Untreated	3.3
130 x 40	SD13040201	Hot dipped galv.	3.6
130 x 70	SD1307020	Untreated	4.2
130 x 70	SD13070201	Hot dipped galv.	4.7
190 x 40	SD1904020	Untreated	4.0
190 x 40	SD19040201	Hot dipped galv.	4.4
190 x 70	SD1907020	Untreated	4.9
190 x 70	SD19070201	Hot dipped galv.	5.4
250 x 40	SD2504020	Untreated	4.7
250 x 40	SD25040201	Hot dipped galv.	5.2
250 x 70	SD2507020	Untreated	5.6
250 x 70	SD25070201	Hot dipped galv.	6.2
310 x 40	SD3104020	Untreated	5.4
310 x 40	SD31040201	Hot dipped galv.	5.9
310 x 70	SD3107020	Untreated	6.3
310 x 70	SD31070201	Hot dipped galv.	7.0
370 x 40	SD3704020	Untreated	6.1
370 x 40	SD37040201	Hot dipped galv.	6.7
370 x 70*	SD3707020	Untreated	7.0
370 x 70	SD37070201	Hot dipped galv.	7.7
430 x 40	SD4304020	Untreated	6.8
430 x 40	SD43040201	Hot dipped galv.	7.5
430 x 70	SD4307020	Untreated	7.9
430 x 70	SD43070201	Hot dipped galv.	8.7
500 x 40	SD5004020	Untreated	7.6
500 x 40	SD50040201	Hot dipped galv.	8.4

= Non-stock item

= Stock, length 3 m

Customised

Slit plank type flooring can be processed, shortened, cut etc. wholly in accordance to the customer's wishes. All machining is done at the factory prior to hot dip galvanisation.



Fixings

Weland stocks both complete and separate fixings for various types of grating, slit plank type flooring and plank type flooring.

Complete fixings

Grating, slit plank type floor and plank type flooring should be anchored to the supporting structure. This can be done in various ways. Here are some alternatives that Weland recommends for securing the various products.

Stock fixings are available in hot dip galvanised and stainless steel versions.

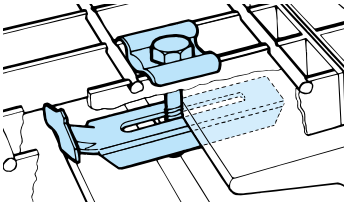
A standard pack comprises 100 components per box.

Complete clamp for grating

Complete clamp in four parts. Top part, bottom part, screw and nut. Available in screw lengths 50, 60, 70 and 80 mm.

Installed without drilling into the supporting structure.

Suitable for plank types: A, D, F, H and J.



Hot dip galvanised clamp, stock

For plank type	Part no.**	Weight (kg/item)
D4, D9, A22x22	1632220_1	0.14
F4, F9	1632520_1	0.14
H3, H4, H6, H9, H9-T	1633320_1	0.14
J9	1634130_1	0.18

Stainless steel clamp, stock

Grade EN 1.4404. Available in screw lengths 50 and 60 mm.

For plank type	Part no.**	Weight (kg/item)
H3, H4, H6, H9, H9-T	1633320_2	0.14

Hot dip galvanised clamp with stainless steel top section, stock

For plank type	Part no.**	Weight (kg/item)
H3, H4, H6, H9, J9	1632525_1	0.15

** *NOTE! Part no. is supplemented with index number for screw length according to the following table.*

Index number for screw

Example: For plank height 30-40 mm, a 60 mm bolt length is needed. This gives an index number **2** according to the table that has to be added to the part no.
E.g. part no. 1633320_1, becomes part no. 1633320**2**1

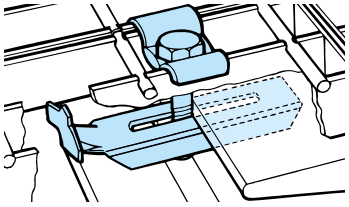
Index number for screw	Length (mm)	Suitable for plank height (mm)
1	50	20 - 30
2	60	30 - 40
3	70	40 - 50
4	80	50 - 60

Complete clamp for grating joint

Complete clamp in four parts. Special top part, bottom part, screw and nut. Available in screw lengths 50, 60, 70 and 80 mm. Hot dip galvanised.

Installed without drilling into the supporting structure.

Suitable for plank types: H and J.



Hot dip galvanised clamp, stock

For plank type	Part no.**	Weight (kg/item)
H3, H4, H6, H9, H9-T	1633625_1	0.16
J9	1634425_1	0.20

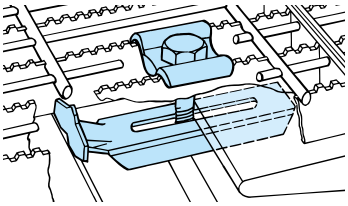
** *NOTE! Part no. is supplemented with index number for screw length according to the following table.*

Complete clamp for string design grating

Complete clamp in four parts. Top part, bottom part, screw and nut. If this clamp is used, the round bar on the grating must be cut to provide space for the screw. Available in screw lengths 50, 60, 70 and 80 mm.

Installed without drilling into the supporting structure.

Suitable for plank types: HN9-T and JN9-T.



Hot dip galvanised clamp, stock

For plank type	Part no.**	Weight (kg/item)
HN9-T	1633320_1	0.14
JN9-T	1634130_1	0.18

Stainless steel clamp, stock

Grade EN 1.4404. Available in screw lengths 50 and 60 mm.

For plank type	Part no.**	Weight (kg/item)
JN9-T	1634130_2	0.20

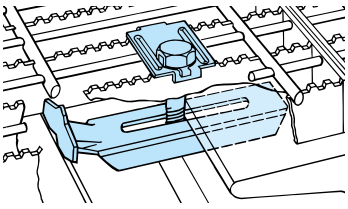
** *NOTE! Part no. is supplemented with index number for screw length according to the following table.*

Complete clamp with special top part for string design grating

Complete clamp in four parts. Special top part, bottom part, screw and nut. Available in screw lengths 50, 60, 70 and 80 mm. Hot dip galvanised.

Installed without drilling into the supporting structure.

Suitable for plank types: HN9-T and JN9-T.



Hot dip galvanised clamp, stock

For plank type	Part no.**	Weight (kg/item)
HN9-T	1634830_11	0.15
JN9-T	1634830_1	0.17

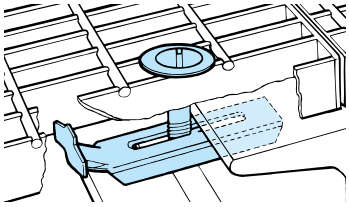
** *NOTE! Part no. is supplemented with index number for screw length according to the following table.*

Complete clamp for close-meshed grating

Complete clamp in four parts. Special top part, bottom part, screw and nut. Available in screw lengths 50 and 70 mm.

Installed without drilling into the supporting structure.

Suitable for plank types: A, B, D and N.



Hot dip galvanised clamp, stock

For plank type	Part no.**	Weight (kg/item)
B9, D4, D6, N4, N6, N9, N9-T, A33x11	1632800_1	0.14

Stainless steel clamp, stock

Grade EN 1.4404.

For plank type	Part no.**	Weight (kg/item)
B9, D4, D6, N4, N6, N9, N9-T, A33x11	1632800_2	0.12

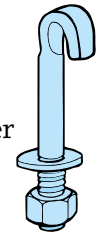
** *NOTE! Part no. is supplemented with index number for screw length according to the following table.*

Index number for screw

Example: For plank height 30-40 mm, a 60 mm bolt length is needed. This gives an index number **2** according to the table that has to be added to the part no.
E.g. part no. 1633320_1, becomes part no. 1633320**2**1

Index number for screw	Length (mm)	Suitable for plank height (mm)
1	50	20 - 30
2	60	30 - 40
3	70	40 - 50
4	80	50 - 60

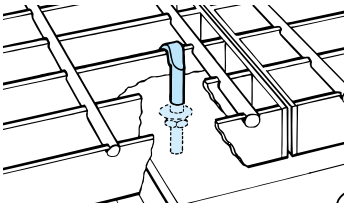
Complete J-hook



Complete J-hook in three parts. J-hook, washer and nut. Fits all types of grating and A-type grating. Available with screw lengths 38, 48, 58, 68, 78 and 120 mm. Hot dip galvanised.

Holes must be drilled in the supporting structure.

Suitable for plank types: A, B, D, F, H, I, J and N.



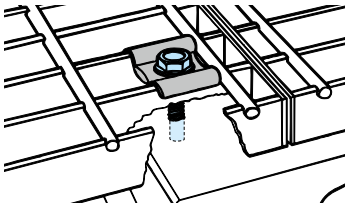
Hot dip galvanised J-hook, stock

Dimensions	Thread length (mm)	For plank height (mm)	Part no.	Weight (kg/item)
M8 x 38	20	<20	163603801	0.04
M8 x 48	20	25-30	163604801	0.04
M8 x 58	20	35-40	163605801	0.04
M8 x 68	20	45-50	163606801	0.05
M8 x 78	20	55-60	163607801	0.05
M12 x 120	45	70-80	163201201	0.15

Self-tapping screw + top section

The top part is selected according to which grating is to be anchored, see separate details on pages 70-71. Holes must be drilled in the supporting structure. 7.6 mm drill for self-cutting screw.

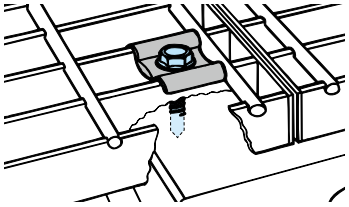
Suitable for plank types: Grating height 20-40 mm.



Self-drilling screw + top section

The top part is selected according to which grating is to be anchored, see separate details on pages 70-71. Maximum drilling capacity 6 mm material thickness.

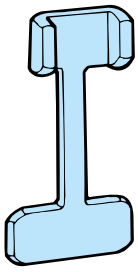
Suitable for plank types: Grating height 20-30 mm.



Clips for load transfer

Plank to plank with free support. Suitable for all types of grating with heights 20, 25, 30, 35 and 40 mm. Stainless steel version.

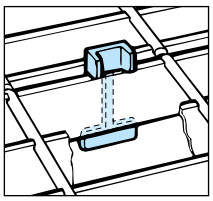
Suitable for plank types:
A, B, D, F, H, I, J and N.



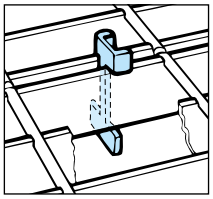
Stainless steel clips, stock

Grade EN 1.4404.

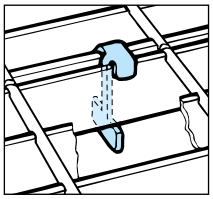
For grating height (mm)	Part no.	Weight (kg/item)
20	163032032	0.02
25	163032532	0.02
30	163033032	0.02
35	163033532	0.02
40	163034032	0.02



1 Push the clip set in the joint between two gratings.



2. Turn the clip set.



3. Hit the clip set's top section with a hammer.

Fixing screw for plank type flooring

Plank type flooring is hooked together during installation and fixed with thread-pressed screws to the supporting beams. Stock fixing screws are available in yellow chromate version.

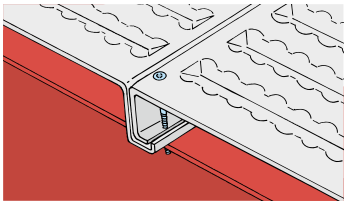
A standard pack comprises 100 components per box.

Fixing screw for plank type flooring

Self-cutting screw MFT Taptite M6x65. Yellow chromated.

Holes must be drilled in the supporting beams.

Suitable for plank types: Plank type flooring



Yellow chromated screw

For plank type	Part no.	Weight (kg/item)
Plank type flooring 50 mm	0501380	-

Fixings for slit plank type flooring

Slit plank type flooring should be anchored to the supporting structure. This can be done in various ways.

Here are some of the alternatives recommended by Weland.

Stock fixings are available in hot dip galvanised versions.

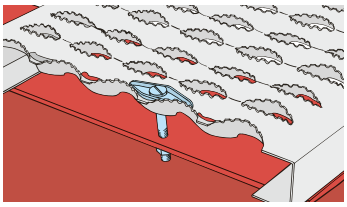
A standard pack comprises 100 components per box.

Complete clamp - 3 parts

Complete clamp in three parts for fixing slit plank type flooring. Top section, screw (M8) and nut. Available in screw lengths 70 and 100 mm. Hot dip galvanised top section. Screw and nut are in stainless steel.

Holes must be drilled in the supporting beams.

Suitable for plank types: Slit plank type flooring with 40 and 70 mm height.



Hot dip galvanised fixing, stock

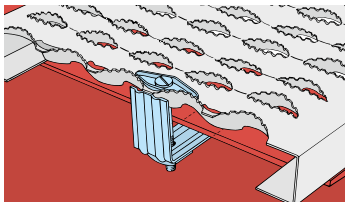
For plank type	Dim.	Part no.	Weight (kg/item)
Grating height 40 mm	M8x70	1634002	0.05
Grating height 70 mm	M8x100	1637002	0.05

Complete clamp - 4 parts

Complete clamp in four parts for fixing slit plank type flooring. Top part, bottom part, screw and nut. Available in screw lengths 70 and 100 mm. Hot dip galvanised top and bottom section. Screw and nut are in stainless steel.

Installed without drilling into the supporting structure.

Suitable for plank types: Slit plank type flooring with 40 and 70 mm height.

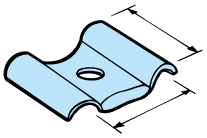
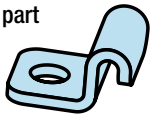
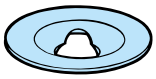
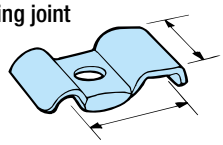
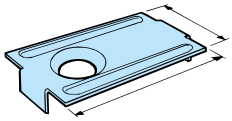
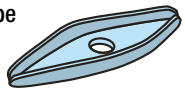


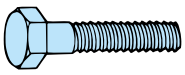
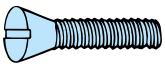
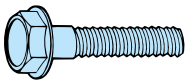
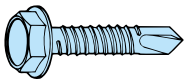
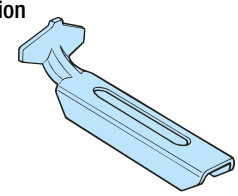
Hot dip galvanised clamp, stock

For plank type	Part no.	Weight (kg/item)
Grating height 40 mm	1634001	0.15
Grating height 70 mm	1637001	0.18

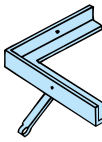
Separate fixings for gratings/slit plank type flooring

A standard pack comprises 100 components per box.

Part	Dimensions (mm)	For plank type	Version	Part no.	Weight (kg/each)
Top section 	22 x 20	D4, D9, A22x22	Hot dip galv.	163222001	0.02
	25 x 20	F4, F9	Hot dip galv.	163252001*	0.02
	33 x 20	H3, H4, H6, H9, H9-T	Hot dip galv.	163332001*	0.02
	41 x 30	J9	Hot dip galv.	163413001*	0.04
	33 x 20	H3, H4, H6, H9, H9-T	RF, A4	163332002*	0.03
Stainless steel top part 	25 x 25	H3, H4, H6, H9, J9	RF, A4	1632502	0.03
Top part for close-meshed grating 	Ø 28	B, D, N, A33x11	Hot dip galv.	163280001*	0.02
	Ø 28	B, D, N, A33x11	RF, A4	163280002	0.01
Top part for grating joint 	36 x 25	H6, H9, H9-T	Hot dip galv.	163362501	0.04
	44 x 25	J9	Hot dip galv.	163442501	0.06
Special top part for string design grating 	48 x 30	HN9-T, JN9-T	Hot dip galv.	163483001*	0.03
Top part for slit plank type flooring/plank type flooring 	22 x 60	Slit plank type flooring, Plank type flooring LDS	Hot dip galv.	16360221*	0.02

Part	Dimensions (mm)	For plank type	Version	Part no.	Weight (kg/each)
Screw 	M8 x 50	20-30	Hot dip galv.	163605001	0.02
	M8 x 60	30-40	Hot dip galv.	163606001	0.03
	M8 x 70	40-50	Hot dip galv.	163607001	0.03
	M8 x 80	50-60	Hot dip galv.	163608001	0.03
	M8 x 60	30-40	RF, A4	163606002	0.02
	M8 x 70	40-50	RF, A4	163607002	0.03
Countersunk screw 	M8 x 50	20-30	Hot dip galv.	1636050041	0.02
	M8 x 70	30-40	Hot dip galv.	1636070041	0.02
	M8 x 50	20-30	RF, A4	1636050042	0.02
	M8 x 70	30-40	RF, A5	1636070042	0.03
Self-tapping screw 	M8 x 50	20-40	Zn/Ni, C4	163615001	0.03
	7.6	Bit for screw		16376	
Self-drilling screw Max. thickness 6 mm. 	B14 x 50	20-30	Zn/Ni, C4	163145001	0.01
Drilling screw Torx T30. Max. thickness 6 mm. 	6.3 x 60	B, D, N, A22x22	Zn/Ni, C4	163636001	0.01
Drilling screw Drilling screw with thread section and screw head made of stainless steel A2 with drill tip made of carbon steel. Max. thickness 2 mm. 	5.5 x 50	20-25	RF, A2	163555002	0.01
	5.5 x 65	25-40	RF, A2	163556502	0.01
Track screw Track screw with fillister head 	M8 x 60	20-40 A-type grating 33 x 11mm	RF , A2	164608602	0.01
Bottom section 	40 mm	A, B, D, F, H, N For mesh width 28 mm.	Hot dip galv.	163400001*	0.09
	50 mm	J, HN9-T, JN9-T	Hot dip galv.	163500001*	0.10
	40 mm	A, B, D, F, H, N For mesh width 28 mm.	RF, A4	163400002	0.08
	50 mm	J, HN9-T, JN9-T	RF, A4	163500002	0.11
Nut for bottom part 	M8 15 x 18	A, B, D, F, H, N For mesh width 28 mm.	Hot dip galv.	163601501*	0.01
	M8 22 x 27	J, HN9-T, JN9-T	Hot dip galv.	163602201*	0.02
	M8 15 x 18	A, B, D, F, H, N For mesh width 28 mm.	RF, A4	163601502	0.01
	M8 22 x 27	J, HN9-T, JN9-T	RF, A4	163602202	0.02
Nylock nut 	M12 RF A4	Fits e.g. J-hook M12.	Stainl. steel	1646120012	0.02

* = All items are kept in stock



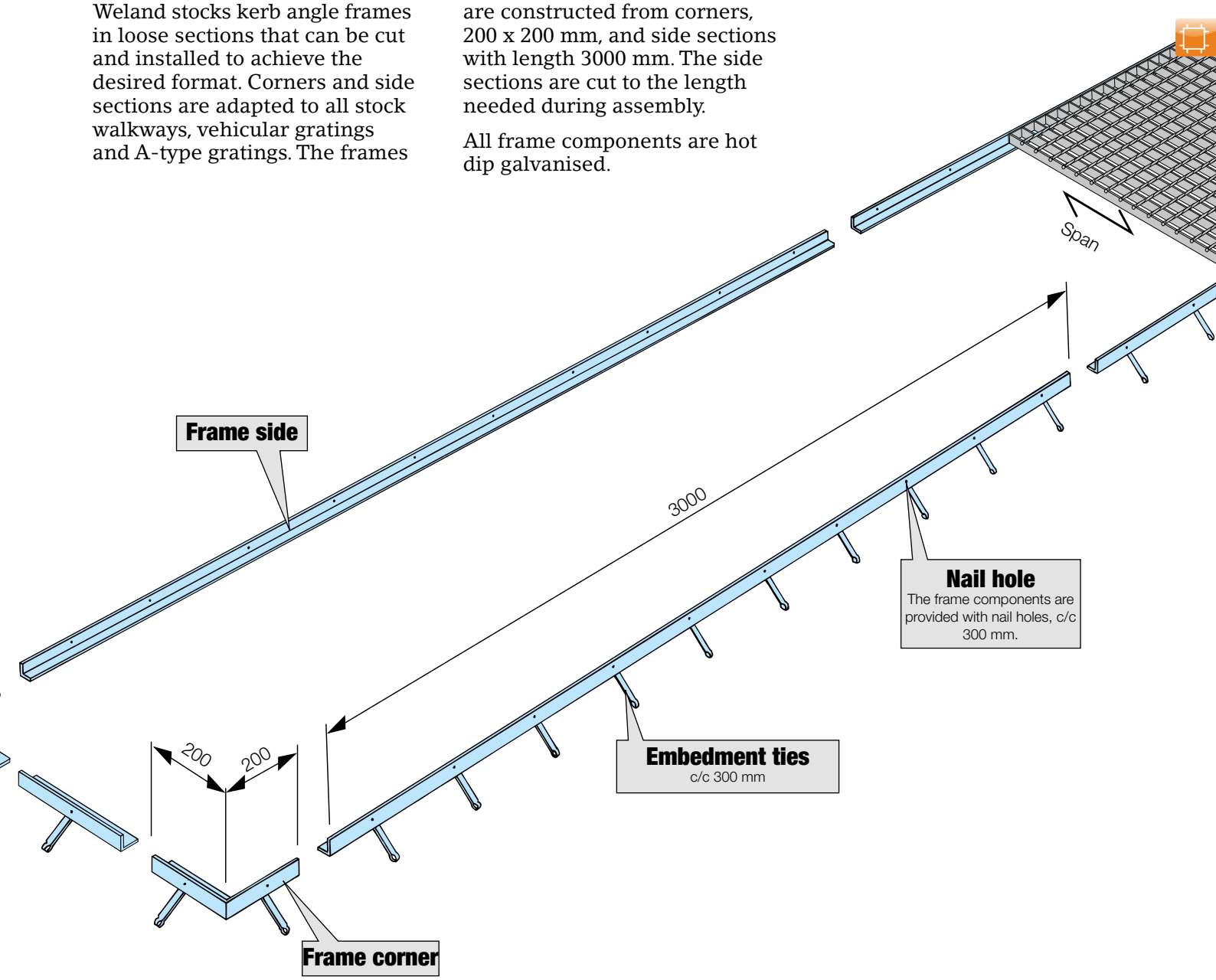
Kerb angle frames

Weland stocks kerb angle frames for walkways, vehicular gratings, anti-slip gratings and entrance gratings. Kerb angle frames are available both as loose sections and welded together.

Corners and side sections

Weland stocks kerb angle frames in loose sections that can be cut and installed to achieve the desired format. Corners and side sections are adapted to all stock walkways, vehicular gratings and A-type gratings. The frames are constructed from corners, 200 x 200 mm, and side sections with length 3000 mm. The side sections are cut to the length needed during assembly.

All frame components are hot dip galvanised.



Corner 200 x 200 mm, stock

With embedment ties and nail holes to facilitate the moulding work. Hot dip galvanised.

For grating height (mm)	Dimensions profile (mm)	Part no.	Weight (kg/item)
20	25 x 25 x 3	161253021	0.60
25	30 x 30 x 3	161303021	0.70
30	35 x 35 x 3	161353021	0.80
35	40 x 40 x 3	161405021	0.90
40	45 x 45 x 3	161455021	1.0
45	50 x 50 x 3	161505021	1.1
50	55 x 55 x 3	161555021	1.2
60	65 x 65 x 3	161654021	1.4
70	75 x 75 x 3	161754021	1.6
80	85 x 85 x 3	161854021	1.8

Side sections 3000 mm, stock

With embedment ties and nail holes to facilitate the moulding work. Hot dip galvanised.

For grating height (mm)	Dimensions profile (mm)	Part no.	Weight (kg/item)
20	25 x 25 x 3	161253301	4.3
25	30 x 30 x 3	161303301	5.1
30	35 x 35 x 3	161353301	5.8
35	40 x 40 x 3	161405301	6.4
40	45 x 45 x 3	161455301	6.8
45	50 x 50 x 3	161505301	7.5
50	55 x 55 x 3	161555301	8.3
60	65 x 65 x 3	161654301	9.8
70	75 x 75 x 3	161754301	11.3
80	85 x 85 x 3	161854301	12.9

Kerb angle frame L-30x30x3

Stock kerb angle frames for entrance grating types A22x22, A33x11 and AR1 are suitable for grating height 25 mm. The angle profile has the dimensions 30 x 30 x 3 mm.

The kerb angle frames are hot dip galvanised as standard.

Kerb angle frame L30x30x3, stock

With embedment ties. Hot dip galvanised.

For grating height (mm)	Dimensions, external frame measurements (mm)	Part no.	Weight (kg/item)
25	312 x 612	161030601	3.0
25	412 x 612	161040601	3.3
25	412 x 712	161040701	3.6
25	512 x 712	161050701	3.9
25	512 x 812	161050801	4.2
25	512 x 912	161050901	4.6
25	512 x 1012	161051001	4.9
25	612 x 812	161060801	4.6
25	612 x 912	161060901	4.9
25	612 x 1012	161061001	5.2
25	612 x 1212	161061201	5.8
25	712 x 912	161070901	5.2
25	712 x 1012	161071001	5.5
25	712 x 1212	161071201	6.2
25	812 x 1012	161081001	5.8
25	812 x 1212	161081201	6.5
25	1012 x 1012	161101001	6.5
25	1012 x 1212	161101201	7.1

Kerb angle frame L-40x25x3

Stock kerb angle frames for entrance gratings type N6 are suitable for grating height 35 mm. The angle profile has the dimensions 40 x 25 x 3 mm and is cold folded.

The kerb angle frames are hot dip galvanised as standard.

Kerb angle frame L45x25x3, stock

With embedment ties. Hot dip galvanised.

For grating height (mm)	Dimensions, external frame measurements (mm)	Part no.	Weight (kg/item)
35	515 x 335	161513351	2.6
35	615 x 335	161613351	2.9
35	715 x 335	161713351	3.6
35	1015 x 500	161105001	4.5

Kerb angle frames, made to order

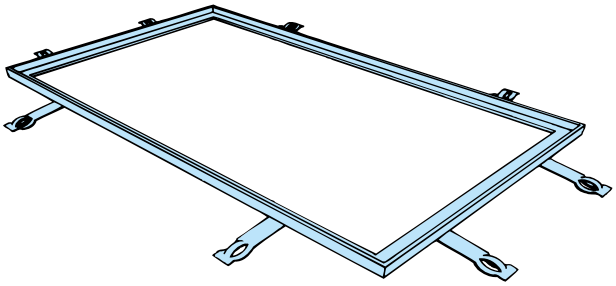
Kerb angle frames are supplied custom-made according to your wishes and are hot dip galvanised. Non-stock items.

Kerb angle frame

With embedment ties.

For grating height (mm)	Dimensions profile (mm)	Part no.	Weight (kg/m)
20	25 x 25 x 3	161252531	1.5
25	30 x 30 x 3	161303031	1.7
30	35 x 35 x 3	161353531	2.0
35	40 x 40 x 3	161404031	2.2
40	45 x 45 x 3	161454531	2.3
45	50 x 50 x 3	161505031	2.5
50	55 x 55 x 3	161555531	2.8
60	65 x 65 x 3	161656531	3.3
70	75 x 75 x 3	161757531	3.8
80	85 x 85 x 3	161858531	4.3
35	40 x 40 x 5	161404051D*	3.0

* Separation of basic frame.



Aluminium kerb angle frame

Aluminium kerb angle frame for AR1-25 entrance gratings with anti-slip strip or rubber list.

Kerb angle frame in specially-alloyed concrete-resistant aluminium, natural colour. The angle profile has the dimensions 31 x 25 x 4 mm. The frame has turnable clasps.

Aluminium kerb angle frame, stock

With embedment ties. Material grade: Aluminium EN AW 6060-T6

For grating height (mm)	Dimensions, external frame measurements (mm)	Part no.	Weight (kg/item)
25	500 x 800	161050831	1.5
25	500 x 1000	161051031	1.8
25	600 x 800	161060831	1.6
25	600 x 1000	161061031	1.9
25	800 x 1000	161081031	2.1

Stainless steel kerb angle frame

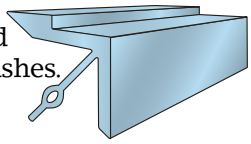
The kerb angle frame is supplied custom-made according to your wishes. The kerb angle frame is made of untreated stainless steel. The frame has outward facing ties.
Non-stock items.

Stainless steel kerb angle frame

Grade EN 1.4404. With embedment ties.

For grating height (mm)	Dimensions profile (mm)	Part no.	Weight (kg/m)
20	25 x 25 x 3	1612525302	1.2
25	30 x 30 x 3	1613030302	1.4

Kerb angle frame for chequered plate



The kerb angle frame is supplied custom-made according to your wishes.
Non-stock items.

Kerb angle frame, grating

Hot dip galvanised.

For grating height (mm)	Dimensions (mm)	Part no.	Weight (kg/m)
-	50 x 50	161501	4.5

Gangways for the disabled

Weland manufactures stable, secure and easy-to-assemble high quality gangways for the disabled. Gangways for the disabled are manufactured in hot dip galvanised steel with stainless steel tube handrail.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Grating gangways

Robust gangway for the disabled in steel version. Made of grating incl. stringers, railings and supporting legs. The gangways are supplied as easy-to-assemble parts. Hot dip galvanised as standard.

Grating gangways

Weland's gangways for the disabled are manufactured in grating with mesh width c/c 17 x 75 mm, incl. stringers, railings and supporting legs. The gangways are supplied as easy-to-assemble parts.

All material is hot dip galvanised as standard.

Standard modules

Standard modules are stocked in lengths from 1500 mm and upwards in 500 mm intervals. The modules are available in two widths, 900 or 1300 mm. The incline of the gangways is adjustable, but may not exceed 1:12. If the gangways are longer than 6 metres, they must be supplied with a rest landing.

Stringers and railings

Stringers are manufactured in 150 x 60 x 5 mm L-profile with or without railing. The railing is manufactured with stainless steel, Ø 42 mm, tube handrail and U-profile balusters, the height is 900 mm.

Banister

If the gangway is to run along a wall, it can be manufactured with railings on one side and a banister that bolts to the wall.

The banister is manufactured from Ø 42 mm tube and is equipped with brackets. The banister is made of stainless steel.

Grating

The gangways consist of type N6 25/2 grating sections with mesh width c/c 17 x 75 mm. They are manufactured in the widths 890 and 1290 mm. The bottom section of the gangway is equipped with a drive-on plate. For the standard landings, the grating dimensions are 1100 x 1100 mm and 1100 x 1000 mm or 1500 x 500 and 1500 x 1000 mm.

Support leg

Support legs must be placed at every 3 metres. They are manufactured from Ø 42 mm steel tube. A threaded bush is pushed into the tube at the bottom end. A footplate, on which a threaded tube has been welded that matches the threaded bush, provides an adjustment of 30 - 100mm.

The support legs are manufactured in lengths of 350, 600 and 1000 mm, left-hand and right-hand versions. Cutting to the required length is carried out on site.

Angle bracket/joint bracket

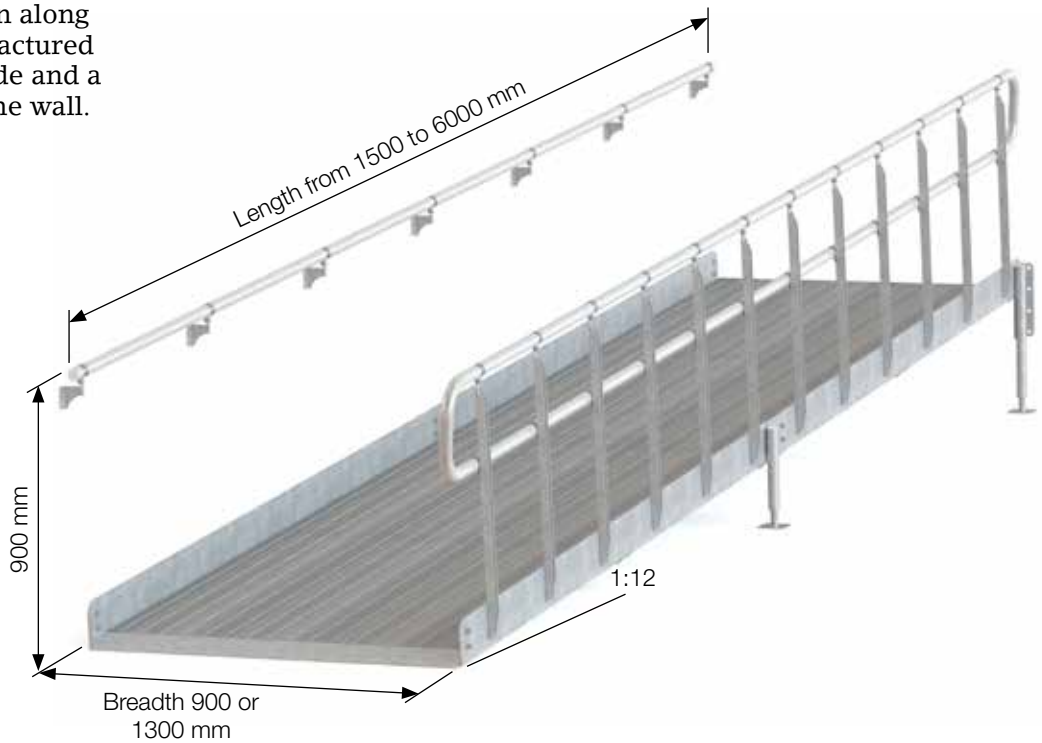
Angle brackets are used between the gangway and walls, dimensions 115 x 50 x 300 mm. Joint brackets are used between the gangway and standard landings, dimensions 115 x 50 x 220 mm. Both can be used with right-hand and left-hand stringers.

Childproof railing

Weland gangways for the disabled are also manufactured with a childproof railing with a maximum opening of 100 mm between the balusters. The railing can be placed on one or both sides of the gangway.

Surface treatment

All materials are hot-dipped galvanised except the railings and banisters, which are made in stainless steel.



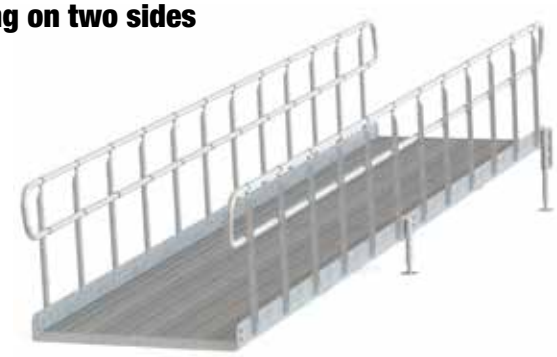
Complete gangways for the disabled

Complete gangways for the disabled with grating are designed according to your situation and wishes. Here are various examples of how the railings can be located on the gangway. Weland manufactures gangways for the disabled in standard dimensions according to the table.

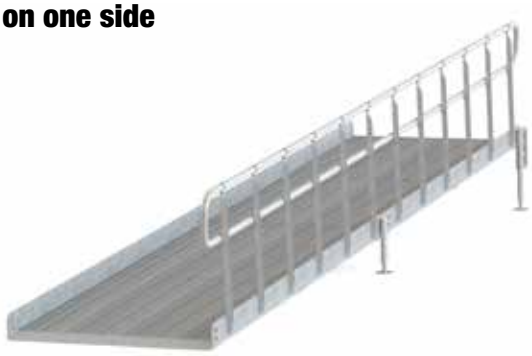
Standard dimensions for complete gangways

Dimensions (mm) Width x Length	Dimensions (mm) Width x Length
900 x 1500	1300 x 1500
900 x 2000	1300 x 2000
900 x 2500	1300 x 2500
900 x 3000	1300 x 3000
900 x 3500	1300 x 3500
900 x 4000	1300 x 4000
900 x 4500	1300 x 4500
900 x 5000	1300 x 5000
900 x 5500	1300 x 5500
900 x 6000	1300 x 6000

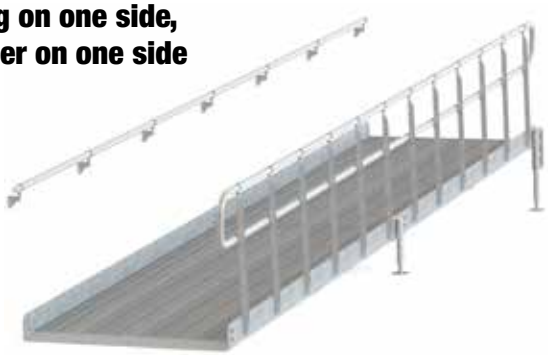
Railing on two sides



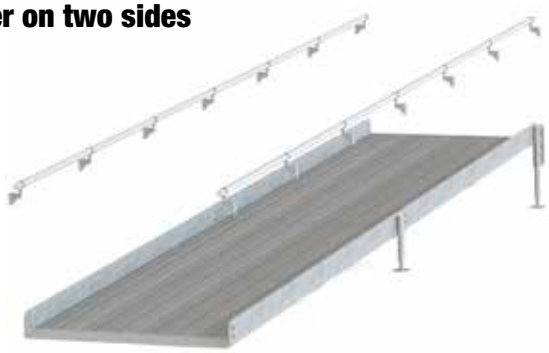
Railing on one side



Railing on one side, banister on one side



Banister on two sides



Without railing and banister

Childproof railing

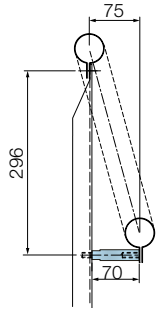
Childproof railing with max. opening 100 mm between balusters. The railing can be placed on one or both sides of the gangway.

Accessories for gangways for the disabled

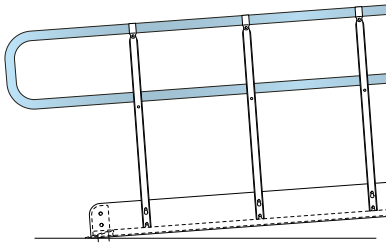
The gangways have been developed and requirements have changed. Nowadays, our gangways for the disabled are adapted to make them accessible for all with, for example, contrast marking, railings that extend 30 cm beyond the start and end of the gangway, and with spacers between handrails and balusters.

Our gangways can also be fitted with a childproof railing to further increase the safety.

Spacer for handrail



Extended handrail



Landings for gangways for the disabled

Weland manufactures standard landings for gangways for the disabled made of grating with a mesh width of c/c 17 x 75 mm.

The landings are available in four sizes. The landings are also used as rest landings/turning landings between two gangways.

Support frame incl. grating

Dimensions (mm)	Weight (kg/item)
1110 x 1110	63.5
1110 x 2010	105.8
1510 x 1510	105.0
1510 x 2010	146.8

Support leg kit, 4x

Length (mm)	Weight (kg/item)
350	8.4
600	11.6
1000	16.8

Railing and kick strip

Dimensions (mm)	Weight (kg/item)
1100	10.9
1500	15.2
2000	20.2

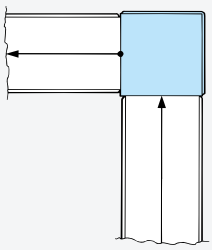
Angled railing and kick strip

Dimensions (mm)	Weight (kg/item)
1100 x 1100	21.0
1500 x 1500	29.7

Example of gangways with landings/rest landings

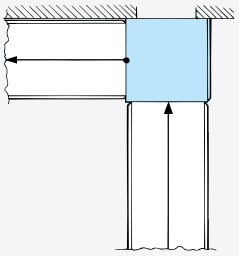
Example 1

Gangways with landings 90°, no adjacent walls.



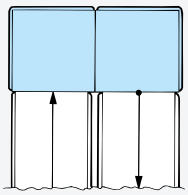
Example 2

Gangways with landings 90°, one side of the landing fastens to a wall.



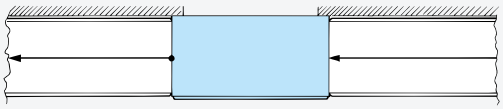
Example 3

Gangways with landings 180°, no adjacent walls.



Example 4

Gangways with a height greater than 0.5 m are provided with intermediate rest landing 2 m and continue straight forwards. The landing can be fixed to a wall.

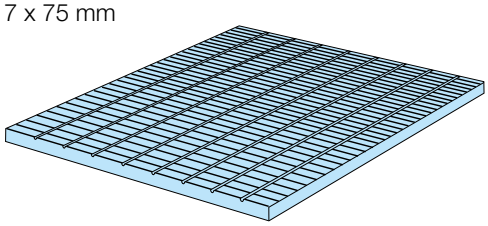


Parts for grating gangways

Stock components for gangways for the disabled. Hot-dip galvanised version.

Grating landings

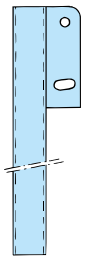
Grating N6 25/2 with edging.
Mesh width c/c 17 x 75 mm



Dimensions LxW (mm)	Part no.	Weight (kg/item)
890 x 500	N2520890501	11.6
890 x 883	N2520890881	20.4
890 x 1000	N2520891001	23.1
1290 x 500	N2521290501	16.6
1290 x 883	N2521290881	29.2
1290 x 1000	N2521291001	33.1
1100 x 1000	N2521101001	28.4
1100 x 1100	N2521101101	31.2
1500 x 500	N2521500501	19.2
1500 x 1000	N2521501001	38.4

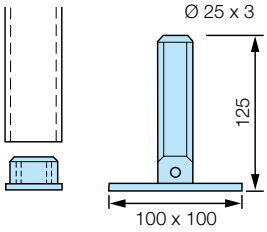
Support leg

Support legs in three lengths. Left-hand and right-hand versions.



Length (mm)	For side	Part no.	Weight (kg/item)
350	Left	174035001	1.4
350	Right	174035011	1.4
600	Left	174060001	2.2
600	Right	174060011	2.2
1000	Left	174100001	3.5
1000	Right	174100011	3.5

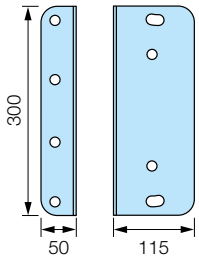
Threaded collar / Footplate for support leg



Name	Part no.	Weight (kg/item)
Threaded collar	174251	0.11
Footplate	17410101	0.50

Angle bracket

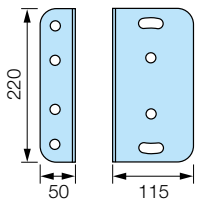
Angle bracket between gangway and existing landing/wall.



Size LxWxH (mm)	Part no.	Weight (kg/item)
115 x 50 x 300	17403001	1.6

Joint bracket

Joint bracket between gangway and standard landing.



Size LxWxH (mm)	Part no.	Weight (kg/item)
115 x 50 x 220	17402201	1.2

General advice regarding gangways for the disabled

Summary of the Construction Rules issued by the Swedish National Board of Housing, Building and Planning, BBR 3:122, 3:123, 8:2321 and Building to Overcome Handicap (supplement to BBR)

Accessibility to buildings

At least one entrance to a building that must be accessible for personnel with impaired movement and sense of locality must be placed and designed so it can be used by these individuals.

General recommendations

The gangway should: Be horizontal or have a maximum incline of 1:12 between at least 2 metre long rest landings. Have a maximum height difference of 0.5 metres between rest landings. But be at least 1.3 metres wide. In some cases, for example individual customisation, narrower gangways may be acceptable.

Entrance and communication areas

Gangways on premises or connecting routes should have a maximum incline of 1:12 and a maximum height difference of 0.5 metres between at least 2 metre long rest landings.

As a gangway, according to the provisions, should take up a height difference of max. 0.5 metres, a gangway that has an incline of 1:12 should be no longer than 6 metres. A level difference of more than 0.5 metres must be divided between two gangways with an intermediate rest landing.

Railings and banisters

Gangways that are not bordered by walls must have railings that limit the risk for personal injury. Gangways that are higher than 0.5 metres must have handrails or similar on both sides.

Staircases and railings

Spiral staircases for eva

Weland spiral staircases for evacuation and industry are manufactured with treads made from grating or durbar plate. These types of staircases are suitable as evacuation staircases for all types of premises. In addition, they are used on industrial and warehouse premises, in silo facilities, water towers, pump stations, etc.

Spiral staircases are hot dip galvanised as standard.

cuation and industry

Architecturally attractive

In many cases, spiral staircases melt into the environment as part of the façade.

Flexible

However tall they are, spiral staircases require little bottom surface. They can be manufactured to turn to the left or to the right and have different number of steps per revolution. This makes it possible to have a well-functioning staircase in practically all use scenarios.

Light structures

Spiral staircases do not normally require extra supporting structures, unless the step-off landing is very large.

Space-saving

A spiral staircase with a radius of 900 mm and a step-off landing of 950 x 950 mm with radius requires a space with a diameter of 1900 mm.

In most cases, a spiral staircase

Can be made very high

Spiral staircases can be made very high without using any additional structures, provided they can be braced, e.g. against a wall. If there are no adjacent walls, the staircase can be braced using longitudinal support legs on the outside of the staircase.

Safe

If anyone should lose their balance in a spiral staircase, they will probably fall against the railing, which brakes the fall and gives the faller the chance to grip the handrail and the centre tube.

Evacuation/rescue

Because walking in spiral staircases is easy, evacuation is rapid. Rescue efforts involving a stretcher can also be performed on spiral stairs with a large radius.

Easy to assemble

The spiral staircase consists of easy-to-handle parts that screw together. The only tools you need are a drill, impact wrenches (box wrench or ratchet wrench) and Allen key.

NOTE! No welding is necessary during assembly.
Clear installation instructions are supplied with each delivery.

Also see the installation movie on our website www.weland.se

Short delivery times

Weland's spiral staircases for evacuation and industrial purposes can be supplied with extra short delivery times provided that standard components are used.

would make a very practical staircase solution

Spiral staircase standard

Railings

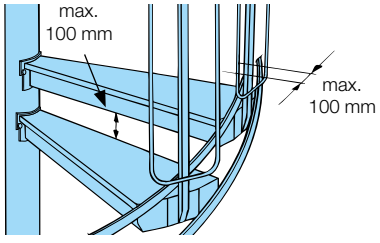
Weland produces four different railings for spiral staircases. The choice of railing depends mainly on where the stairs are to be placed and whether children will be in the area where the spiral staircase is installed.

The height of the railing is 1100 mm at the nose of the step.

Hot dip galvanised version.

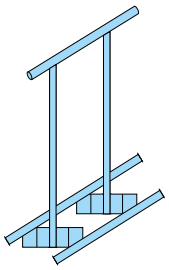
Childproof

Childproof means that none of the openings in the staircase are permitted to be larger than 100 mm up to a railing height of 800 mm.



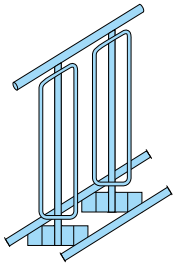
Standard railings

Standard railings with one baluster per tread are primarily used in industry. May also be used for evacuation staircases (where there are no children present).



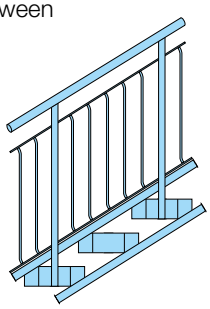
Bracket balusters

The bracket baluster railing is a child-proof railing, i.e. the max. opening between the balusters is 100 mm.



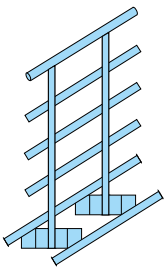
Round bar railing

Round bar railing, just like the bracket baluster railing, is a childproof alternative with max. opening between balusters of 100 mm.



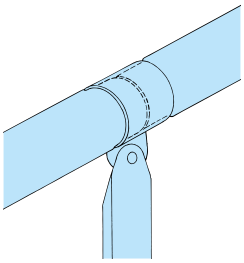
Railings with intermediate rail

The railing can also be provided with 1, 2, 3 or 4 flat, steel bar, intermediate rails, 50 x 3 mm. These railings do not count as childproof.



Handrails

As standard the handrail is made of stainless steel tube. The handrail is attached to the balusters by a clamp.



Stair treads

Spiral staircase treads are manufactured by default in two different designs. Grating and durbar plate steps.

Hot dip galvanised version.

Grating plate step

The mesh width of the grating is c/c 33 x 50 mm.

Durbar plate steps

Square landings/Intermediate landings

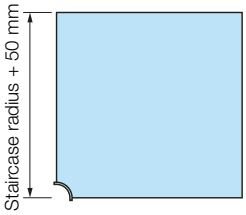
Square landings are designed as a 90° level with a radius or as a final step as standard. Different designs are made according to the customer's needs. Even intermediate landings can be used.

NOTE! When selecting the size of the landings, it is important to consider the headroom.

Read more about the headroom on page 100.

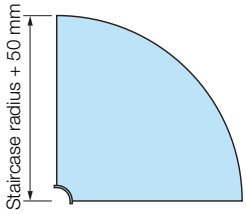
Square

Square standard landing for placing in the corner or connection to arch edge.



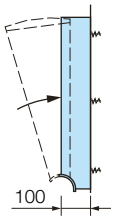
90° landing with radius

90° landing with radius for connection to round hole in arch.



Final step

Final step that connects to existing arch edge.



Landing railing/End railing

As standard the spiral staircase is equipped with an end railing at the rear of the square landing. Positioned from the centre tube to the periphery of the staircase.

Surface treatment

As standard, Weland's spiral staircases for evacuation and industry are hot dip galvanised to class SS-EN ISO 1461.

Read more about surface finishes on pages 254-257.

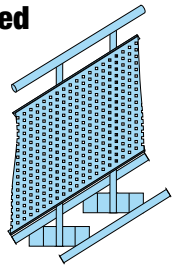
Alternative designs

Railings

Railings with sheet metal, perforated metal and wire mesh are other variants of the railings made by Weland. This type of railing is childproof, i.e. the maximum opening is 100 mm.

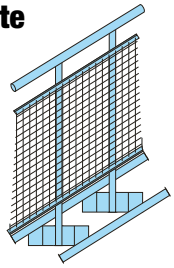
Sheet metal/perforated sheet metal

Railings with sheet metal and perforated metal are childproof railings, i.e. the maximum opening is 100 mm.



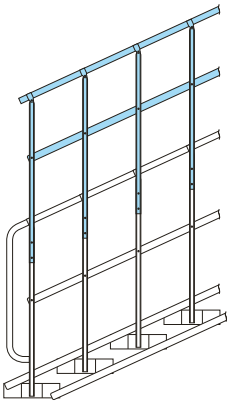
Crenellated mesh plate

Railings with crenelated mesh plate are, just like a railing with sheet metal, a childproof option with a maximum opening of 100 mm.



Raised railing

The spiral staircase can be fitted with a raised railing. This is a railing solution with high stairs and when there is a sense that the railing is too low, which can occur when descending the staircase.

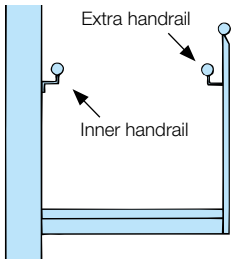


Extra handrail

Weland spiral staircases for evacuation and industry can also be equipped with an extra handrail. The alternative handrail is placed under the handrail and is set at an optional height.

Inner handrail

The spiral staircase can also be equipped with an inner handrail. The handrail is placed on the centre tube.



Concrete steps

Concrete step surface, 50 mm. Metal frame.

Landing/platform

Any design of square landing can be made to order. The square landing can also be extended to a platform/balcony.

Balconies

Balconies are manufactured to the required size and are equipped with the necessary railings and stays. If the landings are very large, they are made in sections to facilitate assembly.

Arch railing

As standard spiral staircases are equipped with a railing at the rear of the square landing. The railing is positioned from the centre tube to the periphery of the staircase. In addition to this, Weland produces several different types of platform balustrades according to customer's requirements. Some railings are also kept in stock.

Read more about railings/platform balustrades on pages 168-187.

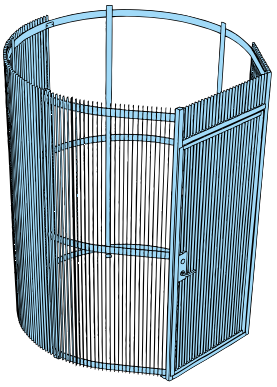
Protective cages

In order to prevent unauthorised persons from using the spiral staircase, it can be supplemented with a full-circle protective cage or a quarter-circle cage at the bottom. The door is equipped with a ASSA 565 lock, latch bolt lock. Door push on both sides. The cage door is opened with a key from the outside and knob from the inside.

Circular protective cages

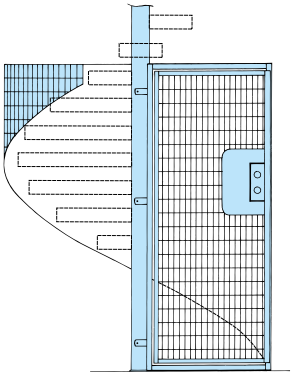
The cage is manufactured as standard using grating plate. The radius of the cage is 50 mm larger than the radius of the stairs. The height is 2500 mm. It is delivered in sections for assembly on site, all bolts are included. The cage is placed on the foundation.

Hot dip galvanised version.



Quarter-circle cage

A quarter-circle cage is an option to the full-circle cage. The quarter-circle cage is mounted directly on the spiral staircase with an extra foundation. The cage is manufactured as standard using grating plate.
The height is 2250 mm.

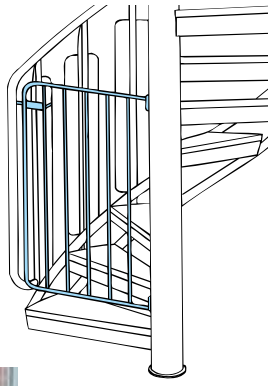


Protective cage and stair enclosure

Protective cages in the grating plate can also be made higher than the standard height. The entire staircase height can be covered with a stair enclosure. Other materials that Weland uses for enclosures, for example, tubes, expanded metal, perforated metal, wood, etc.

Gates

Weland gates can be mounted on the spiral staircase. The gate hinges are mounted on the centre tube and the lock fittings are fitted to the stair railing. The lock is spring loaded and so firmly that small children cannot open it.



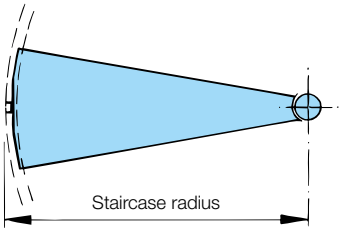
Planning

We are at your service for guidance and advice when planning projects including Weland spiral staircases.

On ordering, each spiral staircase is drawn up specially and the drawing is sent to the customer for approval prior to manufacturing.

Staircase radius

The staircase radius is the dimension from the staircase's centre to the outer edge of the hand-rail. Weland manufactures spiral staircases with a radius of 600 to 1500 mm.

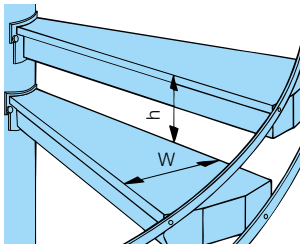


Rise

The rise should be chosen based on the given height between the landings. A suitable radius and the number of steps per revolution then determine the step rise.

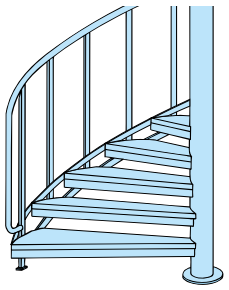
The step rise should be between 160 and 220 mm. The lower the rise you choose, the deeper the step needs to be. The normal rise is about 170 to 180 mm.

The formula for the rise is 2 x h + W = 580-640.

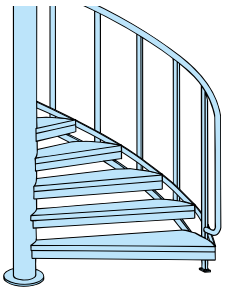


Right or left curved staircases

Weland spiral staircases are manufactured as right or left curved staircases. Right curved staircase means that it curves to the right while ascending (centre tube to the right while ascending).



Right curved

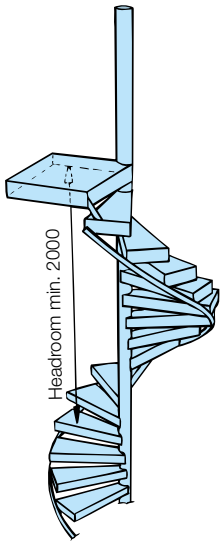


Left curved

Headroom

The headroom on the stairs must not be less than 2000 mm. The height is measured between two points located directly below each other.

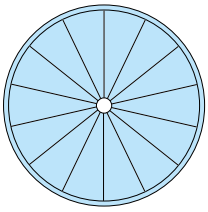
Measure from the top edge of the lower step's nose to the lower edge of the level's (step) rear edge.



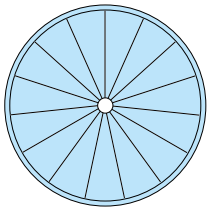
Number of steps per revolution

The figures below are a guide when determining the number of steps per revolution and the number of rises. Count the number of rises between the landings and compare the values for the obtained rise.

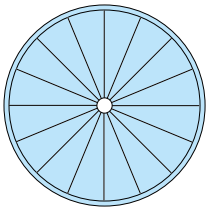
Fields marked (green) in the table are the staircase dimensions that should be aimed for during the planning stage.



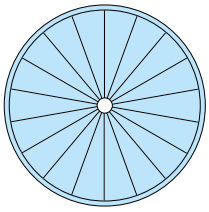
14 steps/rev.
R=600 mm



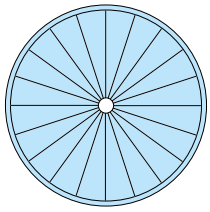
15 steps/rev.
R=600-700 mm



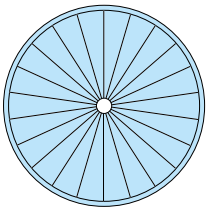
16 steps/rev.
R=600-900 mm



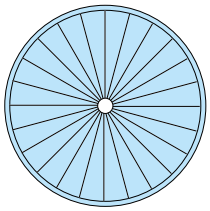
18 steps/rev.
R=700-1300 mm



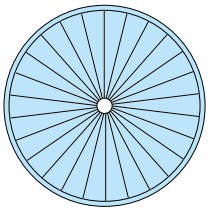
20 steps/rev.
R=800-1400 mm



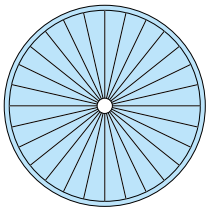
22 steps/rev.
R=1000-1500 mm



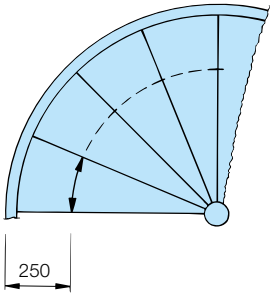
24 steps/rev.
R=1100-1500 mm



26 steps/rev.
R=1400-1500 mm



28 steps/rev.
R=1500 mm



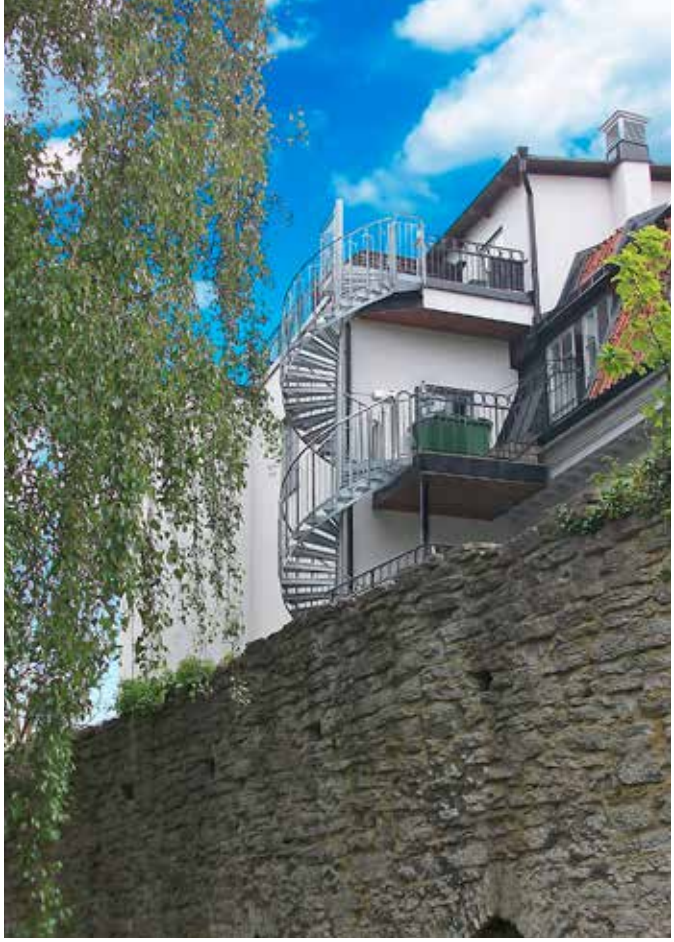
***** The tread depth is calculated along an imaginary path 250 mm from the periphery.

Radius steps/ revolution	Tread depth along path*	Suitable riser
600/14*	157	200-220
600/15	147	200-220
600/16	137	200-220
700/15*	188	200-220
700/16	177	200-220
700/17	166	200-220
700/18	157	200-220
800/16*	216	180-210
800/17	203	180-210
800/18	192	190-220
800/19	182	190-220
800/20	173	190-220
900/16*	255	175-200
900/17	240	175-200
900/18	227	175-200
900/19	215	180-210
900/20	204	180-210
900/21	194	180-210

Radius steps/ revolution	Tread depth along path*	Suitable riser
1000/16	294	165-185
1000/17	277	165-185
1000/18*	262	165-185
1000/19	248	175-200
1000/20	236	175-200
1000/21	224	180-210
1000/22	214	180-210
1000/23	205	180-210
1100/18*	297	165-180
1100/19	281	165-180
1100/20	267	165-190
1100/21	254	170-200
1100/22	243	170-200
1100/23	232	170-200
1100/24	222	170-200
1200/17	351	155-190
1200/18	331	155-190
1200/19	314	155-190
1200/20*	298	155-190
1200/21	284	155-190
1200/22	271	160-200
1200/23	259	170-200
1200/24	249	170-200

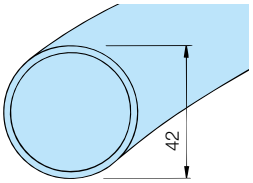
Radius steps/ revolution	Tread depth along path*	Suitable riser
1300/18	366	155-180
1300/19	347	155-180
1300/20	330	155-180
1300/21	314	155-180
1300/22*	300	155-190
1300/23	287	155-190
1300/24	275	155-190
1400/20	361	150-180
1400/21	344	150-180
1400/22	328	155-190
1400/23	314	155-190
1400/24*	301	155-190
1400/25	289	155-190
1400/26	278	155-190
1500/22	357	150-180
1500/23	341	150-180
1500/24*	327	150-180
1500/25	314	155-180
1500/26	302	155-180
1500/27	291	155-180
1500/28	280	155-180

***** = Staircase that should be aimed for



Handrails

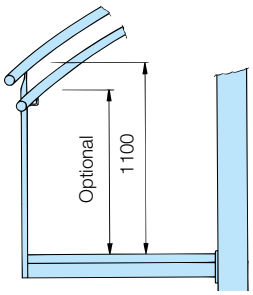
As standard handrails are made of stainless steel tube, Ø 42 mm.



Railing height

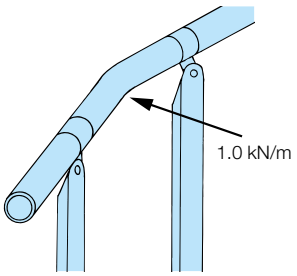
The height of the railing is 1100 mm at the nose of the step. Extra handrails are placed at an optional height inside the balusters, for example, 900 mm.

The railing height of the landing is 1100 mm as standard.



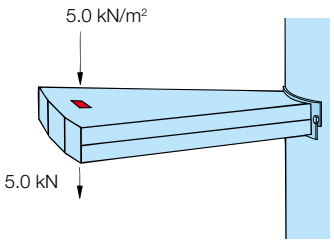
Railing loads

The railing is dimensioned to withstand a load of 1.0 kN/m handrail.



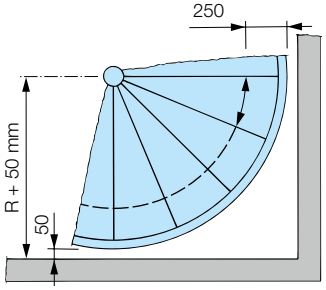
Load on tread

The stair treads are dimensioned for a distributed load of 5.0 kN/m^2 or a point load of 5.0 kN.

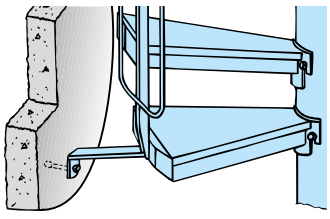


Distance to wall

The spiral staircase's external periphery must be at least 50 mm from walls. The tread depth is calculated along an imaginary path 250 mm from the periphery.



Stays



The spiral staircase must be fitted with stays every revolution (2.5 to 3 metres in height). This can be done using the square landing fixing.

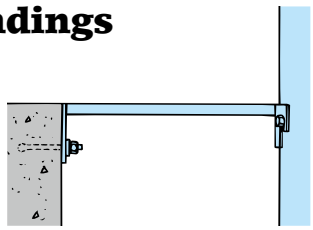
If the stairs have no square landing on each revolution, bracing must be fitted between the step and wall using custom stays.

Stays, vertical

When the spiral staircase cannot be braced to an adjacent wall, it needs to be stabilised using a vertical stay. These are attached at the bottom against the completed floor or foundation.

Attachment of landings

Use suitable type of screw taking into consideration the materials at the attachment points.

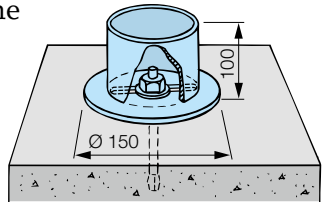


Attachment base plate

Use suitable type of screw taking into consideration the material at the attachment point.

A base must be cast to fasten spiral staircases when there is no existing platform. Wind strengths, etc. must be taken into consideration when designing this.

Generally, the distance to the base plate from the wall must be at least equal to the staircase's radius plus 50 mm.



Packaging

All components needed are delivered in a wooden box.

This provides extra reliability for our customers and for us. When the delivery arrives at the work-site and it is still unopened, we know that the delivery is complete and undamaged.

The fitter does not need to search for any more packages and de-livery inspection is easily made against the enclosed packing list.

Assembly

Assembly is easy to carry out with simple tools.

Detailed assembly instructions accompany each delivery. Apart from assembly in the normal way, Weland spiral staircases can also be assembled in their entirety on the ground and lifted into place.

Also see the installation movie on our website www.weland.se

Order details for spiral staircases emergency exit/industrial

Fill in the following details or send a sketch with dimensions or an architect's drawing for an order for a fast quote. *The form (PDF) is also available for download at www.weland.se.*

Standard:

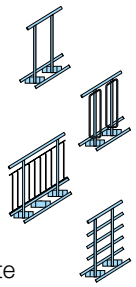
Stair treads

- ❑ Grating
- ❑ Durbar plate

Handrails

- ❑ Stainless steel tube Ø 42 mm, industrially brushed finish

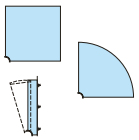
Railings



- ❑ Standard railing with 1 baluster per stair tread
- ❑ Childproof rail with bracket balusters
- ❑ Childproof rail with tubular infills
- ❑ Railing with 1, 2, 3 or 4 flat, steel bar, intermediate rails 50x3 mm

.....x intermediate rails

Landings



- ❑ Square
- ❑ Landing with radius
- ❑ Final step

Surface treatment

- ❑ Hot dip galvanised, standard

Radius of the staircase

Radius 600, 700 to 1500 mm.

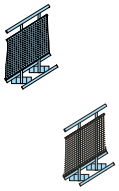
R= .....

Alternative versions:

Stair treads

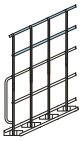
- ❑ Stair tread of concrete 50 mm. Metal frame.

Railings



- ❑ Childproof rail with sides in sheet metal/ perforated metal
- ❑ Childproof rail with crenellated mesh/ wire mesh

Raised railing



- ❑ Raised railing

Extra handrail

- ❑ Stainless steel tube Ø 42 mm, industrially brushed finish

Inner handrail

- ❑ Stainless steel tube Ø 42 mm, industrially brushed finish

Floor/Platform/Balcony

- ❑ Any design please give dimensions

Floor/Vault bars

- ❑ Optional design, please specify dimensions. For more text, please see page 95.

Protective cage

- ❑ Circular protective cage
- ❑ Quarter-circle cage

Gates

- ❑ Lower landing
- ❑ Upper landing

Specify for each storey:

Storey height

Floor to floor. Enter for each floor level.

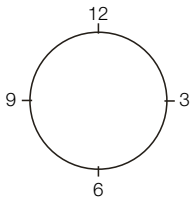
Storey height 1 = ...

Storey height 2 = ...

Storey height 3 = ...

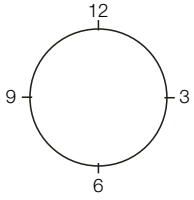
Lower landing

- Wall, doors, windows. Location with dimensions.
- Mark doors with size and swing.



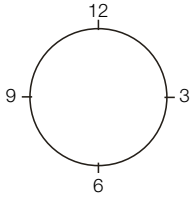
Upper landing

- Wall, doors, windows. Location with dimensions.
- Size of any arch opening.
- Mark doors with size and swing.



Arch railing

- Mark any arch railing with dimensions.

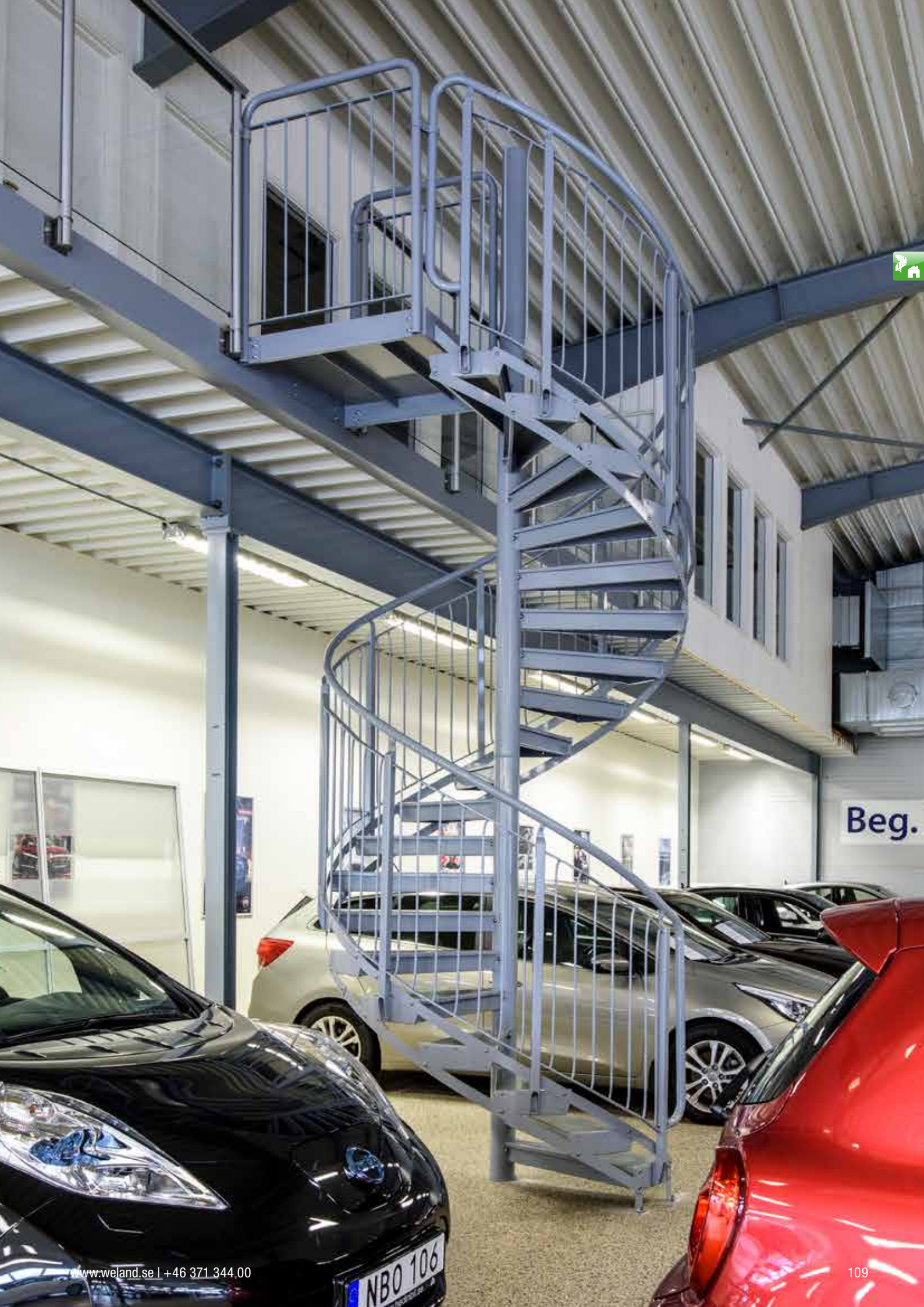


Let Weland do the planning and design for the staircase. If we are given the details above, you will obtain a very practical staircase.

Spiral staircases for indoor applications

Weland's spiral staircases for indoor use can be combined and designed according to your needs in your environment.
The materials we use for our staircases are wood, glass and steel.

This type of spiral staircase is suitable for offices, shops, houses, etc.


Beg.
NBO 106

Weland spiral staircase for indoor

Architecturally attractive

Straight staircases are very often seen as heavy, clumsy and dominating the available space.

Spiral staircases are much more "slender" and do not dominate in the same way. In many cases, they blend into the background and become a "piece of furniture" in the room.

Flexible

As a rule, the space for the staircase is restricted and the stepping on and off points are fixed. This means that straight staircases can be very steep or use alternating flights of stairs, which is complicated and expensive.

Spiral staircases need the same small bottom area, whatever their height. They can be manufactured to turn to the left or to the right and have different number of steps per revolution. This makes it possible to have a well-functioning staircase in practically all use scenarios.

Light structures

Spiral staircases do not normally require extra supporting structures, unless the step-off landing is very large.

Space-saving

A spiral staircase with a radius of 900 mm and a step-off landing of 950 x 950 mm with radius requires a space with a diameter of 1900 mm.

Safe

If anyone should lose their balance in a spiral staircase, they will probably fall against the railing, which brakes the fall and gives the faller the chance to grip the handrail and the centre tube.

Easy to assemble

The spiral staircase consists of easy-to-handle parts that screw together. The only tools you need are a drill, impact wrenches (box wrench or ratchet wrench) and Allen key.

NOTE! No welding is necessary during assembly. Clear installation instructions are supplied with each delivery.

Also see the installation movie on our website www.weland.se

use, a staircase suitable for all environments.

Spiral staircase standard

Railings

Weland manufactures four different railings for spiral staircases. The choice of railing mainly depends on where the staircase is to be placed and whether children will be present in the area where the spiral staircase is installed.

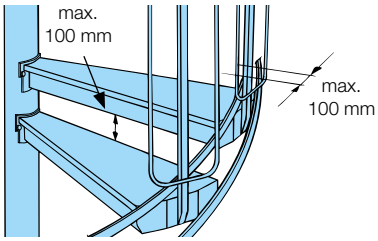
The height of the railing is 1100 mm at the nose of the step.

Childproof railing

When designing childproof railing, no opening in the staircase shall be larger than 100 mm up to a railing height of 800 mm.

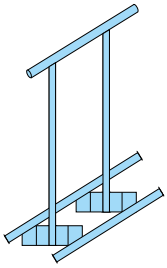
Weland's standard designs to comply with these requirements are bracket baluster railings or railings with balusters c/c 100 mm.

Railings with toughened glass infills, sheet metal infills or crenellated mesh are other variants that are classed as child-proof (see page 116).



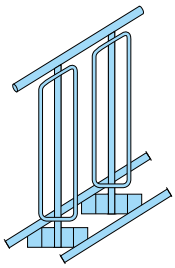
Standard railings

Standard railings with one baluster per tread are primarily used in industry. May also be used for evacuation staircases where children are not permitted.



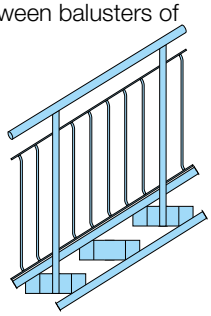
Bracket balusters

The bracket baluster railing is a childproof railing, i.e. the max. opening between the balusters is 100 mm.



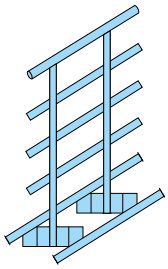
Round bar railing

Round bar railing, just like the bracket baluster railing, is a childproof alternative with max. opening between balusters of 100 mm.



Railings with intermediate rail

The railing can also be provided with 1, 2, 3 or 4 flat, steel bar, intermediate rails, 50 x 3 mm. These railings do not count as childproof.

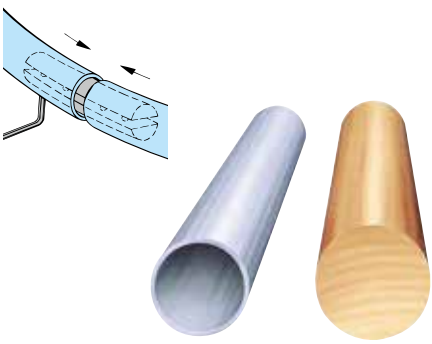


Handrails

As standard, the handrail is made of rolled steel tube with a diameter of 42 mm or round oak rails with a diameter of 50 mm.

The tubular handrail is joined with the aid of a patented joining device.

When spiral staircases are finished with hot dip galvanising, handrails made of stainless steel tube are used, the same as for outdoor use.



Stair treads

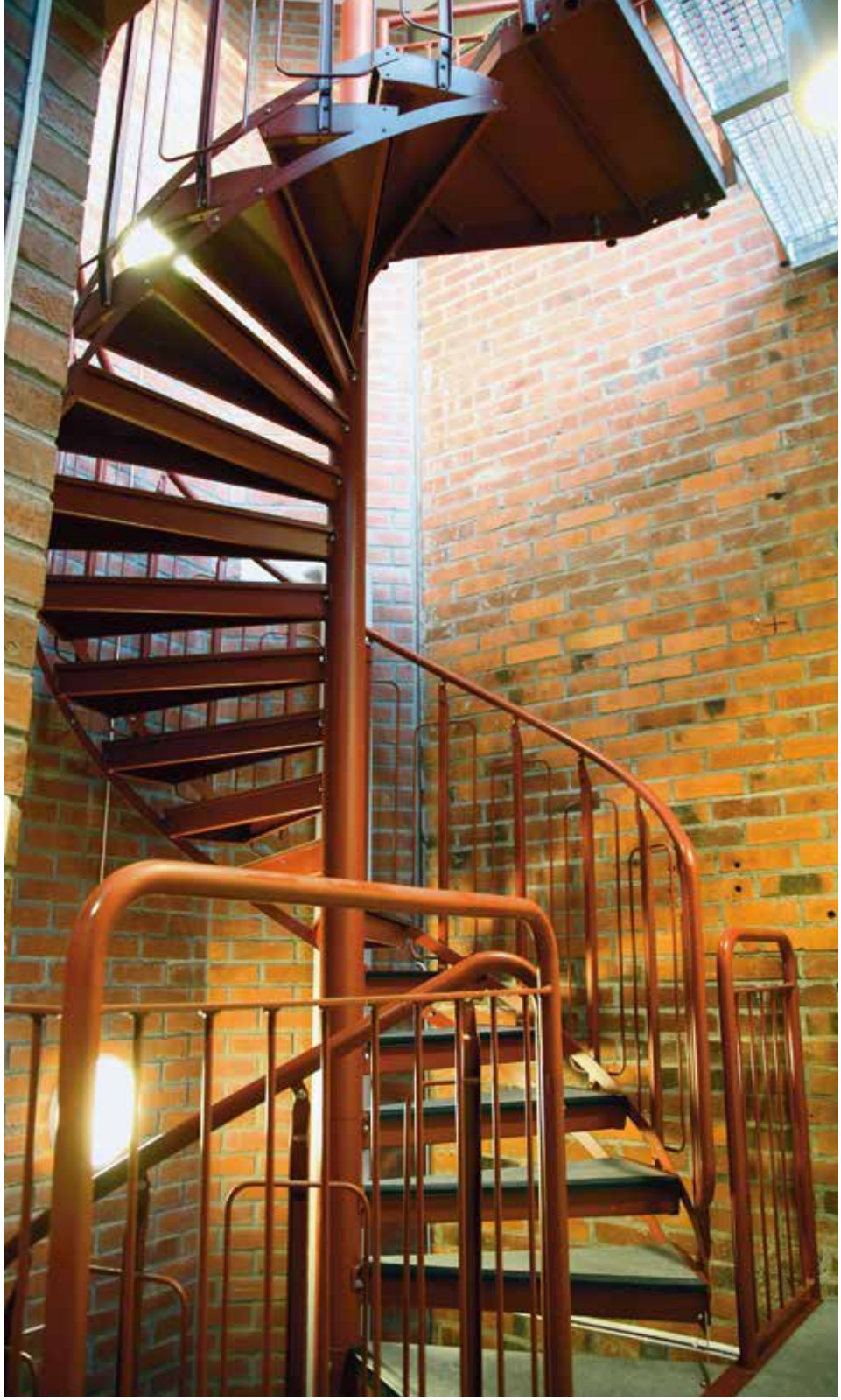
Spiral staircase treads are manufactured by default in two different designs. Wooden and sheet metal treads.

Wooden treads

As standard we use solid, glued laminated oak, 30 mm. Other wood types including pine, birch, beech and ash can also be used, see alternative versions.

Smooth metal treads

Metal treads for covering with carpet or ready-made with carpet.




exnova

Landings

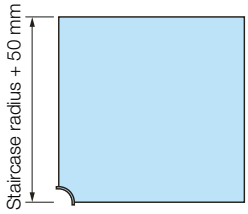
Square landings are designed as a 90° level with a radius or as a final step as standard. Different designs are made according to the customer's needs.

NOTE! When selecting the size of the landings, it is important to consider the headroom.

Read more about the headroom on page 121.

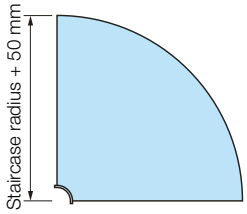
Square

Square standard landing for placing in the corner or connection to arch edge.



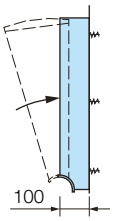
90° landing with radius

90° landing with radius for connection to round hole in arch.



Final step

Final step that connects to existing arch edge.



Landing railing/End railing

As standard the spiral staircase is equipped with an end railing at the rear of the square landing. Positioned from the centre tube to the periphery of the staircase.

Surface treatment

As standard, Weland indoor staircases are primed, but they can also be delivered painted in any NCS or RAL colour.

As an addition, other surface treatments can be carried out.

Read more about surface finishes on pages 254-257.

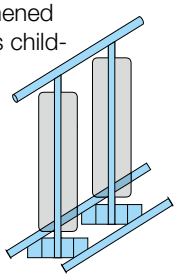
Alternative designs

Railings

Railings with glass infills, sheet metal infills or crenellated mesh are other railing variants made by Weland. These types of railing are child-proof, i.e. the maximum opening is 100 mm.

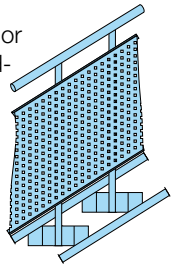
Glass infills

Railings with 6 mm toughened glass infills are classed as child-proof, i.e. the maximum opening between the glass infills is 100 mm.



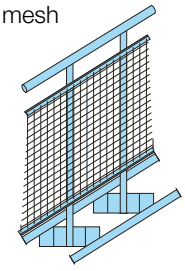
Sheet metal/perforated sheet metal

Railings with sheet metal or perforated metal are child-proof railings, i.e. the maximum opening is 100 mm.



Crenellated mesh plate

Railings with crenelated mesh plate are a childproof alternative with a maximum opening of 100 mm.

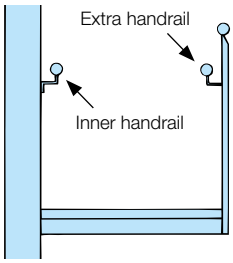


Extra handrail

Weland spiral staircases for indoor use can also be equipped with an extra handrail. The alternative handrail is placed under the handrail and is set at an optional height.

Inner handrail

The spiral staircase can also be equipped with an inner handrail. The handrail is placed on the centre tube.



Handrails

Round handrails made of pine, birch, beech or ash can also be manufactured. These handrails have a diameter of 50 mm.

Rectangular wooden handrails can be manufactured to order. The handrail measures 45x130 mm and is made of solid wood.

Stair treads

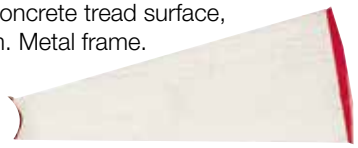
Spiral staircases can be made from other materials according to your wishes, such as other types of wood, concrete, marble, Terrazzo or tiles.

Wooden treads

Solid, glue laminated pine, birch, beech and ash, 30 mm. Surface given hardening coating or oiled.

Concrete steps

Grey concrete tread surface, 50 mm. Metal frame.



Marble steps

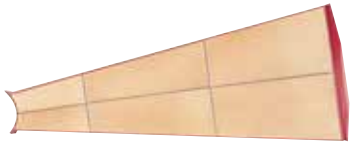
Marble tread surface, 30 mm. Metal frame.

Terrazzo steps

Terrazzo concrete tread surface, 50 mm. Metal frame.

Tile steps

Tread surface of tiles. Metal frame.



Landing/platform

Any design of square landing can be made to order. The square landing can also be extended to a platform/balcony.

Balconies

Balconies are manufactured to the required size and are equipped with the necessary railings and stays. If the landings are very large, they are made in sections to facilitate assembly.

Arch railing

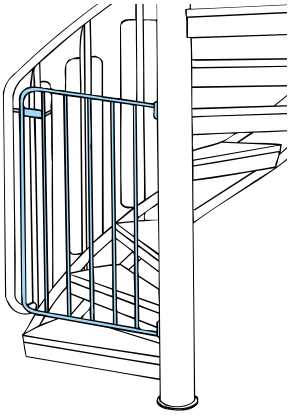
As standard spiral staircases are equipped with a railing at the rear of the square landing. The railing is positioned from the centre tube to the periphery of the staircase. In addition to this, Weland produces several different types of platform balustrades according to customer's requirements. Some railings are also kept in stock.

Read more about railings/platform balustrades on pages 168-187.

Gates

Weland gates can be mounted on the spiral staircase. The gate hinges are mounted on to the centre tube and the lock fittings are fitted to the stair railing. The lock is spring loaded and so firmly that small children cannot open it.

The gate can be used both at the bottom and the top of the staircase.



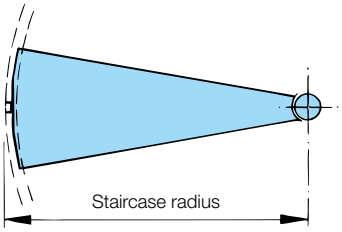
Planning

We are at your service for guidance and advice when planning projects including Weland spiral staircases.

On ordering, each spiral staircase is drawn up specially and the drawing is sent to the customer for approval prior to manufacturing.

Staircase radius

The staircase radius is the dimension from the staircase's centre to the outer edge of the handrail. Weland manufactures spiral staircases with a radius of 600 to 1500 mm.

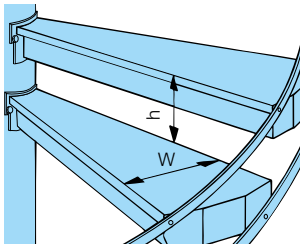


Rise

The rise should be chosen based on the given height between the landings. A suitable radius and the number of steps per revolution then determine the step rise.

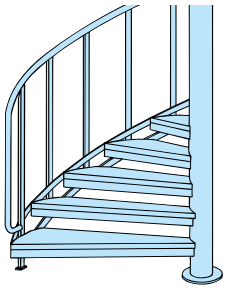
The step rise should be between 160 and 220 mm. The lower the rise you choose, the deeper the step needs to be. The normal rise is about 170 to 180 mm.

The formula for the rise is
2 x h + W = 580-640.

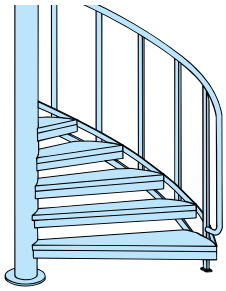


Right or left curved staircases

Weland spiral staircases are manufactured as right or left curved staircases. Right curved staircase means that it curves to the right while ascending (centre tube to the right while ascending).



Right curved

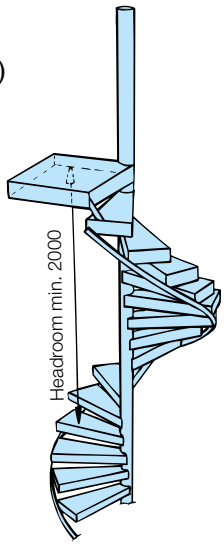


Left curved

Headroom

The headroom on the stairs must not be less than 2000 mm. The height is measured between two points located directly below each other.

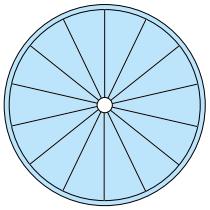
Measure from the top edge of the lower step's nose to the lower edge of the level's (step) rear edge.



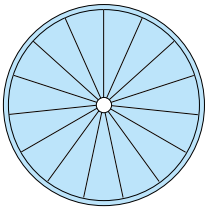
Number of steps per revolution

The figures below are a guide when determining the number of steps per revolution and the number of rises. Count the number of rises between the landings and compare the values for the obtained rise.

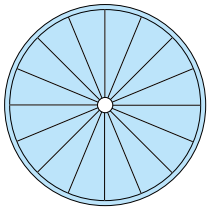
Fields marked (green) in the table are the staircase dimensions that should be aimed for during the planning stage.



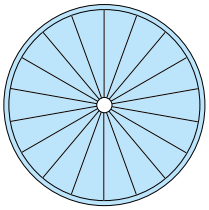
14 steps/rev.
R=600 mm



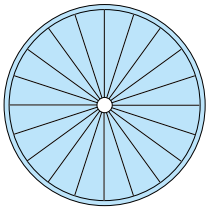
15 steps/rev.
R=600-700 mm



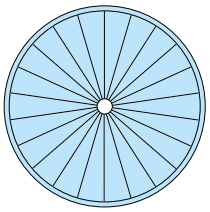
16 steps/rev.
R=600-900 mm



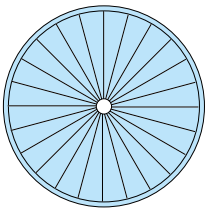
18 steps/rev.
R=700-1300 mm



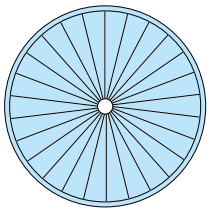
20 steps/rev.
R=800-1400 mm



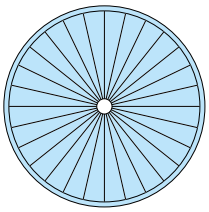
22 steps/rev.
R=1000-1500 mm



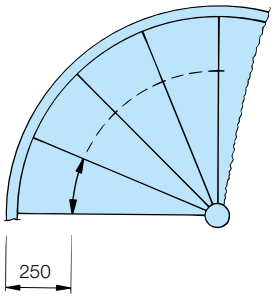
24 steps/rev.
R=1100-1500 mm



26 steps/rev.
R=1400-1500 mm



28 steps/rev.
R=1500 mm



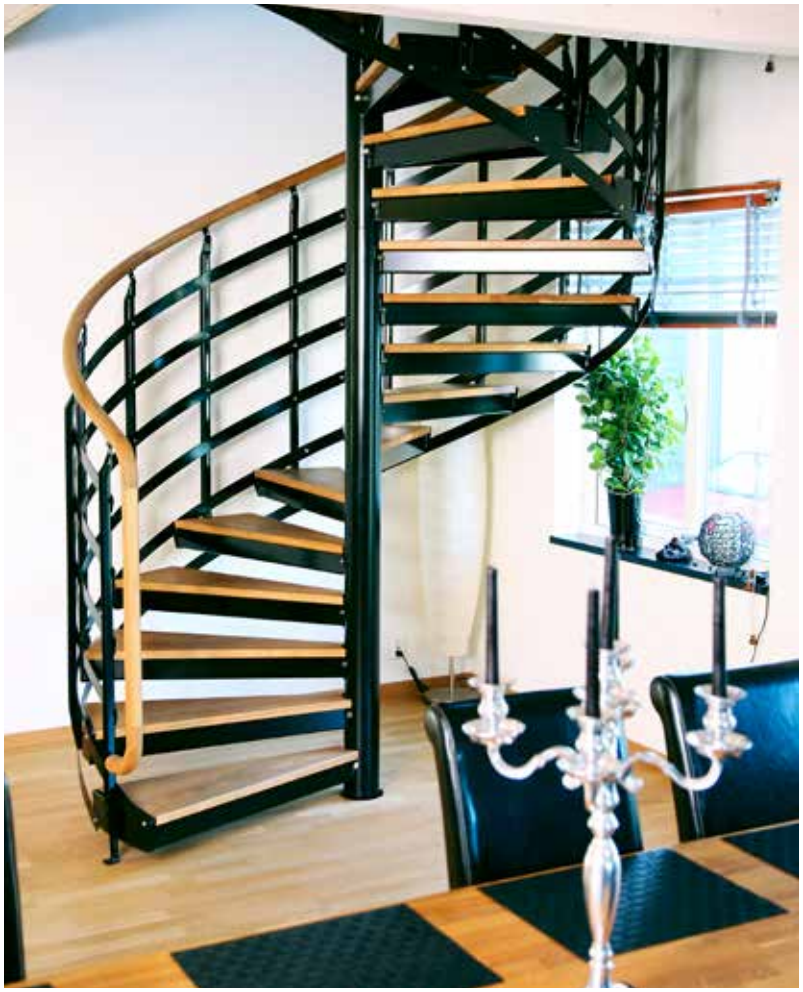
* The tread depth is calculated along an imaginary path 250 mm from the periphery.

Radius steps/rev.	Tread depth along path*	Suitable riser
600/14*	157	200-220
600/15	147	200-220
600/16	137	200-220
700/15*	188	200-220
700/16	177	200-220
700/17	166	200-220
700/18	157	200-220
800/16*	216	180-210
800/17	203	180-210
800/18	192	190-220
800/19	182	190-220
800/20	173	190-220
900/16*	255	175-200
900/17	240	175-200
900/18	227	175-200
900/19	215	180-210
900/20	204	180-210
900/21	194	180-210

Radius steps/rev.	Tread depth along path*	Suitable riser
1000/16	294	165-185
1000/17	277	165-185
1000/18*	262	165-185
1000/19	248	175-200
1000/20	236	175-200
1000/21	224	180-210
1000/22	214	180-210
1000/23	205	180-210
1100/18*	297	165-180
1100/19	281	165-180
1100/20	267	165-190
1100/21	254	170-200
1100/22	243	170-200
1100/23	232	170-200
1100/24	222	170-200
1200/17	351	155-190
1200/18	331	155-190
1200/19	314	155-190
1200/20*	298	155-190
1200/21	284	155-190
1200/22	271	160-200
1200/23	259	170-200
1200/24	249	170-200

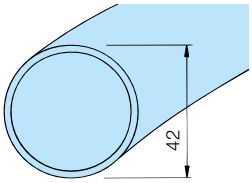
Radius steps/rev.	Tread depth along path*	Suitable riser
1300/18	366	155-180
1300/19	347	155-180
1300/20	330	155-180
1300/21	314	155-180
1300/22*	300	155-190
1300/23	287	155-190
1300/24	275	155-190
1400/20	361	150-180
1400/21	344	150-180
1400/22	328	155-190
1400/23	314	155-190
1400/24*	301	155-190
1400/25	289	155-190
1400/26	278	155-190
1500/22	357	150-180
1500/23	341	150-180
1500/24*	327	150-180
1500/25	314	155-180
1500/26	302	155-180
1500/27	291	155-180
1500/28	280	155-180

***** = Staircase that should be aimed for



Handrails

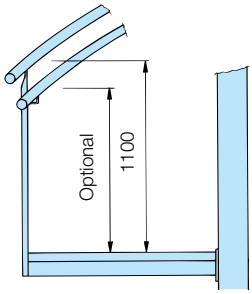
As standard handrails are made of stainless steel tube, Ø 42 mm.



Railing height

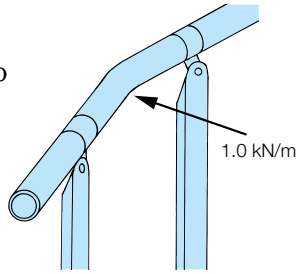
The height of the railing is 1100 mm at the nose of the step. Extra handrails are placed at an optional height inside the balusters, for example, 900 mm.

The railing height of the landing is 1100 mm as standard.



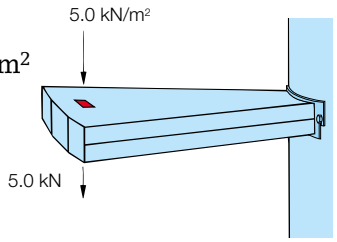
Railing loads

The railing is dimensioned to withstand a load of 1.0 kN/m handrail.



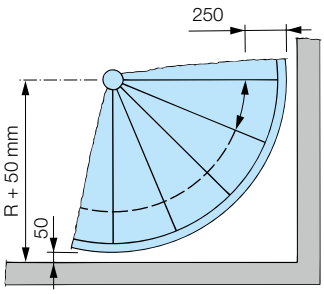
Load on tread

The stair treads are dimensioned for a distributed load of 5.0 kN/m^2 or a point load of 5.0 kN.

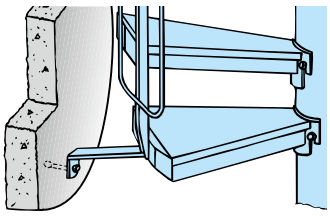


Distance to wall

The spiral staircase's external periphery must be at least 50 mm from walls. The tread depth is calculated along an imaginary path 250 mm from the periphery.



Stays



The spiral staircase must be braced on every revolution. This can be done using the square landing fixing.

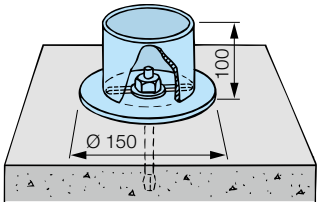
If the stairs have no square landing on each revolution, bracing must be fitted between the step and wall using custom stays.

Attachment base plate

Use suitable type of screw taking into consideration the material at the attachment point.

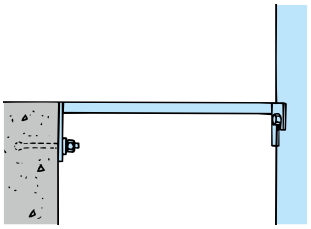
A base must be cast to fasten spiral staircases, when there is no existing platform. This must be dimensioned taking into consideration the loads in question.

Generally, the distance to the base plate from the wall must be at least the stair's radius plus 50 mm.



Attachment of landings

Use suitable type of screw taking into consideration the materials at the attachment points.



Packaging

All components needed are delivered in a wooden box.

This provides extra reliability for our customers and for us. When the delivery arrives at the work-site and it is still unopened, we know that the delivery is complete and undamaged.

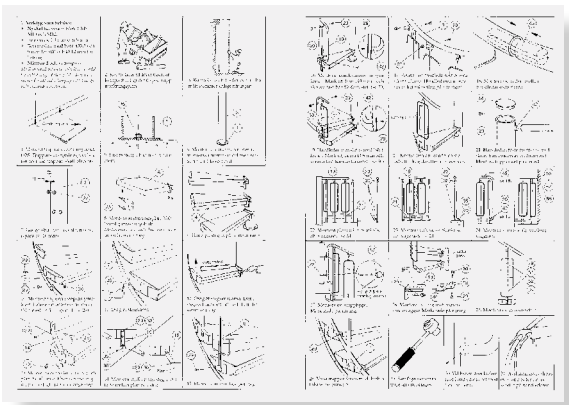
The fitter does not need to search for any more packages and delivery inspection is easily made against the enclosed packing list.

Assembly

Assembly is easy to carry out with simple tools.

Detailed assembly instructions accompany each delivery. Apart from assembly in the normal way, Weland spiral staircases can be assembled in their entirety on the ground and lifted into place.

Also see the installation movie on our website www.weland.se



Order details for spiral staircases residential and office indoor

Fill in the following details or send a sketch with dimensions or an architect's drawing for an order for a fast quote. *The form (PDF) is also available for download at www.weland.se.*

Standard:

Stair treads

- ❑ Wood step, solid oak 30 mm
  ❑ Hard lacquered ❑ Oiled
- ❑ Metal step, smooth for coating
- ❑ Metal step, smooth + plastic mat Tarkett Optima no. .....
- ❑ Metal step, smooth + mat .....

Handrails

- ❑ Steel tube Ø 42 mm
- ❑ Stainless steel tube Ø 42 mm, polished/matt brushed finish
- ❑ Round wood Ø 50 mm, oak
  ❑ Hard lacquered ❑ Oiled

Railings

- ❑ Standard railing with 1 baluster per stair tread
- ❑ Childproof railing with bracket balusters
- ❑ Childproof railing with balusters c/c 100 mm
- ❑ Railing with 1, 2, 3 or 4 flat, steel bar, intermediate rails 50x3 mm

..... balusters

Landings

- ❑ Square
- ❑ 90° landing with radius
- ❑ Final step

Surface treatment

- ❑ Primed

Radius of the staircase

Radius 600, 700 to 1500 mm.

R= .....

Alternative versions:

Stair treads

- ❑ Wood, solid, glued laminated, 30 mm
  ❑ pine ❑ birch ❑ beech
  ❑ ash
  ❑ Hard lacquered ❑ Oiled
- ❑ Marble 30 mm
- ❑ Grey concrete 50 mm
- ❑ Terazzo concrete 50 mm
- ❑ Metal step (smooth) for clinker fill
- ❑ Metal step (smooth) for concrete fill

Handrails

- ❑ Handrail, round wood Ø 50 mm
  ❑ pine ❑ birch ❑ beech
  ❑ ash
  ❑ Hard lacquered ❑ Oiled

Extra handrail

- ❑ Stainless steel tube Ø 42 mm, polished/matt brushed finish
- ❑ Handrail, round wood Ø 50 mm
  ❑ oak ❑ pine ❑ birch
  ❑ beech ❑ ash
  ❑ Hard lacquered ❑ Oiled

Inner handrail

- ❑ Stainless steel tube Ø 42 mm, polished/matt brushed finish

Railings

- ❑ Childproof rail with 6mm safety glass infills
- ❑ Childproof rail with sheet metal/ perforated metal
- ❑ Childproof rail with crenellated mesh/wire mesh

Gates

- ❑ Lower landing
- ❑ Upper landing

Surface treatment

Ready painted according to

- ❑ NCS paints: .....
- ❑ RAL paints: .....
- ❑ Hot dip galvanised

Specify for each storey:

Storey height

Floor to floor. Enter for each floor level.

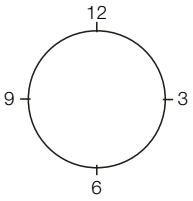
Storey height 1 = ...

Storey height 2 = ...

Storey height 3 = ...

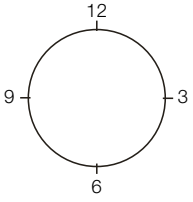
Lower landing

- Wall, doors, windows. Location with dimensions.
- Doors marked with size and swing.



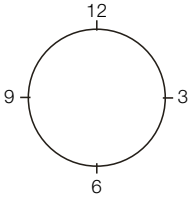
Upper landing

- Wall, doors, windows. Location with dimensions.
- Size of any arch opening.
- Mark doors with size and swing.



Arch railing

- Mark any arch railing with dimensions.

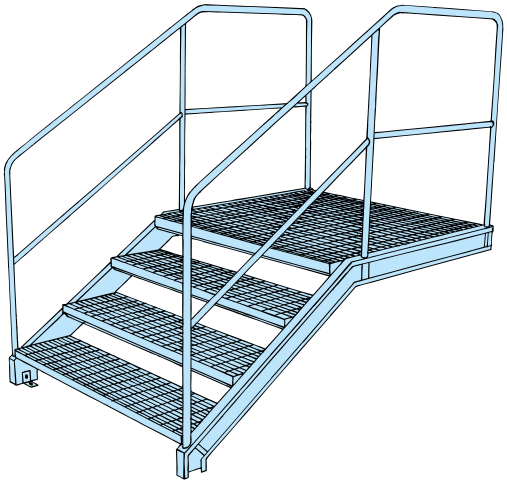


Let Weland do the planning and design for the staircase. If we are given the details above, you will obtain a very practical staircase.

Straight staircases

Weland's standard straight flight staircases are manufactured from steel and are mainly used within industry and as escape staircases in different types of buildings.

Straight flight staircases are hot dip galvanized as standard.



Standard straight flight staircases

Weland's straight flight staircases for installation comprise four main components. Stringers, treads and landings of grating as well as railings.

The staircases are delivered in separate parts that are screwed together during installation. The delivery includes the required bolts etc.

The material in the staircases is hot dip galvanised as standard.

Straight special staircases

Straight flight staircases for other environments, such as offices, homes, entrances, public areas, schools, etc., are manufactured according to your needs.

Staircases that deviate from our standard.

This can include different stringers, different materials in the treads, special railings. Different materials are generally used in such instances, such as wood, stone and glass in the treads and railings. The staircase's surface treatment can also vary according to your wishes.

Staircases with treads made of concrete, marble or some other type of stone are manufactured within the framework of what is deemed standard for our suppliers.

Efficient manufacture

Weland's straight flight staircases are manufactured in an efficient production line. This produces a staircase that combines close tolerances with a large delivery capacity and a short delivery time.

With efficient manufacture of straight flight staircases you get:

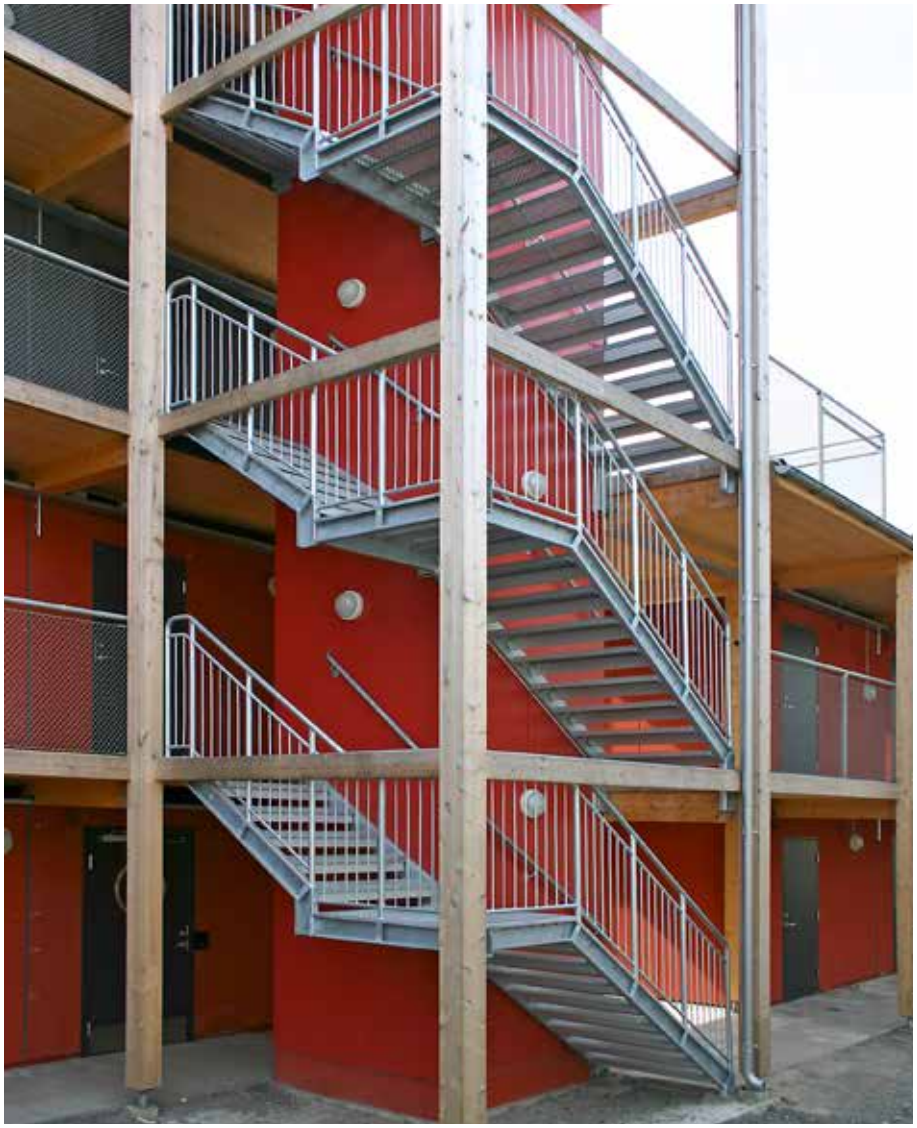
- *Lightweight, attractive designs*
- *High degree of accuracy during installation*
- *Large delivery capacity*
- *Shorter delivery times*

Easy to assemble

Straight flight staircases are made up of easy-to-handle parts that are screwed together. The only tools you need are impact wrenches (box wrench or ratchet wrench).

Each individual staircase part is labelled with a marking tag to facilitate assembly.

NOTE! No welding is necessary during assembly.



Standard straight flight staircase

Manufacture takes place in accordance with the Construction Rules issued by the Swedish National Board of Housing, Building and Planning (BBR) and is dimensioned in accordance with Eurocode with national application.

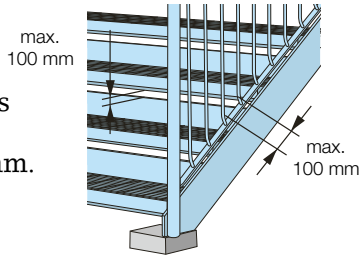
Railings

Weland manufactures three different types of standard railing for straight flight staircases. Industrial railings, railings with intermediate rails and round-bar railings.

The railing height as standard is 900 mm on the flight of stairs and 1100 mm on landings. If there is a risk of falling and the fall height is greater than a normal storey, the railing should be at least 1100 mm high.

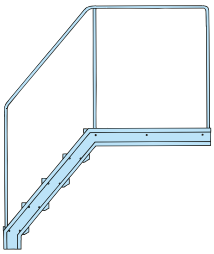
Childproof

Childproof means that none of the openings in the staircase are permitted to be larger than 100 mm up to a railing height of 800 mm.



Industrial railing

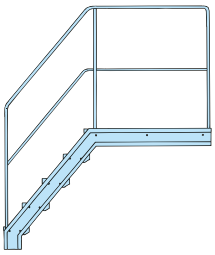
Handrail and balusters in tube Ø 42 mm. Used primarily within industry.



Railings with intermediate rail

Handrail and balusters in tube Ø 42 mm. Intermediate rail in tube Ø 26.9 mm. Used mainly as an escape staircase (in locations where children are not permitted).

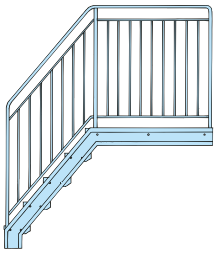
The staircase can also be fitted with a protective cage at the bottom, which prevents unauthorised access to the staircase.



Round-bar railing

The round-bar railing is a child-proof railing, i.e. the max. opening between the balusters is 100 mm.

Handrail and balusters in tube Ø 42 mm. Intermediate balusters in round bar Ø 12 mm. Max. opening between balusters 100 mm. Top and bottom rails in tube Ø 26.9 mm.



Railing location

The railing is welded or screwed onto the stringers in flights and on landings. Handrails fixed to the wall on one or both sides of the flight of stairs are also an alternative.

Stringers

Weland standard straight staircases are manufactured with stringers made in WUC profile. The profile has been developed to provide staircases that are both stable and low weight.

Standard stair treads

The standard stair tread, TH6, is manufactured from pressure welding grating with a mesh width opening c/c 33 x 75 mm.

TH6-S is manufactured from the same type of grating but has a safety front edge that clearly marks the front edge and, in addition, provides increased anti-slip protection.

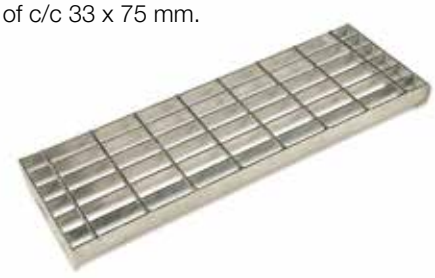
The standard stair tread is stocked in the hot dip galvanised version.

Stair treads with length up to 900 mm have ends with height 60 mm. Lengths of 1000 mm and above have 70 mm ends. This applies for all types of tread.

Special stair treads can be manufactured with any grating type from Weland's grating range. See more under alternative versions.

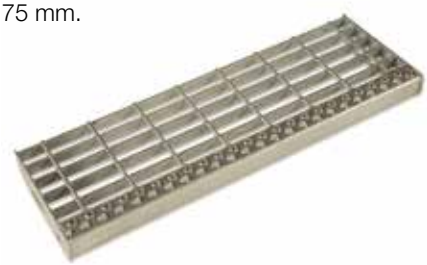
TH6

Grating treads with mesh width opening of c/c 33 x 75 mm.



TH6-S

Grating treads with safety front edges and a mesh width opening of c/c 33 x 75 mm.



Standard landings

Standard landings, TH6, are manufactured from pressure welding grating with a mesh width opening c/c 33 x 75 mm.

TH6-S is manufactured from the same type of grating but has a safety front edge that clearly marks the front edge and, in addition, provides increased anti-slip protection.

The landings are available with standard depths 500, 700 and 1000 mm in a hot dip galvanised version.

Special landings can be manufactured according to customer wishes. See more under alternative versions.

TH6

Grating landings with mesh width opening of c/c 33 x 75 mm.

TH6-S

Grating landings with safety front edges and a mesh width opening of c/c 33 x 75 mm.

Surface treatment

As standard, Weland's straight flight staircases for outdoor use are hot dip galvanised in class SS-EN ISO 1461.

Read more about surface finishes on pages 254-257.


cle Heaven

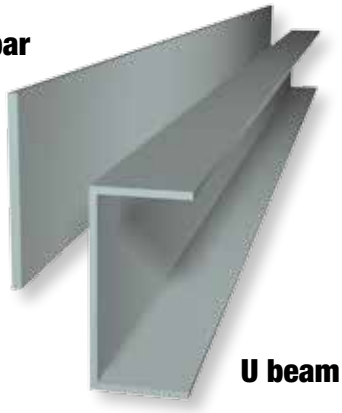
Alternative designs

Stringers

Weland also manufactures stringers from flat bars or U-beams. Flat bars and U-beams are used when WUC sections cannot be used in the flight of stairs.

Central stringers are used for extra wide staircases. A railing can also be installed on the central stringer in order to achieve a safe straight flight staircase when going up and down.

Flat bar



U beam

Railings

Railings with several intermediate rails, glass infills, sheet metal infills, square profiles and crenellated mesh are examples of other types of railing made by Weland.

Glass infills, sheet metal infills and crenelated mesh are child-proof railings, i.e. the openings do not exceed 100 mm.

Handrails

Round or rectangular wooden handrails are manufactured according to your wishes. The handrails are made of solid wood and are available in several different wood types.

Extra handrail

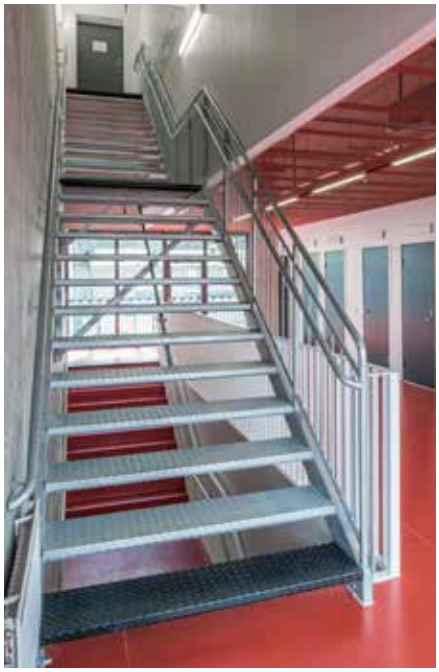
Weland straight staircases can also be equipped with an extra handrail. The alternative handrail is placed under the handrail and is set at an optional height.

Stair treads

Apart from grating type treads, we can also manufacture treads in slit plank type flooring, in durbar plate, plank type flooring (closed, holed, slit and perforated), smooth plate with carpet, different wood types, marble, concrete, concrete with Terrazzo wearing surface etc.

Contact us already in the design stage, and we will come up with the answer for your request.

The stair treads can also be equipped with riser bars that reduce the distance between the treads.



Slit plank type stair treads

Slit plank type TSD Manufactured with serrated slits, which produces maximum anti-slip protection.
Hot dip galvanised version.

Durbar plate treads

Tread surface of durbar plate.

Treads with riser bar

Grating treads with riser bar, mesh width opening of c/c 33 x 75 mm.

Plate treads with carpet

Plate treads for covering with carpet or delivery as ready-made with carpet.

Wooden treads

Tread surface of solid glue laminated wood, 30 mm. Wood types such as oak, pine, birch, beech and ash are available.

Concrete tread with Terrazzo covering

Tread surface made of Terrazzo concrete.

Closed plank type flooring stair treads, TLDT

Closed plank type flooring stair treads have an embossed pattern that provides good anti-slip protection.

Holed plank type flooring stair treads, TLDH

Holed plank type flooring stair treads are basically the same as closed plank type flooring stair treads that have been provided with punched oval holes 15x69 mm.

Slit plank type flooring stair treads, TLDS

Slit plank type flooring stair treads. The serrated top provides extremely good anti-slip protection.

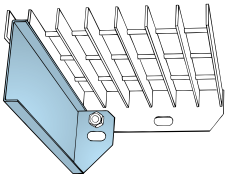
Perforated plank type flooring stair treads, TLDP

Plank type flooring stair treads with very good anti-slip protection. The planks have small openings (holes Ø 10 mm and 4 mm drainage holes). With greater protection against objects falling through the openings.

Riser bar

Loose, stock riser bars for straight flight staircases. The riser bars are screwed to the tread to satisfy child safety requirements. The riser bars are available in the lengths as shown in the table.

Hot dip galvanised.



Stock riser bars

Name (mm)	Part no.	Height (mm)
700	14607001	92
800	14608001	92
900	14609001	92
1000	14610001	92
1100	14611001	92
1200	14612001	92
1300	14613001	92
1400	14614001	92
1500	14615001	92

Landing/turning landing

Optional designs of landings, turning landings, landings 90° to the side, etc., are manufactured to order. The landing can also be extended to a platform/balcony.

Balconies

Balconies are manufactured to the required size and are equipped with the necessary railings and stays. If the landings are very large, they are made in sections to facilitate assembly.

Kick strip

If people may be present under the landing or arch edge, the railing should be provided with a kick strip to prevent objects from being unintentionally kicked over the edge.

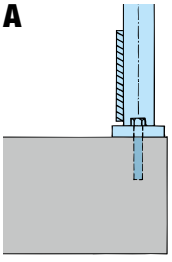
Arch railing

Straight flight staircases are fitted with railings as standard. In addition to this, Weland produces several different types of platform balustrades according to customer's requirements. Some platform balustrades are also kept in stock.

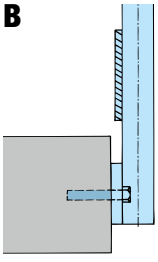
Platform balustrades are always made at a height of 1100 mm. Fixing is normally carried out according to alternatives A or B.

Read more about railings/platform balustrades on pages 168-187.

A



B



Protective cage

To prevent unauthorised persons from entering the straight flight staircase, it can be supplemented with a protective cage at the bottom.

The protective cage is supplied in sections to be bolted together. The requisite bolts etc. are included. The cage is placed on the foundation.

Protective cages are manufactured in various versions, grating, expanded metal, tubes, etc.

The door is equipped with a ASSA 565 lock, latch bolt lock. Door push on both sides. The cage door is opened with a key from the outside and knob from the inside.

Hot dip galvanised version.

Gates

Weland gates can be mounted on the straight flight staircase. The gate's hinges and lock fittings are installed on the railing. The lock is spring loaded and so firmly that small children cannot open it.

Planning

It is easiest to let us look after the planning and design. Our design office has long experience of planning and dimensioning straight staircases. Send a construction drawing, and we will look after the rest.

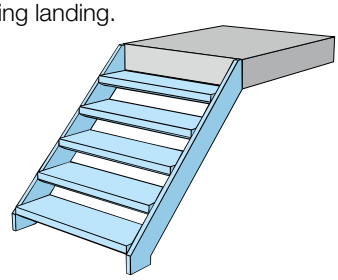
We dimension and draw the staircase so all you need to do is check the dimensions and approve the drawing prior to the start of manufacture.

Single flight staircases

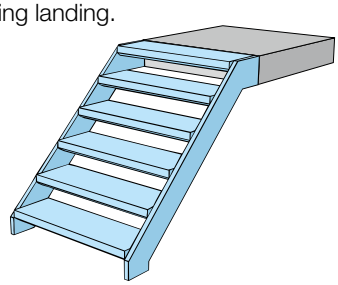
Single flight staircases from a few steps to an entire staircase up to the next storey and step-off. The staircase does not turn with a turning landing.

Different versions for connection to landing

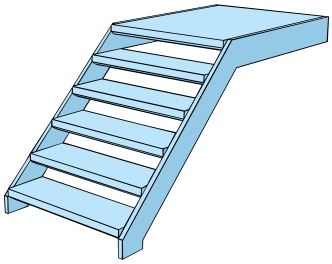
The top tread one rise down from the existing landing.



The top tread at the same level as the existing landing.



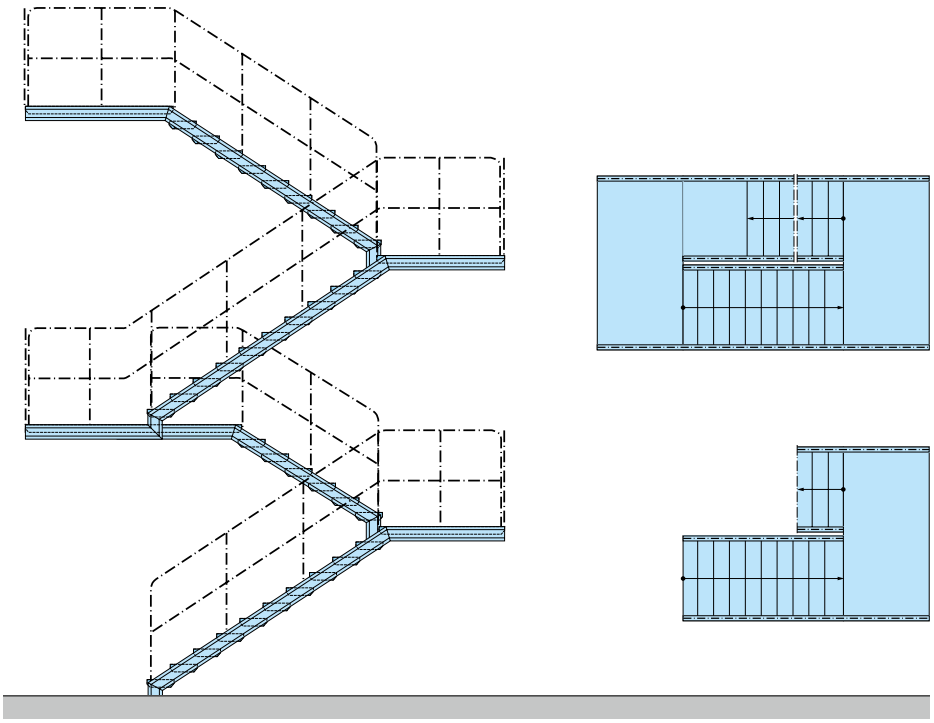
Staircase with landing at the top.



Multi-flight staircases

Multi-flight staircases are staircases linked together with turning landings. This allows very tall staircases to be made.

Example of multi-flight staircase



Gradient / rise

In order for a staircase to be comfortable to walk on, a certain relationship between the incline angle, the rise and the tread width is required. Preferably the staircase's gradient should be between 30° and 45°; however, the available space is frequently limited making it impossible to attain the ideal gradient.

From the table, you can read off the suitable rise and tread width for a given staircase incline.

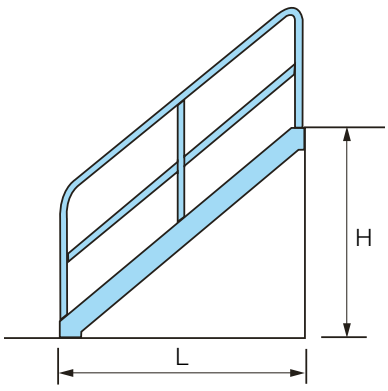
Staircase angle	Suitable riser	Suitable tread width	Ratio* base line/ height of staircase
60°	240	130-160	0.58
57°	230-240	160	0.65
55°	230	160-200	0.70
52°	220-230	160-200	0.78
50°	220	200	0.84
47°	210-220	200	0.93
45°	210	200-230	1.00
42°	200-210	230	1.11
40°	200	230-260	1.19
37°	190	260	1.33
35°	180-190	260-300	1.43
32°	175	300	1.60
30°	170	300	1.73

* If you don't know the staircase angle, but, on the other hand, know the projection, you can divide the projection (L) by the staircase height (H), and look up the nearest figure to the right in the table.

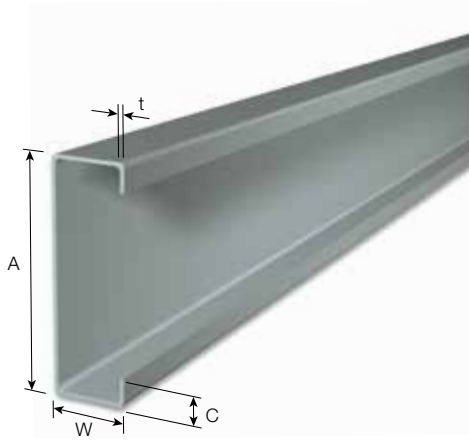
Example:

Projection (L) = 3.5 metre

Staircase height (H) = 2.5 metre



$\frac{L}{H} = \frac{3.5}{2.5} = 1.4$ which gives the staircase angle 35°

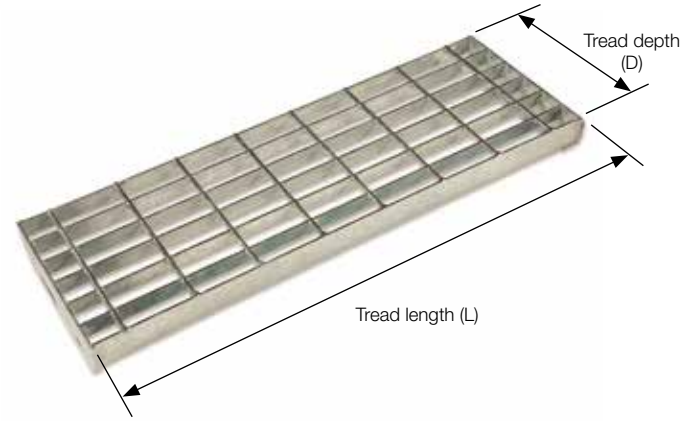


Dimensions, stringer profile WUC

The WUC profile is manufactured from 3, 4 or 5 mm sheet steel at heights of 120 and 170 mm. For other load cases, contact Weland.

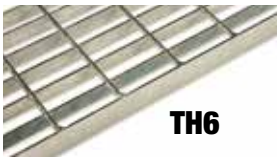
Values for WUC profile according to table

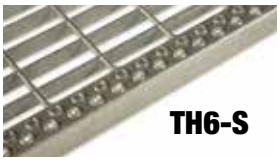
Stringer alternatives	A (mm)	W (mm)	C (mm)	t (mm)	Deflection resist. Wy in cm^3	Weight (kg/m)
WUC 120/3	120	55	22	3	28.1	6.5
WUC 170/3	170	55	25	3	46.1	7.8
WUC 170/4	170	55	25	4	59.0	10.4
WUC 170/5	170	55	25	5	70.7	12.9
WUC 200/5	200	55	25	5	89.3	14.1



Stair treads, dimensions and measurements

Weland stocks standard treads type TH6 and TH6-S with mesh width opening c/c 33x75 mm. The treads are available in several sizes. See more about sizes and weights in the table shown here.
Hot dip galvanised version.

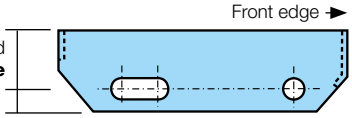

TH6


TH6-S

Dimension details stair tread end

Hole diameter Ø 14 mm for M12 screw.

For applicable dimensions of stair tread end see **www.weland.se**

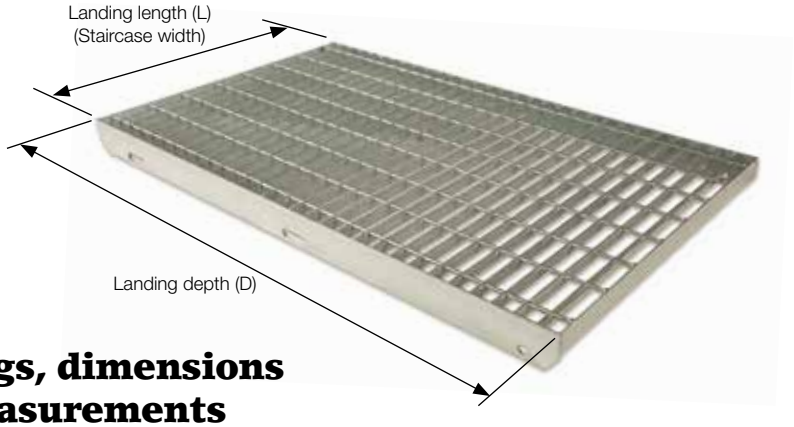


D= 130	40	15	25	50
D= 160	36	39	35	50
D= 200	50	35	65	50
D= 230	60	50	70	50
D= 260	80	58	72	50
D= 300	100	35	115	50

Length (L) mm	Type	Weight stair tread (kg/each) Tread depth, (D) mm					
		130	160	200	230	260	300
400	TH6	2.1*	2.4*				
400	TH6-S	2.2	2.5				
500	TH6	2.4*	2.8*	3.3*			
500	TH6-S	2.5	2.9	3.4*			
600	TH6	2.8*	3.3*	3.8*	4.3*	4.8*	
600	TH6-S	2.9*	3.4*	3.9*	4.4*	4.9	
700	TH6	3.6*	4.2*	4.9*	5.5*	6.1*	
700	TH6-S	3.7	4.3*	5.0*	5.6*	6.2*	
800	TH6	4.0*	4.7*	5.4*	6.1*	6.8*	7.5*
800	TH6-S	4.1	4.8	5.5*	6.2*	6.9*	
900	TH6	4.4	5.2*	6.0*	6.8*	7.5*	8.2*
900	TH6-S		5.3	6.1*	6.9*	7.6*	
1000	TH6	5.8	6.7	7.8*	8.7*	9.7*	10.8*
1000	TH6-S		6.8	7.9*	8.8*	9.8*	10.9*
1100	TH6				9.5*	10.6*	11.7*
1100	TH6-S				9.6	10.7*	11.8*
1200	TH6				10.2*	11.4*	12.6*
1200	TH6-S				10.3	11.5*	12.7*
1300	TH6					13.6*	15.1*
1300	TH6-S						15.2*
1400	TH6					14.5*	16.2*
1400	TH6-S						16.3*
1500	TH6					17.1*	19.0*
1500	TH6-S						19.1*
1600	TH6						20.2*
1600	TH6-S						20.3*
1800	TH6						22.5*
1800	TH6-S						22.6*

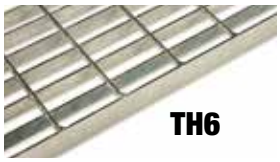
Rough weight incl. screws and nuts.

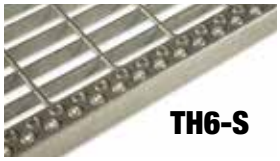
* = stock sized



Landings, dimensions and measurements

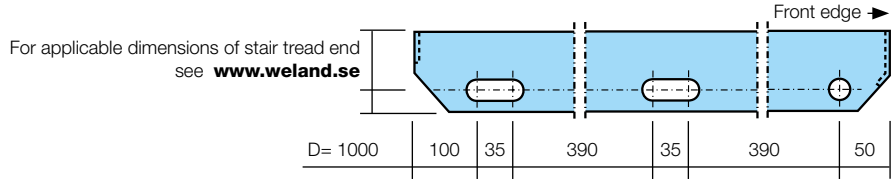
Weland stocks standard landings type TH6 and TH6-S with mesh width opening c/c 33x75 mm. The landings are available in several sizes. See more about sizes and weights in the table shown here. Hot dip galvanised version.

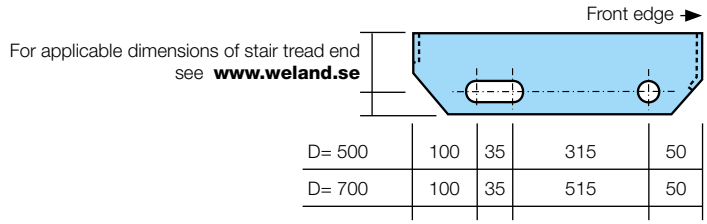

TH6


TH6-S

Dimension details landing end

Hole diameter Ø 14 mm for M12 screw.





Length (L) mm	Type	Weight landing (kg/each) Landing depth, (D) mm		
		500	700	1000
500	TH6	5.9*	8.0*	11.2*
500	TH6-S	5.9*	8.0*	11.2*
600	TH6	6.9*	9.4*	13.1*
600	TH6-S	6.9*	9.4*	13.1*
700	TH6	9.2*	12.4*	17.7*
700	TH6-S	9.2*	12.4*	17.7*
800	TH6	10.4*	14.3*	20.0*
800	TH6-S	10.4*	14.3*	20.0*
900	TH6	11.7*	15.9*	22.3*
900	TH6-S	11.7*	15.9*	22.3*
1000	TH6	15.0*	20.5*	28.7*
1000	TH6-S	15.0*	20.5*	28.7*
1100	TH6	16.5*	22.5*	31.4*
1100	TH6-S	16.5*	22.5*	31.4*
1200	TH6	17.9*	24.4*	34.1*
1200	TH6-S	17.9*	24.4*	34.1*
1300	TH6	21.7*	29.2*	41.5*
1300	TH6-S	21.7*	29.2*	41.5*
1400	TH6	23.3*	31.8*	44.6*
1400	TH6-S	23.3*	31.8*	44.6*
1500	TH6	27.7*	37.9*	53.2*
1500	TH6-S	27.7*	37.9*	53.2*
1600	TH6	29.7*	40.7*	57.2*
1600	TH6-S	29.7*	40.7*	57.2*
1800	TH6			61.0*
1800	TH6-S			61.0*

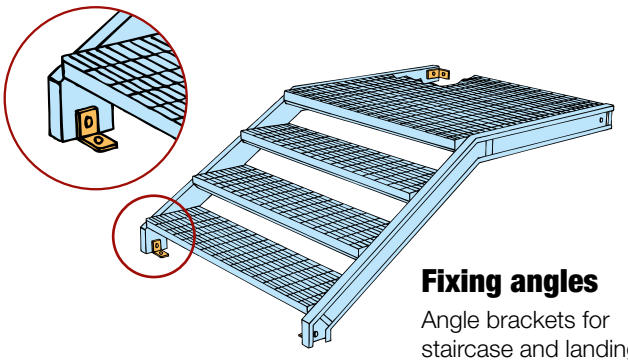
Rough weight incl. screws and nuts.

* = stock sized

Fixing and bracing

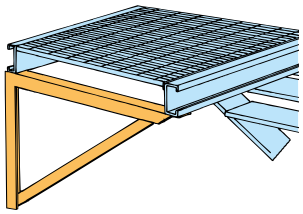
Straight flight staircases have different fixing and bracing alternatives depending on the size of the staircase. In the case of small staircases, fixing angles may be sufficient. Larger staircases may need both support beams and brackets.

Weland will help with the right fixing and bracing.



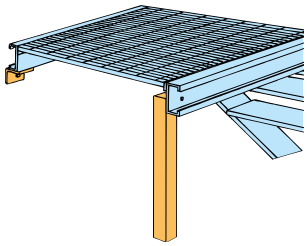
Fixing angles

Angle brackets for staircase and landing stringers.



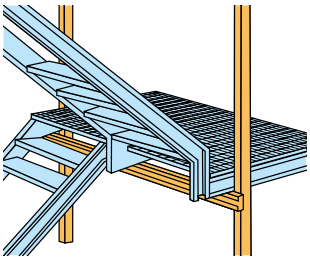
Bracket

Bracket under landing stringers.



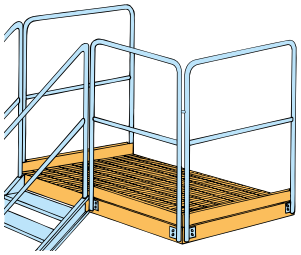
Support leg

Support leg and angle bracket under landing stringers.



Support beam

Support beam and support leg under landing.



Platform

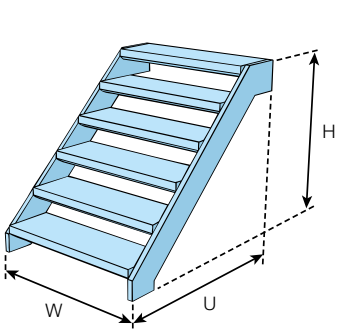
Separate platform.

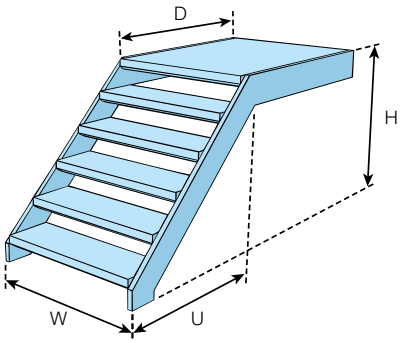

DRESSMANN
LAS OHLSON

Order details

Fill in the following details or send a sketch with dimensions or an architect's drawing for an order for a fast quote. *The form (PDF) is also available for download at www.weland.se.*

Type of staircase, height, width and projection





❑ Staircase height (H) _____

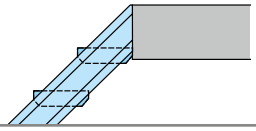
❑ Staircase width (W) _____

❑ Tread length (L) _____

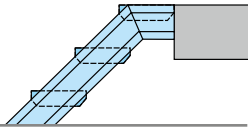
❑ Projection (U) _____

❑ Landing depth (D) _____

❑ Top tread one rise below existing flow

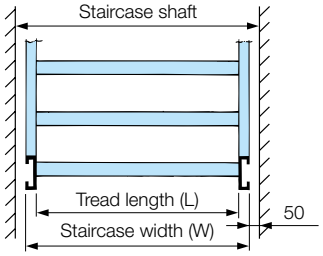


❑ Top tread at the same level as existing floor

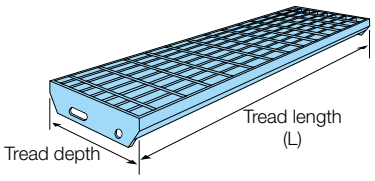


Staircase width

On each side of the staircase, the stringers, bases, railings, banisters and similar should not intrude into the staircase shaft by more than 100 mm. The distance between an adjoining wall and the side of the flight of stairs should be no more than 50 mm at the most.



Step

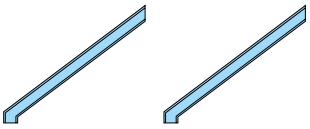


Stair treads and landings

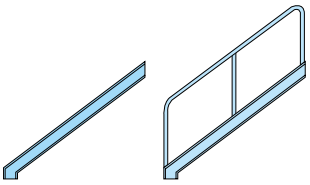
❑ TH6 ❑ TH6-S ❑ _____

Railing

❑ Without railing



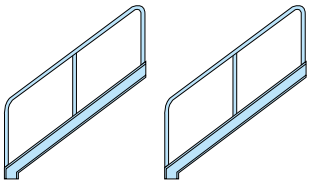
❑ Railing without intermediate rail on one side



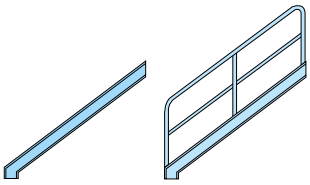
❑ Left ❑ Right

By way up

❑ Railing without intermediate rail on both sides



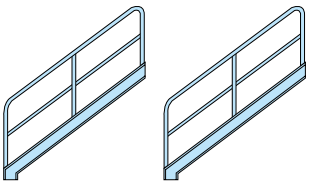
❑ Railing with intermediate rail on one side



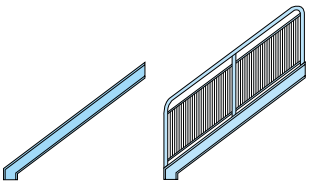
❑ Left ❑ Right

By way up

❑ Railing with intermediate rail on both sides



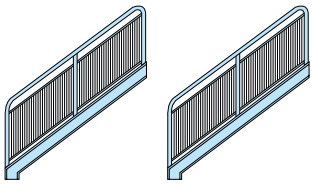
❑ Railing with intermediate balusters c/c 100 mm on one side



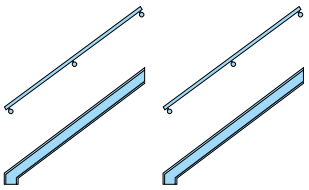
❑ Left ❑ Right

By way up

❑ Railing with intermediate balusters c/c 100 mm on both sides



❑ Banister



❑ Left ❑ Right

❑ Both sides

Arch railing

❑ According to separate diagram

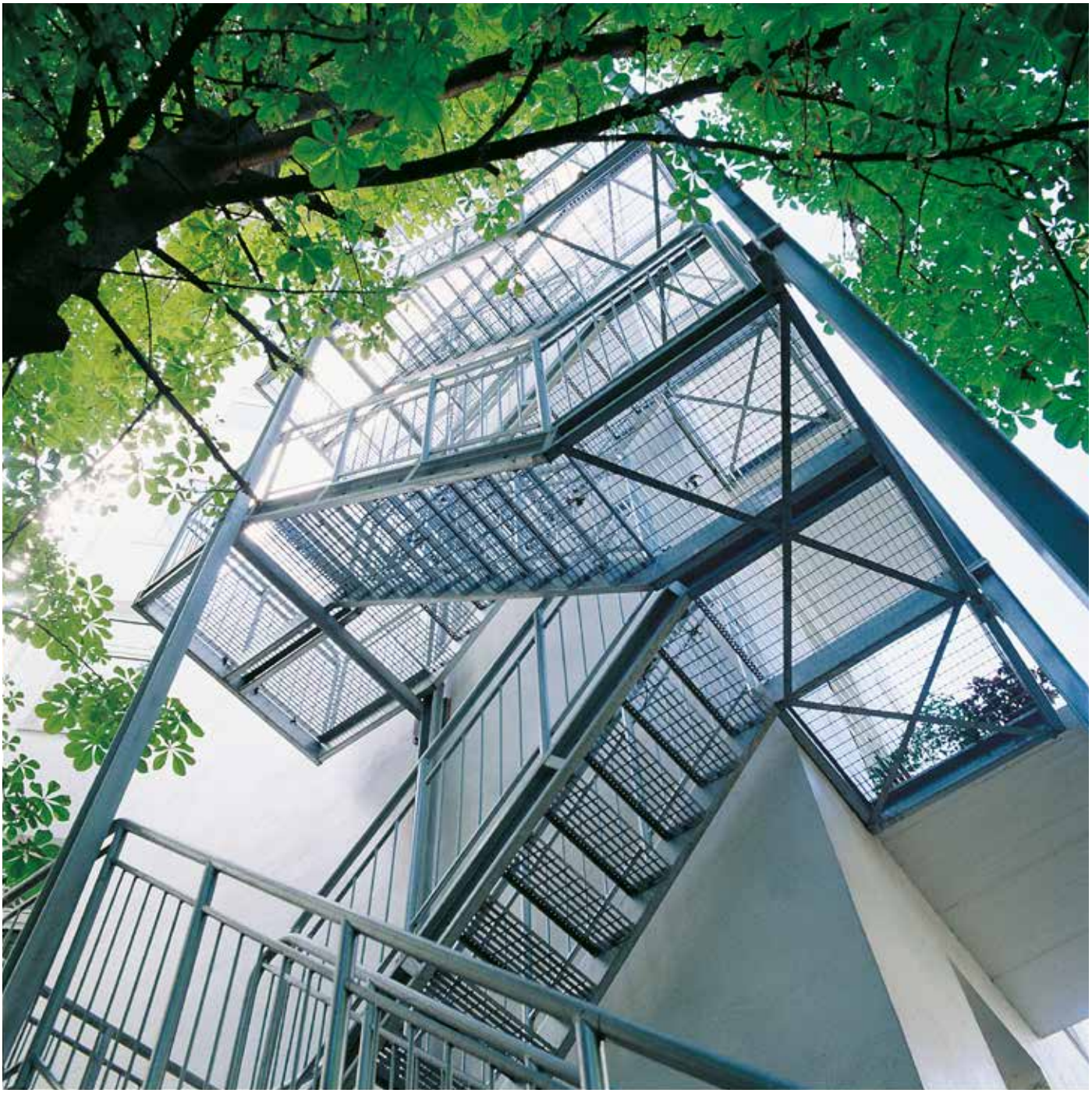
Surface treatment

❑ Hot dip galvanised

❑ Primed

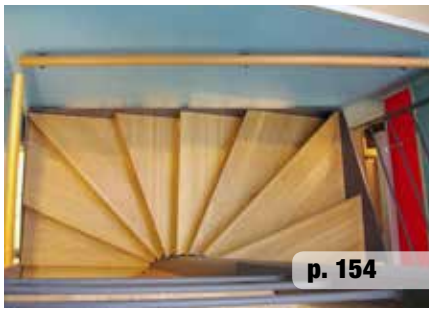
❑ Painted acc. NCS or the RAL scale of standard colours no. _____

Let Weland do the planning and design for the staircase. If we are given the details above, you will obtain a very practical staircase.



Special staircases

Special stairs are staircases that deviate from Weland standard. These stairs are manufactured in a variety of designs and combinations.


p. 154

Special spiral staircases

Spiral staircases can be manufactured with e.g. steps that extend to adjacent walls.

Spiral staircases with heavy-duty centre tube.


p. 155

Combi-stairs

Weland Combi-stairs are a combination of a straight staircase and a spiral staircase. These are manufactured and combined to meet your needs.


p. 156

Curved staircases

Stairs with curved stringers. The stairs can be freestanding. Radius, step width, and other data are in principle optional.


p. 157

Winding staircases

Winding stairs with curved stringers. Steps and railing in the same combinations as for spiral staircases.


p. 158

Staircases with snow and ice free stair treads

Staircases with special stair treads, where electrical heating cables are run through the stringers and square tubes. In this way, icing is prevented and the workplace is safe, even in winter.


p. 159

Folding gangway steps

Flexible staircase used where level differences may occur, for example, between a loading bay and pier. The staircase has an articulated stringer.

Special spiral staircases

Spiral staircases can be made with whole stringers along the outer radius or with treads that go out to adjoining walls.

They can also be manufactured with heavy-duty centre tubes for spiral staircases with extra large radiuses.

Treads, railings and surface treatment as for other spiral staircases.

Combi-stairs

Weland combi-stairs, as the name suggests, are combinations of straight staircases and spiral staircases. These can be made with treads that go out to adjoining walls or with stringers that form right-angles. Treads, railings and surface treatment as for other spiral staircases.

Curved staircases

Curved staircases with the stringers manufactured with treads and railing in the same combination options as for spiral staircases. Radius, step width, and other data are in principle optional.

Surface treatment, hot dip galvanisation acc. SS-EN ISO 1461 or painted in any NCS or RAL colour.

Winding staircases

Winding stairs with curved stringers. Steps and railing in the same combinations as for spiral staircases. For example, the staircases can follow a silo on the outside or the inside. Radius, step width, and other data are in principle optional.

Surface treatment, hot dip galvanisation acc. SS-EN ISO 1461 or painted in any NCS or RAL colour.

Staircases with heated stair treads

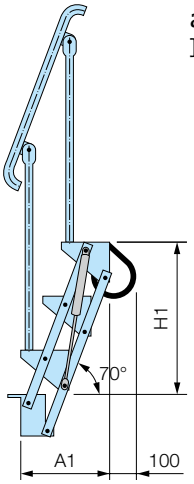
Over the years, we have supplied a number of flushing stands to our customer, Betongteknik AB, and its facilities in the Stockholm region. During the winter, there is a major problem with snow/ice in this type of concrete station, where concrete trucks reverse in and flush out the remaining contents prior to refilling.

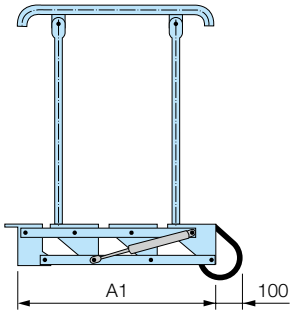
The stair treads and landings are specially made and consist of square tubes that are placed on end up against each other. When the flushing stand with staircases and gangways has been installed, electrical heating cables are run through the stringers and the square tubes. In this way, icing is prevented and the workplace is safe, even in winter.

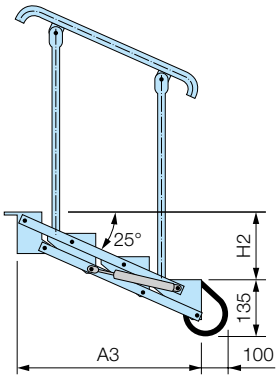
Folding gangway steps

Used everywhere where accessibility is wanted and the levels between step-off and step-on landings varies. The folding gangway steps, which are jointed, consist of a number of grating treads with special stringers, rubber clad support bellows, railings on both sides as well as the fixings. Two dampers on the side, makes the gangway easy to handle.

Folding gangway steps are supplied already assembled and are stocked with 3, 4, 5 and 6 treads.
Hot dip galvanised version.







Folding gangway steps, stocked

Number of stair treads	Part no.	A1 size (mm)	A2 size (mm)	A3 size (mm)	H1 size (mm)	H2 size (mm)	Max. width	Weight (kg)
3 treads	181310101	373	830	756	637	289	825	37.0
4 treads	181410101	455	1070	874	862	391	825	41.0
5 treads	181510101	537	1310	1131	1088	492	825	45.0
6 treads	181610101	619	1550	1408	1314	594	825	49.0

Stair treads and landings

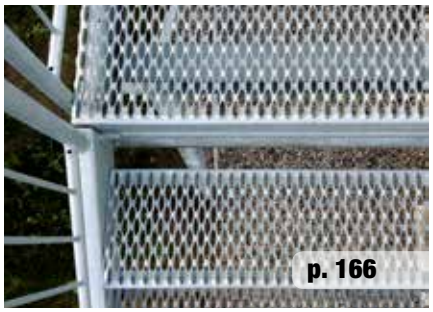
Weland manufactures straight stair treads and landings from grating, slit plank type flooring and plank type flooring. The majority of the stair treads and landings are kept in stock for immediate delivery.

The stair treads and landings are hot dip galvanised as standard.


p. 161-164

Grating

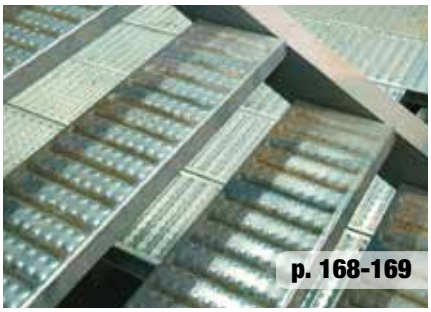
Stair treads and landings in pressure welded grating or A-type grating. Stair treads and landings in many dimensions and sizes.


p. 166

Slit plank type flooring

Stair treads and landings in slit plank type flooring offers very good anti-slip protection thanks to the serrated top.

Stair treads for building site staircases.


p. 168-169

Plank type flooring

Stair treads in plank type flooring are available in four types: closed, holed, slit and perforated. Select the type according to the area of application.

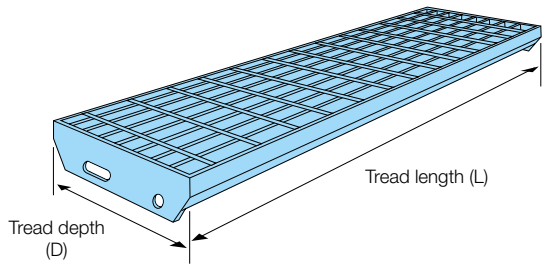
Stair treads of grating

Weland manufactures stair treads in several different mesh width openings and materials. The grating types that are normally used are H6, N6, A22x22 and AL22x22. Many of the stair treads are stocked for immediate delivery.

Special stair treads can be manufactured with any grating type from Weland's grating range. Custom-made stair treads are manufactured in accordance with measurements from the customer and are non-stock items.

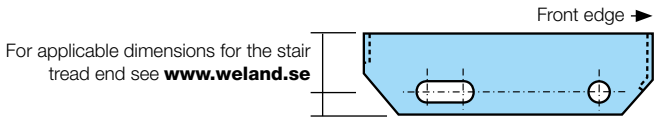
Weland also manufactures complete straight flight staircases (see more on pages 130-151).

Tread dimensions



Dimension details stair tread end

Hole diameter Ø 14 mm for M12 screw.



D= 130	40	15	25	50
D= 160	36	39	35	50
D= 200	50	35	65	50
D= 230	60	50	70	50
D= 260	80	58	72	50
D= 300	100	35	115	50

Stair treads type TH6 and TH6-S

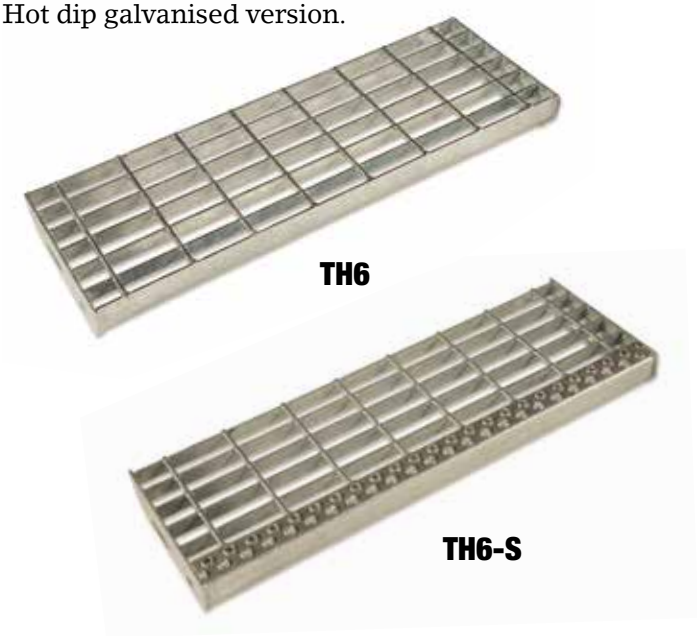
Weland stocks standard stair treads type TH6 and TH6-S.

TH6 is manufactured from pressure welded grating with a mesh width opening c/c 33 x 75 mm.

TH6-S is manufactured from the same type of grating but has a safety front edge that clearly marks the front edge and, in addition, provides increased anti-slip protection.

Special stair treads can also be manufactured according to customer wishes. Other dimensions can be manufactured to order and are non-stock items.

Hot dip galvanised version.



Stock stair treads

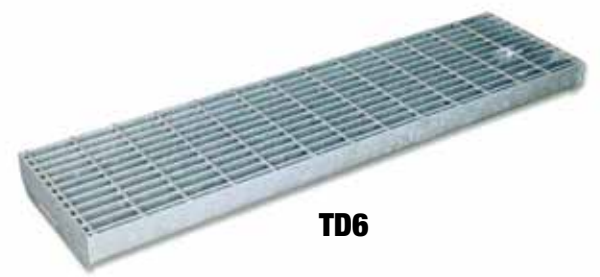
Format LxD (mm)	Type TH6 Part no.	TH6 (kg/each)	Type TH6-S Part no.	TH6-S (kg/each)
400 x 130	14204131	1.9		
400 x 160	14204161	2.2		
500 x 130	14205131	2.2		
500 x 160	14205161	2.6		
500 x 200	14205201	3.1	14305201	3.1
600 x 130	14206131	2.6	14306131	2.6
600 x 160	14206161	3.1	14306161	3.1
600 x 200	14206201	3.6	14306201	3.6
600 x 230	14206231	4.1	14306231	4.1
600 x 260	14206261	4.6		
700 x 130	14207131	3.4		
700 x 160	14207161	4.0	14307161	4.0
700 x 200	14207201	4.7	14307201	4.7
700 x 230	14207231	5.3	14307231	5.3
700 x 260	14207261	5.9	14307261	6.0
800 x 130	14208131	3.8		
800 x 160	14208161	4.5		
800 x 200	14208201	5.2	14308201	5.2
800 x 230	14208231	5.9	14308231	5.9
800 x 260	14208261	6.6	14308261	6.6
800 x 300	14208301	7.3		
900 x 200	14209201	5.8	14309201	5.8
900 x 230	14209231	6.6	14309231	6.6
900 x 260	14209261	7.3	14309261	7.3
900 x 300	14209301	8.0		
1000 x 200	14210201	7.6	14310201	7.6
1000 x 230	14210231	8.5	14310231	8.5
1000 x 260	14210261	9.5	14310261	9.5
1000 x 300	14210301	10.6	14310301	11.0
1100 x 230	14211231	9.3		
1100 x 260	14211261	10.4	14311261	10.4
1100 x 300	14211301	11.5	14311301	12.0
1200 x 200	14212201	8.9		
1200 x 230	14212231	10.0		
1200 x 260	14212261	11.2	14312261	11.2
1200 x 300	14212301	12.4	14312301	12.0
1300 x 260	14213261	13.4		
1300 x 300	14213301	14.9	14313301	15.0
1400 x 260	14214261	14.3		
1400 x 300	14214301	16.0	14314301	16.0
1500 x 260	14215261	16.9	14315261	16.9
1500 x 300	14215301	18.8	14315301	19.0
1600 x 300	14216301	20.0	14316301	20.0
1800 x 300	14218301	22.3	14318301	22.3

Stair tread type TD6

TD6 is manufactured from pressure welding grating with a mesh width opening c/c 22 x 75 mm.

Hot dip galvanised version.

Stair treads with a different mesh width opening are made to order.



TD6

Format LxD (mm)	Type TN6 Part no.	Weight (kg/item)
600 x 230	D14206231	4.0
600 x 260	D14206261	5.0
600 x 300	D14206301	6.0
800 x 260	D14208261	8.0
800 x 300	D14208301	8.0
900 x 300	D14209301	9.0
1000 x 260	D14210261	12.0
1000 x 300	D14210301	13.0
1200 x 260	D14212261	13.0

Fixing screw with nut

Bolt and nut for stair treads and landings. Standard pack = 100/carton.

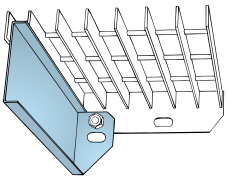
Hot dip galvanised version.

Dimension	Part no.	Weight (kg/item)
M12x25	16412251	0.05
M12x40	16412401	0.06

Riser bar

Loose, stock riser bars for straight flight staircases. The riser bars are screwed to the tread to satisfy child safety requirements. The riser bars are available in the lengths as shown in the table.

Hot dip galvanised version.



Stock riser bars

Name (mm)	Height (mm)	Part no.	Weight (kg/item)
700	92	14607001	1.1
800	92	14608001	1.3
900	92	14609001	1.4
1000	92	14610001	1.6
1100	92	14611001	1.7
1200	92	14612001	1.8
1300	92	14613001	2.0
1400	92	14614001	2.1
1500	92	14615001	2.3

Landings of grating

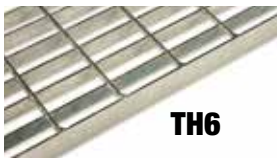
Weland stocks standard landings type TH6 and TH6-S.

TH6 is manufactured from pressure welded grating with a mesh width opening c/c 33 x 75 mm.

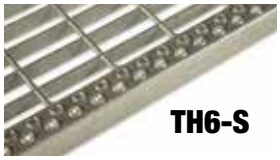
TH6-S is manufactured from the same type of grating but has a safety front edge that clearly marks the front edge and, in addition, provides increased anti-slip protection.

TH6 and TH6-S are available with the standard depths 500, 700 and 1000 mm in the hot dip galvanised version.

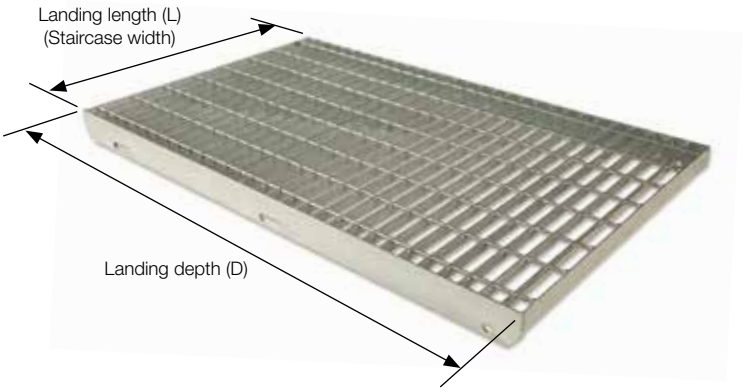
Special landings can also be manufactured according to customer wishes. Other dimensions can be manufactured to order and are non-stock items.



TH6

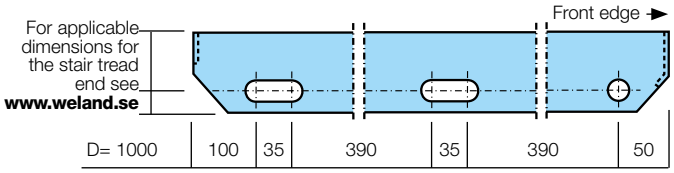


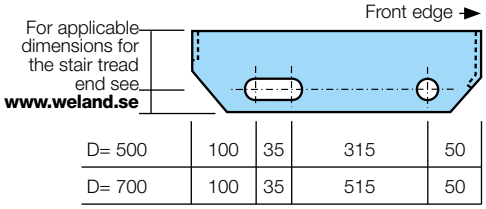
TH6-S



Dimension details landing end

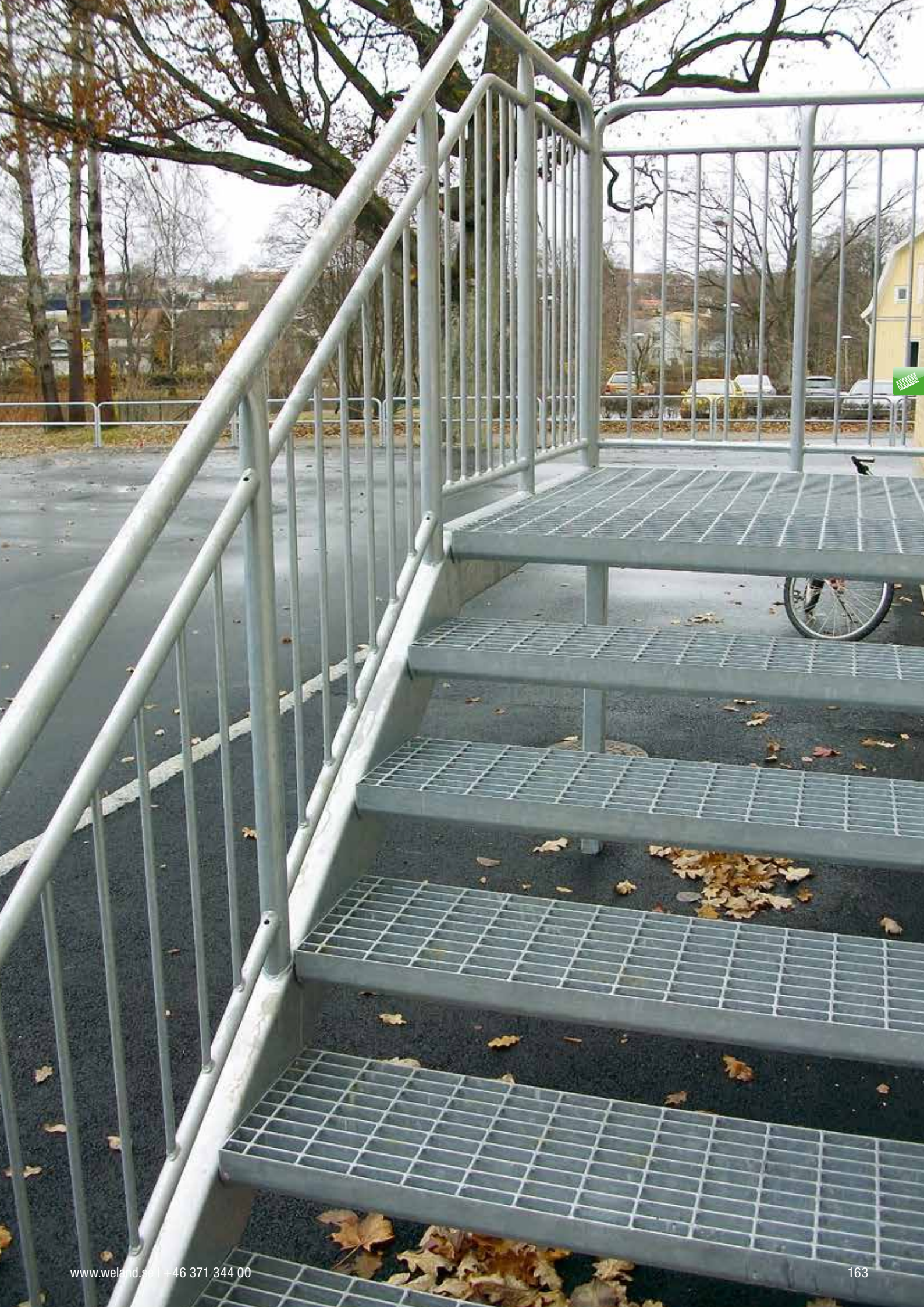
Hole diameter Ø 14 mm for M12 screw.





Stock landings

Format LxD (mm)	Type TH6 Part no.	Type TH6-S Part no.	Weight (kg/each)
500 x 500	14805051	14905051	5.9
500 x 700	14805071	14905071	8.0
500 x 1000	14805101	14905101	11.2
600 x 500	14806051	14906051	6.9
600 x 700	14806071	14906071	9.4
600 x 1000	14806101	14906101	13.1
700 x 500	14807051	14907051	9.2
700 x 700	14807071	14907071	12.4
700 x 1000	14807101	14907101	17.7
800 x 500	14808051	14908051	10.4
800 x 700	14808071	14908071	14.3
800 x 1000	14808101	14908101	20.0
900 x 500	14809051	14909051	11.7
900 x 700	14809071	14909071	15.9
900 x 1000	14809101	14909101	22.3
1000 x 500	14810051	14910051	15.0
1000 x 700	14810071	14910071	20.5
1000 x 1000	14810101	14910101	28.7
1100 x 500	14811051	14911051	16.5
1100 x 700	14811071	14911071	22.5
1100 x 1000	14811101	14911101	31.4
1200 x 500	14812051	14912051	17.9
1200 x 700	14812071	14912071	24.4
1200 x 1000	14812101	14912101	34.1
1300 x 500	14813051	14913051	21.7
1300 x 700	14813071	14913071	29.6
1300 x 1000	14813101	14913101	41.5
1400 x 500	14814051	14914051	23.3
1400 x 700	14814071	14914071	31.8
1400 x 1000	14814101	14914101	44.6
1500 x 500	14815051	14915051	27.7
1500 x 700	14815071	14915071	37.9
1500 x 1000	14815101	14915101	53.2
1600 x 500	14816051	14916051	29.7
1600 x 700	14816071	14916071	40.7
1600 x 1000	14816101	14916101	57.2
1800 x 1000	14818101	14918101	61.2



Stair treads and landings of slit plank type flooring

Weland stocks straight flight staircases and landings in slit plank type flooring, type TSD.

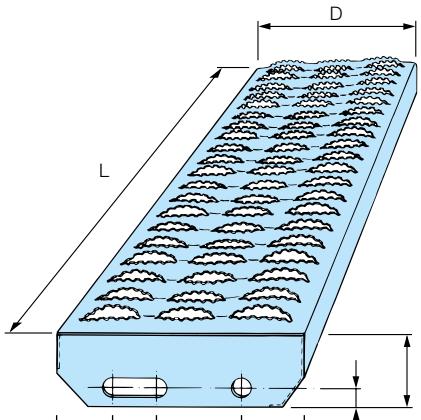
Thanks to its serrated top, slit plank type flooring offers very good anti-slip protection and lets through dirt, oil and other spillages. Because of this, slit plank type flooring does not normally require cleaning.

Sizes according to the table below. In addition, special sizes and landings according to table are manufactured to order.

Hot dip galvanised version.

Weland also manufactures complete staircases in complete accordance with customer wishes.

Measurement information, stair treads



For applicable dimensions for the stair tread end see **www.weland.se**

D= 130	40	15	25	50
D= 200	50	35	65	50
D= 260	80	58	72	50

Stock stair treads of slit plank type flooring

Format L x D (mm)	Part no.	Weight (kg/item)
501 x 130	TSD05131	2.1
606 x 200	TSD06201	3.2
696 x 200	TSD07201	4.3
801 x 200	TSD08201	4.9
696 x 260	TSD07261	5.1
801 x 260	TSD08261	5.7
906 x 260	TSD09261	6.3
996 x 260	TSD10261	7.0
1101 x 260	TSD11261	7.7
1206 x 260	TSD12261	8.3
1296 x 260	TSD13261	8.9
1401 x 260	TSD14261	9.5
906 x 300	TSD09301	7.3
996 x 300	TSD10301	8.0
1101 x 300	TSD11301	8.7
1206 x 300	TSD12301	9.4

Landings of slit plank type flooring

Format L x D (mm)	Part no.	Weight (kg/item)
501 x 500	TSD05051	7.9
606 x 500	TSD06051	9.1
696 x 500	TSD07051	10.4
801 x 500	TSD08051	11.6
906 x 500	TSD09051	12.8
996 x 500	TSD10051	14.1
1101 x 500	TSD11051	15.3
1206 x 500	TSD12051	16.6
1296 x 500	TSD13051	17.8
1401 x 500	TSD14051	19.0
501 x 700	TSD05071	11.6
606 x 700	TSD06071	13.4
696 x 700	TSD07071	15.2
801 x 700	TSD08071	17.0
906 x 700	TSD09071	18.8
996 x 700	TSD10071	20.5
1101 x 700	TSD11071	22.3
1206 x 700	TSD12071	24.1
1296 x 700	TSD13071	25.9
1401 x 700	TSD14071	27.7
501 x 1000	TSD05101	15.7
606 x 1000	TSD06101	18.2
696 x 1000	TSD07101	20.7
801 x 1000	TSD08101	23.2
906 x 1000	TSD09101	25.7
996 x 1000	TSD10101	28.1
1101 x 1000	TSD11101	30.6
1206 x 1000	TSD12101	33.1
1296 x 1000	TSD13101	35.6
1401 x 1000	TSD14101	38.1

* = Made to order

Stairs for building site staircases

The stairs are used in temporary flights of stairs, for example, building sites etc. The stairs are manufactured in hot dip galvanised steel and can be used time and time again. Available in 2 staircase lengths, 810 and 900 mm.

The stairs are tested by SP (Swedish National Testing and Research Institute).

Format L x D (mm)	Part no.	Weight (kg/item)
810 x 200	FBT0810	5.2
900 x 200	FBT0900	6.0

Stair treads of plank type flooring

Weland manufacturers and stocks straight staircases made from plank type flooring. Plank type stair treads are available in four plank types, TLDT, TLDH, TLDS and TLDP. Select plank type according to its respective area of application.

Plank type flooring is an alternative that can be used both outdoors and indoors. Special sizes can also be made to order. Hot dip galvanised version.

The treads are available in various depths and lengths as shown in the table to the side.

Weland also manufactures complete staircases in complete accordance with customer wishes.

Closed plank type flooring stair treads, TLDT

Closed plank type flooring stair treads have an embossed pattern that offers good anti-slip protection.

TLDT

Holed plank type flooring stair treads, TLDH

Holed plank type flooring stair treads are basically the same as closed plank type flooring stair treads that have been supplied with oval holes measuring 15x69 mm.

TLDH

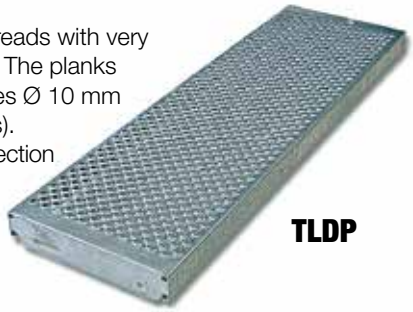
Slit plank type flooring stair treads, TLDS

Slit plank type flooring stair treads. The serrated top provides extremely good anti-slip protection.

TLDS

Perforated plank type flooring stair treads, TLDP

Plank type flooring stair treads with very good anti-slip protection. The planks have small openings (holes Ø 10 mm and 4 mm drainage holes). This provides greater protection against objects falling through the openings.

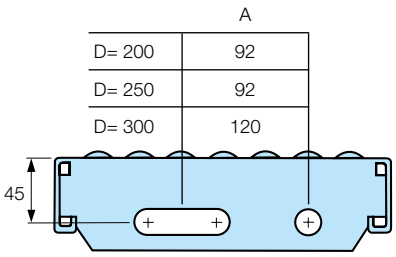


TLDP

Stair tread end dimensions

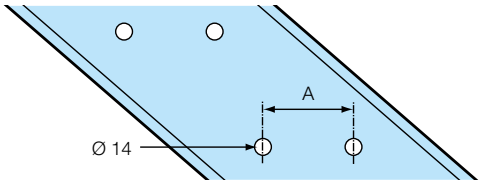
End dimensions (drilled hole placing A in normal case).

Stair tread end



D= 200	55	40	55	50
D= 250	75	40	85	50
D= 300	95	40	115	50

Stringer, rec. dimensions



Stair treads of plank type flooring

Format L x D (mm)	Type TLDT (closed) Part no.	Weight TLDT (kg/each)	Type TLDH (hole) Part no.	Weight TLDH (kg/each)	Type TLDS (slit) Part no.	Weight TLDS (kg/each)	Type TLDP (perforated) Part no.	Weight TLDP (kg/each)
500 x 200	2503000*	2.7	2503010*	2.7	2506000*	2.7	2506400*	2.7
500 x 250	2503160*	3.2	2503170*	3.4	2506200*	3.2	2506600*	3.2
500 x 300	2505450*	3.3	2505660*	4.2	2506310*	3.3	2506750*	3.3
600 x 200	2503020	3.2	2503030	3.3	2506010	3.2	2506410	3.0
600 x 250	2503180	3.9	2503190	3.8	2506210	3.9	2506610	4.0
600 x 300	2505460*	5.0			2506315*	5.0		
700 x 200	2503040	3.7	2503050	3.8	2506020	3.7	2506420	4.0
700 x 250	2503200	4.5	2503210	4.6	2506220	4.5	2506620	4.0
700 x 300	2505480	5.0	2505680	5.7	2506320	5.3	2506770	6.0
800 x 200	2503060	4.6	2503070	4.3	2506030	4.3	2506430	4.0
800 x 250	2503220	5.4	2503230	5.2	2506230	5.1	2506630*	5.1
800 x 300	2505490	6.0	2505690*	6.4	2506330*	6.0	2506790*	6.0
900 x 200	2503080	4.8	2503090	4.8	2506040*	4.8	2506440*	5.0
900 x 250	2503240	5.8	2503250	5.8	2506240	5.8	2506640	5.0
900 x 300	2505500	7.0	2505700	7.2	2506340	6.8	2506800	6.0
1000 x 200	2503100	5.3	2503110	5.4	2506050	5.3	2506450	5.0
1000 x 250	2503260	7.0	2503270	6.4	2506250	6.4	2506650	6.0
1000 x 300	2505510	7.5	2505710	7.9	2506350*	7.5	2506810	6.7
1100 x 200	2503120	6.0	2503130	5.9	2506060	5.9	2506460	6.0
1100 x 250	2503280	7.1	2503290	7.0	2506260*	7.1	2506660*	6.0
1100 x 300	2505520*	8.3	2505720*	8.6	2506360*	8.3	2506820*	8.3
1200 x 200	2503140	6.4	2503142	6.5	2506070	6.4	2506470	6.0
1200 x 250	2503300	7.7	2503310	7.7	2506270*	7.7	2506670*	7.0
1200 x 300	2505530	9.0	2505730	9.4	2506370*	9.0	2506830	8.0
1300 x 200	2503145*	6.9	2503147*	7.0	2506080*	6.9	2506480*	6.9
1300 x 250	2503320*	8.4	2503330*	8.3	2506280*	8.4	2506680*	8.4
1300 x 300	2505540*	9.8	2505740*	10.1	2506380*	9.8	2506840*	9.8
1400 x 200	2503150*	7.5	2503152*	7.5	2506090*	7.5	2506490*	7.5
1400 x 250	2503340*	9.0	2503350*	8.9	2506290*	9.0	2506690*	9.0
1400 x 300	2505550*	11.3	2505750*	10.9	2506390*	11.3	2506850*	11.3
1500 x 200	2503155*	8.0	2503157*	8.1	2506100*	8.0	2506500*	8.0
1500 x 250	2503360*	9.7	2503370*	9.5	2506300*	9.7	2506700*	9.7
1500 x 300	2505560*	12.0	2505760*	11.6	2506395*	12.0	2506860*	12.0

* = Made to order

Railings

Weland manufactures various types of railing in both steel and aluminium. The railing types have many applications, for example, on mezzanines, in sewage treatment plants, galleries, balconies, dividers by carriageways, etc.


p. 170-173

Sectional railing with intermediate rails, steel

A steel railing with railing posts of hot dip galvanised profiles, as well as handrails and intermediate rails of stainless steel tubing. Supplied in loose units for simple assembly.


p. 174-179

Sectional railing, steel

Railing manufactured in 1 m sections and corner sections. Stainless steel tubular handrail and balusters in HF HRS sections.


p. 180-183

Universal railing, steel

Weland universal railing is manufactured in 6 different lengths that can be combined to the length of your choice in 250 mm intervals.


p. 184

Module railing, aluminium

Weland Modular Railing is a flexible and economic railing system. The entire railing is manufactured from Ø 50 mm aluminium tube, which makes it easy to assemble.


p. 185

Allround railing, aluminium

An aluminium railing with customised, stock, standard parts, where handrails, intermediate rails and kick strips are delivered in varying lengths. The great flexibility makes it very easy to assemble.


p. 186-187

Special railing in steel and aluminium

Special railings that differ from our standard railing. For example, this might be different fixing, dimensions, design etc.

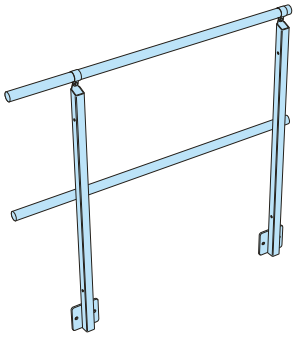
Sectional railing with intermediate rails

This industrial railing is manufactured with railing posts in HF HRS bar 40x40x3 mm with fixings for side installation or top installation in hot dip galvanised version.

Handrails and intermediate rails are made from 42 x 1.5 mm stainless steel tubes, which are secured to the railing post with handrail clamps and side clamps.

The railings are ordered in the number of metre-lengths required and associated 90 degree bends for handrails and intermediate rails.

The railing components are supplied in loose units for simple assembly on site.



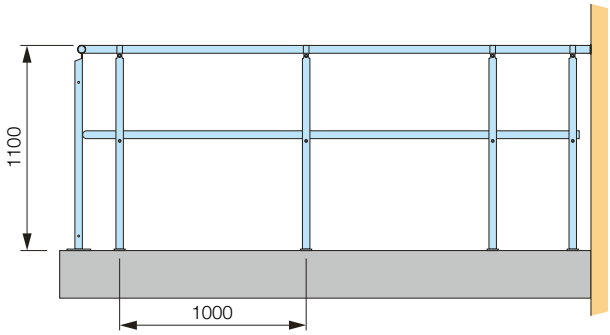
Industrial railings with intermediate rails

Unique characteristics:

- Immediate delivery
- Simple installation with free placing of the posts
- c/c 1000 mm, withstands 1 kN load
- Stainless steel handrail
- Easy to transport
- No measurement prior to installation needed. Include extra posts and handrail. Adjusted during installation
- Can also be supplied in 100% stainless steel version

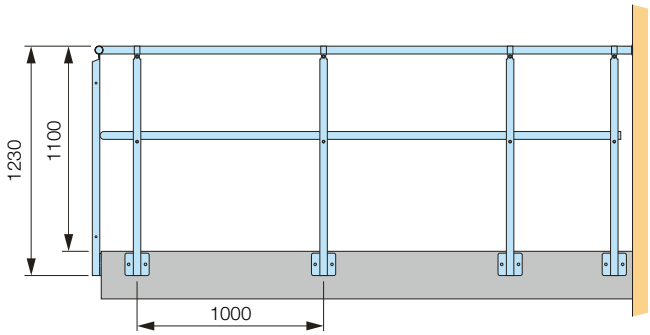
Top installation

Baluster and fixing for top installation.



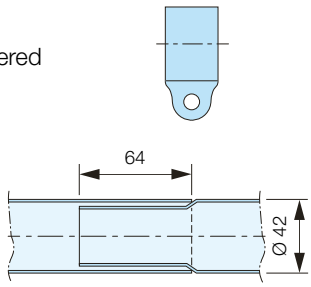
Side installation

Balusters and brackets for side mounting.



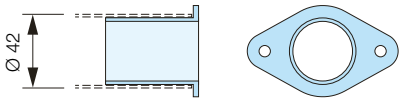
Handrail joint

The joint is placed so it is covered by the handrail clamp.



Wall mount

Stainless steel.

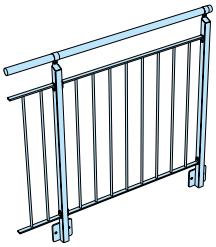


Section railings with round bar infill

Weland sectional railing is suitable for a variety of applications such as mezzanines, external corridors, balconies, patios, etc.

The railings are manufactured as standard with top and bottom rails in 25 x 8 mm flat steel with Ø 11 mm round bars, max. opening 100 mm.

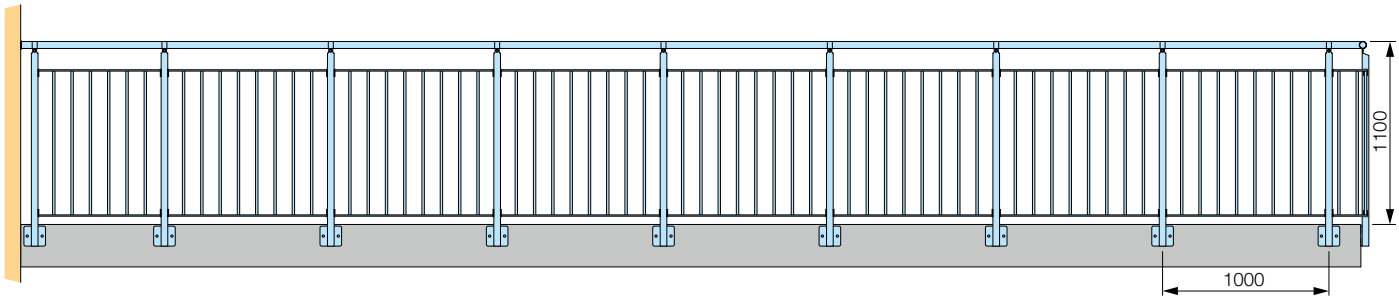
The railing is supplied hot dip galvanised as standard with tube handrail in untreated stainless steel.



Railing infill with bars

Unique characteristics:

- The railing is supplied in loose units for simple assembly on site. Can also be delivered custom ised from the factory
- Childproof
- Stainless steel handrail
- Easy to transport




Obstacle Heaven


VÄLKOMMEN
UPP!

Sectional railing in various versions

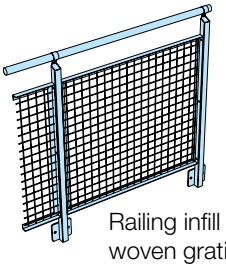
Weland sectional railing can be manufactured with different types of infill, such as glass, perforated sheet metal, crenellated grating or other suitable material.

The railing can also be supplied for staircases, bent to angles or curves to follow a given line or specially customised in another way.

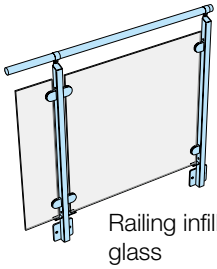
The railing is supplied hot dip galvanised as standard with tube handrail in untreated stainless steel.

Unique characteristics:

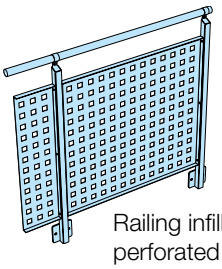
- Great freedom in the choice of the railing's infill
- Childproof
- Stainless steel handrail
- Easy to transport



Railing infill with woven grating



Railing infill with glass



Railing infill with perforated plate

Sectional railing with recessed lighting

Our sectional railing can be supplied with recessed LED lighting in the handrail, which gives a pleasant light and increased safety in the dark winter season.

Universal railing

Weland universal railing is manufactured in 6 different standard lengths that can be combined to the length of your choice. The construction dimensions for the standard lengths are 400, 500, 700, 1000, 1500 and 2000 mm. The railing bows are manufactured at a height of 1100 mm, and the same bow is used for side installation and top installation. The railing can also be terminated against a wall or post, and there are special wall brackets for this.

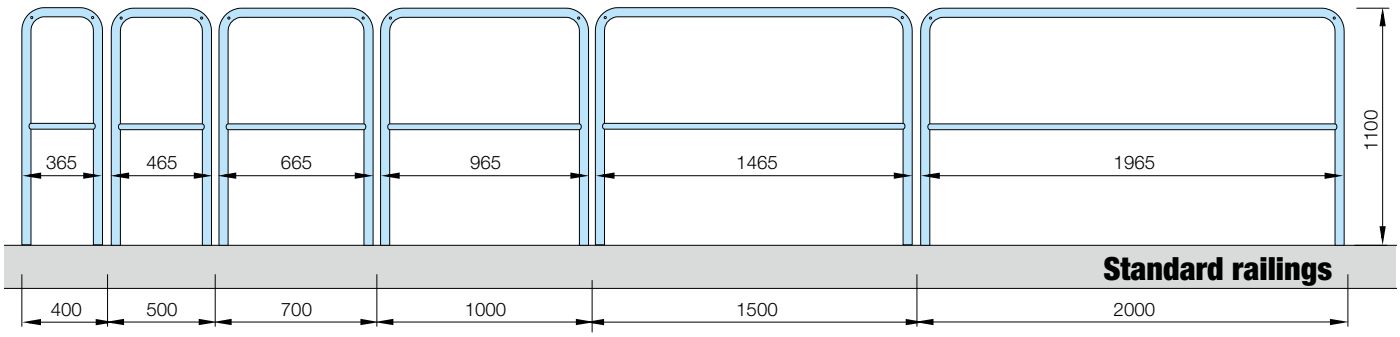
The railings can be supplemented with angle or corner railings, construction dimensions 400 x 400 mm, as well as a gate with maximum opening of 1000 mm.

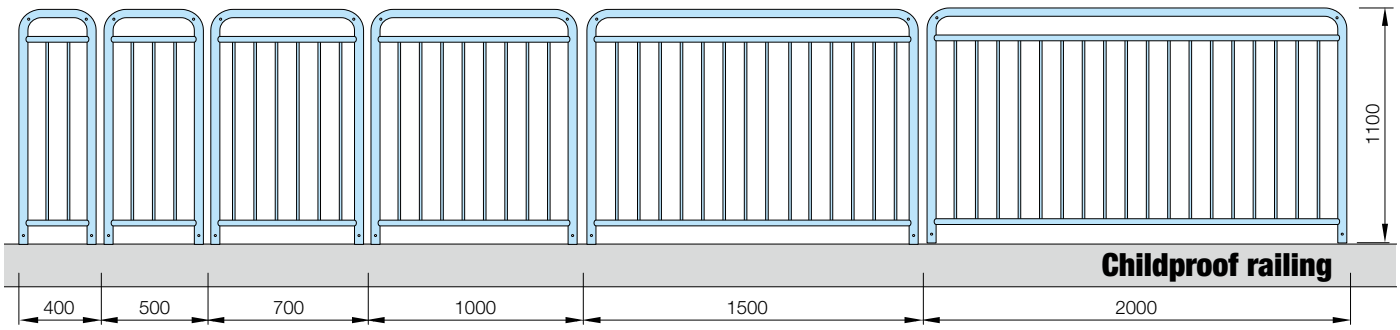
The railings, fixing components and other accessories, such as kick strips and couplings, are stocked items.

The railings are available as standard and childproof, hot dip galvanised, steel versions.

Unique characteristics:

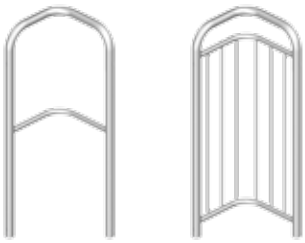
- Immediate delivery
- Hot dip galvanised
- Easy to replace bumped/damaged sections






HFAB
HUSVÄRDSKONTOR

Universal railing – standard

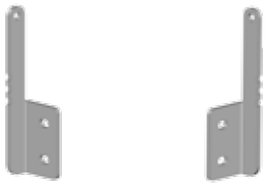


Corner railing

Fixing for top installation

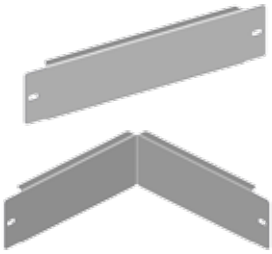
Universal railing – childproof

Connection / Corner connection

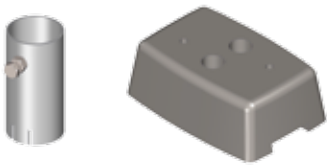


Fixing for side installation

Gate for railing



Kick strip, straight and corner



External sleeve / concrete base

Module railing, aluminium

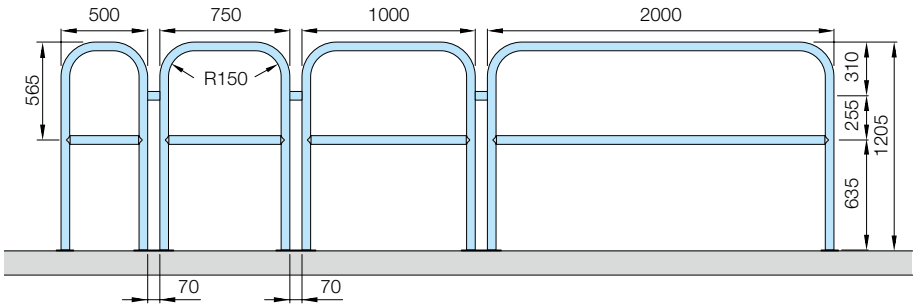
Weland Modular Railing is a flexible and economic railing system. The entire railing is manufactured from Ø 50 mm aluminium tube, which makes it easy to assemble and maintenance-free.

The modular dimensions 500, 750, 1000 and 2000 mm provide for all imaginable length combinations in 250 mm steps.

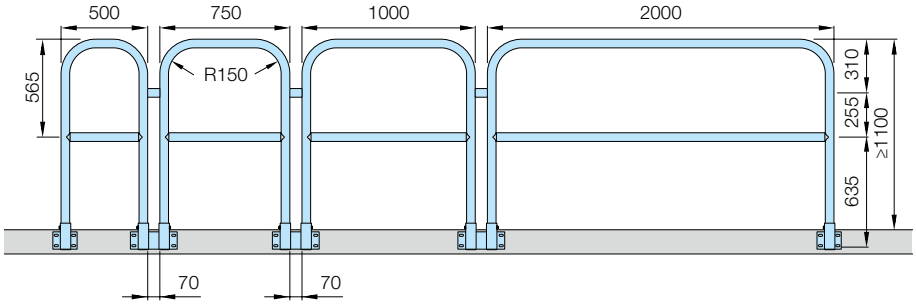
The modular railing is suitable both as a small divider railing and as safety railing in larger installations, e.g. waste incineration stations, ports, sports centres, etc.

The railing is a non-stock item.

Top installation



Side installation



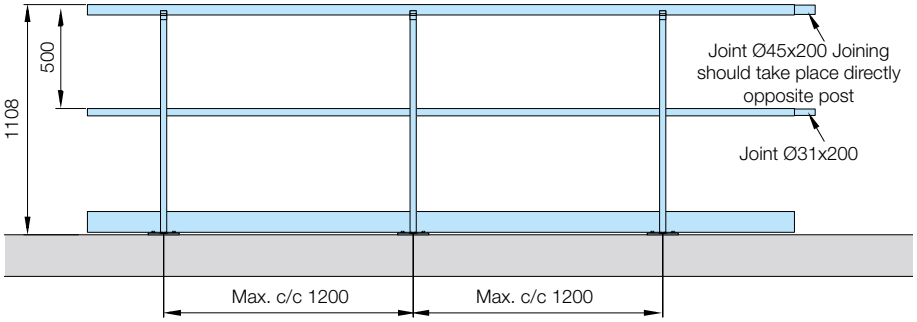
Allround railing, aluminium

An aluminium railing with stocked, standard parts, where handrails, intermediate rails and kick strips are delivered in uncut lengths. The great flexibility makes it very easy to assemble.

The material is natural anodised aluminium alloy, EN-AW 6063-T6. The railing is also suitable for most "severe" environments, e.g. chemical process industries and treatment plants.

Fixings are available for top installation and side installation.

Top installation



Special railing in steel and aluminium

Weland also manufactures special railings that differ from our standard railings. This can be in terms of a different fixings, dimensions, design etc. Other materials for the handrail, such as wood, can also be manufactured. The railings can also be equipped with gates.

Contact us already at the design stage, and we will come up with the answer for your request.

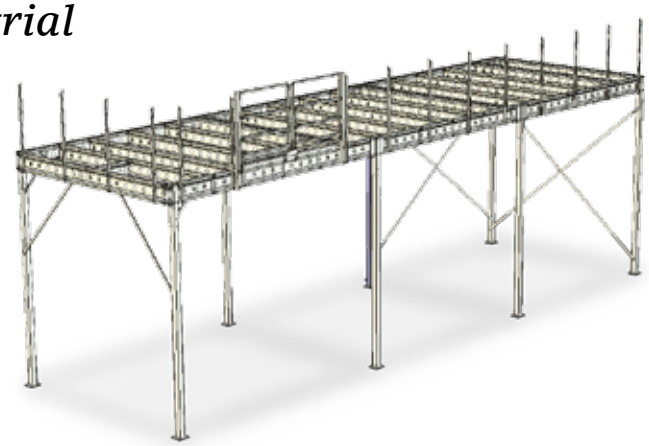

6190

Mezzanines and gangways

Mezzanine

Weland mezzanines can be used in many different environments, both indoors and outdoors, in industrial environments or public settings.

Weland mezzanines are hot dip galvanised as standard.



Sweden's largest baker of gluten-free bread, Fria Bröd AB in Västra Frölunda, Gothenburg, has installed a mezzanine on which a cooling carousel has been assembled. The flooring on the mezzanine is made from direct laminated board.

Weland mezzanines

Weland mezzanines allow you to utilise the entire volume of your premises to increase the floor space. A simple and cost-effective method to make use of the possibilities offered by the existing premises.

Weland mezzanines are built as a cantilevered framework from lightweight Sigma beams we manufacture ourselves, which are screwed together on site just like a Meccano kit. Well thought-out fittings and pre-punched holes in the cold-formed sections allow for fast and simple assembly, without the need for welding.

Well thought-out, tried and tested railing systems, staircases and load gates, as well as various flooring alternatives make the Weland Mezzanine one of the most flexible on the market.

All components are hot dip galvanised as standard, making them suitable for both indoor and outdoor applications.

Mezzanine outdoors

Planning

Weland designs and tenders. On receiving an order, our experienced designers draw the entire mezzanine, including railings and connections. The drawing is submitted to the customer for approval prior to manufacturing.

Assembly

Weland supplies materials in accordance with the drawing, and installation is carried out by the customer following the instructions. Alternatively, Weland can assign fitters. All the parts are screwed together during installation, with no welding required.

Rapid deliveries

Weland mezzanines are largely constructed out of components which are kept on stock. Give us your requirements, such as:

- *Purpose*
- *Load requirements*
- *Dimensions (width, length, height above existing floor or, alternatively, free height under the mezzanine)*
- *Floor covering preference*

Inspirational environments with mezzanines

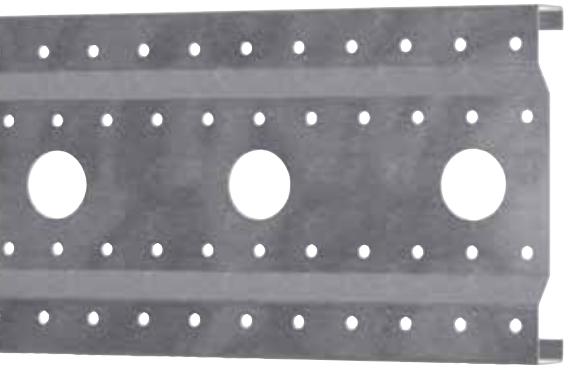
The Johanneskyrkan Church in Halmstad has been transformed into an art gallery and offices. The old organ gallery was extended with a Weland mezzanine.

A mezzanine with stairs and railings with glass infill at the Runner Store in Stockholm. The steel beams have been built into the part comprising the store premises. Increased sales and storage area.

Mezzanine indoors

Weland mezzanines can be used in many different environments, both indoors and outdoors, in industrial environments or public settings.

Mezzanine at Gym & Sim in Vallentuna, Sweden



Sigma beams

The Weland Sigma beam is a cold-formed section with low weight and high strength.

The beams have punched holes with a separation of 50 mm, which are adapted to our assembly fittings and railing systems. This means that assembly can be performed quickly and easily, with no need for welding.

The beams are so light that lifting tools are frequently not necessary. There are also large holes in the centre of the beam for routing electrical cables and pipes.

The beams are manufactured from hot dip galvanised Z 275 steel, and they can be used both indoors and outdoors without any additional surface treatment. The beams are available in 3 different heights and varying thicknesses to ensure optimal use of the material.

Read more about Sigma beams at www.weland.se

Mezzanines do not need to have flooring. Instead, as in this case, they can be used for hanging up crane tracks, cable ladders and ventilation equipment.

Flooring

The flooring can be laid in different ways, but the following alternatives are the most common ones:

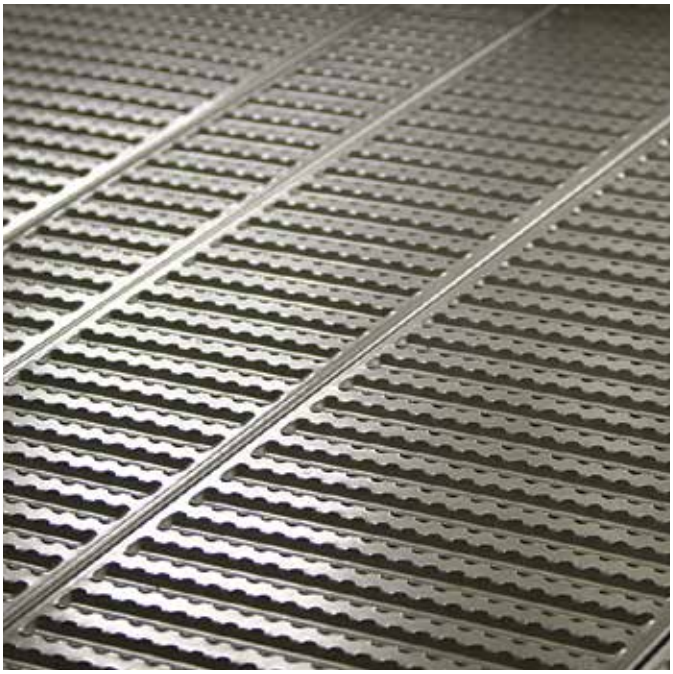
Grating, which is available with different mesh widths. The mesh width is determined by the application and safety requirements.

Chipboard flooring with direct laminated surface, which provides a hard-wearing and easily cleaned floor that withstands heavy loads.

Plank type flooring is an alternative providing closed steel flooring with
good anti-slip protection and low weight.

Read more about gratings on pages 8-61.

Direct laminated boards



Plank type flooring

Railings

Sectional railing is available as standard for our mezzanines, with balusters of HF HRS sections and handrails made of Ø 42 mm stainless steel.

Railing infills made from various materials can be installed between the balusters. In industrial environments, an intermediate rail and a kick strip are normally used.

We provide mezzanines with gates and loading areas according to your wishes.

Read more about railings/platform balustrades on pages 168-187.

Staircases

Weland is one of Sweden's largest suppliers of steel spiral and straight flight staircases. As a result, our experience in this field guarantees the best possible availability, safety and convenience.

The staircases are manufactured with anti-slip treads made of grating or durbar plate. Staircase railings that match the mezzanine floor are also available.

Read more about staircases on pages 86-157.

Gangways

Weland manufactures various types of gangways. Used everywhere accessibility and safety needs improving. The Flex gangway and floor racks are kept in stock for immediate delivery.


p. 199-201

Flex gangway

Weland has developed a flexible gangway system that is built using stock components. It is easily screwed together.


p. 202

Gangway, welded

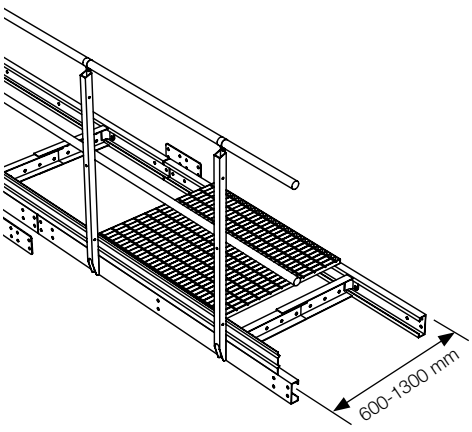
Gangways made of grating with associated railings are manufactured to order in accordance with a modular system. Provides fast and simple installation.


p. 203

Floor racks

Floor racks are made of pressure welded grating. The height can easily be adjusted. Four adjustable legs in three different heights.

Flex gangway



Weland has a flexible gangway system that consists entirely of standard components that are easily screwed together on site.

The stringers in cold-formed WUC sections are available in lengths of 2, 3 and 4 metres. The width can be chosen between 600 and 1300 mm at intervals of 50 mm, and the grating that forms the flooring is available in different mesh sizes.

The railing, which is Weland's standard sectional railing, is available in two versions. One with a max. opening of 100 mm and one with intermediate rails. Both handrails and intermediate rails are manufactured from stainless steel tubing.

Fixing can be carried out onto existing brackets or beams, or with adjustable support legs. The maximum distance between supports is 3 metres.

Gangway

The flooring is made of Weland flooring panels with mesh sizes c/c 34 x 37 (H3), 34 x 75 (H6) or 17 x 75 mm (N6).

N6 satisfies the demand that a 20 mm diameter ball cannot fall through the grating.

As an alternative, Weland's eco-grating type H6, closed or holed plank type flooring, can be used for the flooring.

H3
c/c 34 x 37 mm

H6
c/c 34 x 75 mm

N6
c/c 17 x 75 mm

Plank type flooring, closed

Railing

Two alternative railings for the gangway are available.

Weland standard sectional railing with round bars and sectional railing with intermediate rails.

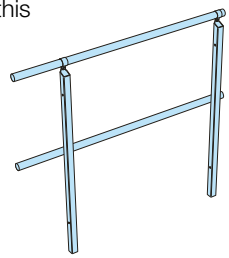
The railings are manufactured with posts of HF HRS bar 40 x 40 x 3 mm. Handrail of stainless steel tubing Ø 42 mm.

Railing infill with bars

Childproof railing. Top and bottom rails of 25 x 8 mm flat bars and Ø 11 mm round bars with a max. opening of 100 mm.

Railing with a simpler design

Intermediate railing made from 42 mm stainless steel tube. Kick strips are recommended for this type of railing.

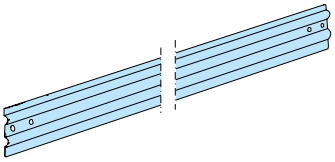


Support leg

Adjustable support legs from 350 - 1000 mm available off the shelf. The maximum distance between the support legs is 3 metres.

Kick strip

Kick strip with a height of 130 mm can be installed on the gangway. Mounted with or without railing.



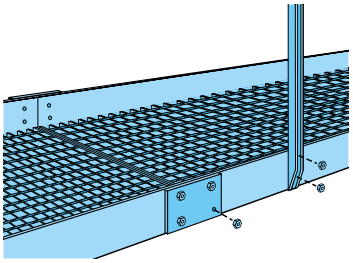
Gangway, welded

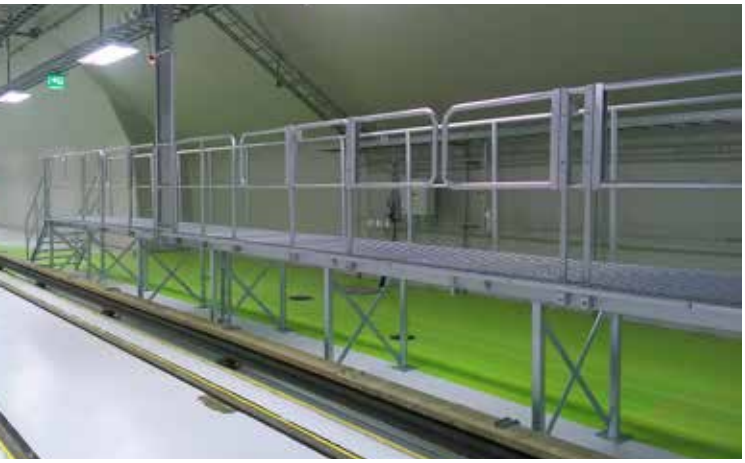
Apart from the stocked Flex gangway, Weland can also make welded gangways to order in grating with associated railing according to a module system, which provides easy and quick assembly.

The gangway consists of gratings that are welded to flat bar stringers, which also form the kick strip. The connections are made using bolted joints.

The railings are delivered as separate parts that are screwed together during installation.

Hot dip galvanised version.





Service gangway for the metro depot in Norsborg

Weland can also manufacture large gangways with heavy-duty dimensions to match your needs. Contact our design office for assistance with dimensioning, drawing and designing your gangway.

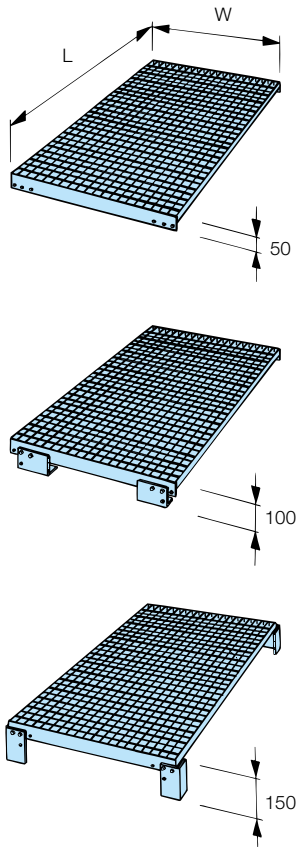
Weland gangway at the training centre, Rope Access.

Floor racks

Floor rack with adjustable legs

Floor racks are made of pressure welded grating type H6 25/3 with edge bar depth 50 x 3 mm. Mesh width c/c 33 x 75 mm. Easily adjustable with 4 adjustable legs in three heights - 50, 100 and 150 mm.

Hot dip galvanised version.



Size LxW (mm)	Part no.	Weight (kg/item)
1000 x 700	112062510071	25.7
1000 x 1000	112062510101	34.4

Laser Cutting / Sheet Metal Working

Laser cutting and other sheet metal working

Weland - a unique resource!

Within the Weland Group (Weland AB and its subsidiaries), we have acquired excellent mechanical equipment and considerable production resources over the years.

We are now offering production capacity on a subcontracting basis, which through collaboration between Weland companies and other associated companies is making us a complete and strong business partner.

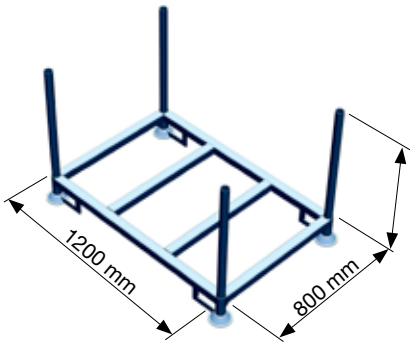
Together, we can offer unique production opportunities, and you only need one contact person who will take responsibility for and co-ordinate some or all of your production.

We also have very extensive stocks of materials, with at least 1500 tons of sheet metal in stock, in a wide range of material grades and thicknesses. This means that we will probably have the right material in store, and we can therefore offer delivery times that few others can match.

This makes us a unique resource!

From idea to final product

Contact us in the concept stage. If you have a simple conceptual sketch or finished CAD drawing, our experience of production can be a great help in the ongoing process.



Design

Drawing office

Our drawing office works with the latest available CAD equipment. We can assist with the preparation of drawings or get ready drawings from you along with a DXF or 3D file. Our drawing office uses primarily SolidWorks and Autocad.

All programming of our laser machines is done in our drawing office by staff with many years of experience in laser programming. As a result, we are currently programming on average about 50 new details per day, all year-round. This is also where we make adjustments to our own production, prepare material for articles, and calculate cutting times.

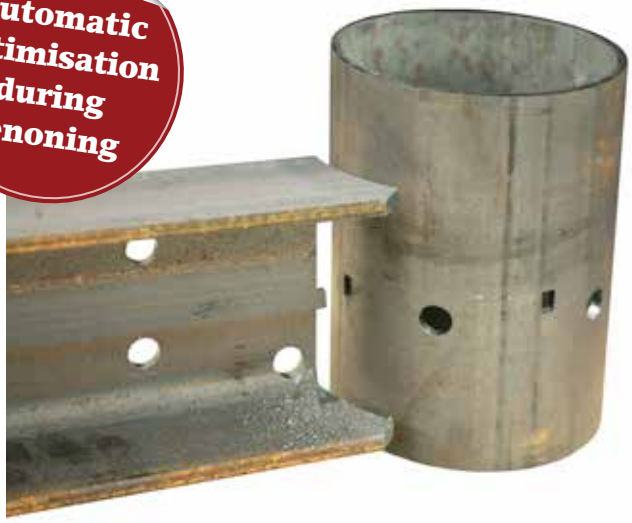
"Tenoning"

Once the details have been laser cut, the parts can be prepared with matching tenons, mitres, notches and holes. This gives a perfect fit prior to welding without any need for welding jigs.

Tenoning facilitates the assembly and joining of the parts. You get a perfectly assembled product.

We have software that automatically optimises tenoning to give the absolute best result!

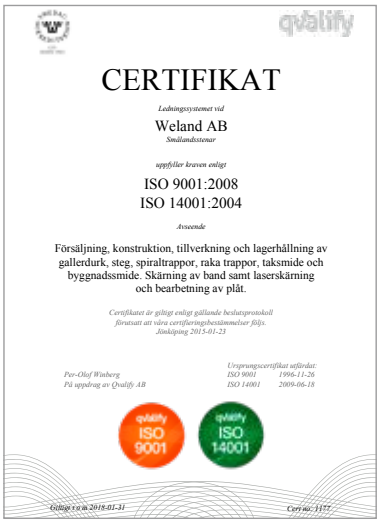
Automatic optimisation during tenoning



Minimisation of wastage

We are working hard to utilise the sheet metal to the maximum, i.e. to have as little wastage/scrap as possible. Weland always tries to be at the cutting edge of new technology. This also applies to our software.

We installed a completely new system for monitoring/reporting of material consumption in 2012. In this system, it is easy for us to follow the exact progress of a cutting plan, to see which detail is being cut, and how long it takes the machine to cut it
. All material reporting is done automatically, which means that all of our material balances are always updated and that we can easily monitor how much waste is generated.



CERTIFIKAT

Ledningssystemet vid

Weland AB

Småländsstenar

uppfyller kraven enligt

ISO 9001:2008
ISO 14001:2004

Avseende

Försäljning, konstruktion, tillverkning och lagerhållning av gallerdurk, steg, spiraltrappor, raka trappor, taksmide och byggnadssmide. Skärning av band samt laserskärning och bearbetning av plåt.

Certifikatet är giltigt enligt gällande beslutsprotokoll förutsatt att våra certifieringsbestämmelser följs.
Jönköping 2015-01-23

Per-Olof Winberg
På uppdrag av Qualify AB

Ursprungscertifikat utfärdat:
ISO 9001 1996-11-26
ISO 14001 2009-06-18

Giltigt t o m 2018-01-31

Cert no: 3377

Quality and environment

All stages of the production chain are subject to careful control. We work according to the ISO 9001 quality management system. Also environmental certification ISO 14001.

Short delivery times presumed that material is in store!

Sheet metal and tube in stock

At least 1500 tons of sheet metal in stock

To enable us to meet our customers' demands for quality and prompt delivery, a very extensive stock of sheet metal is required. We always have at least 1500 tons of sheet metal in stock, in most grades and thicknesses.

For example, DC-01 from 0.5 to 2.5 mm, hot-rolled pickled sheet metal S355 MCD-S700 MCD from 3-15 mm, and stainless steel 1.4301 and acid-resistant 1.4404 from 1 to 15 mm. Moreover, we have a considerable volume of high strength sheet metal type S 690 QL and S 890 QL in stock. Apart from the above, there are many other grades and dimensions of sheet metal.

Tube and HF HRS bar

We also have extensive stocks of tube and HF HRS bar in various dimensions and material grades. If we do not have the right material in stock, we can obtain it quickly thanks to our good contacts with suppliers.

Rational handling

We have always attached great importance to materials handling. With the best equipment possible, spacious premises with a well-considered flow layout, and motivated and competent staff, we guarantee rational handling and thereby short delivery times. Rational and cautious materials handling also includes storage of all raw materials indoors to ensure cleaner and more efficient machining.

Laser cutting of plate

Max. capacity

- Max. material length: 6000 mm
- Max. material width: 3000 mm
- Max. thickness: 20 mm (Carbon Steel)
  10 mm (Stainless Steel)
  5 mm (Aluminium)

Large capacity

We have around 20 laser cutting machines in shift operation. Several of the machines are equipped with linear robots that pick and stack cut details and the remaining "scrap skeletons".

In total, we have the capacity to cut more than 60 tons of sheet metal every working day.

The cut surfaces

The cut surfaces are completely perpendicular in laser cutting. Moreover, the cut surfaces are so uniform that there is, as a rule, no need for grinding (tolerance ± 0.1 mm).

Reference object

Chassis for forestry machinery

Weland is supplying laser-cut chassis components to Gremo AB. The chassis components are intended for harvesters and forwarders.

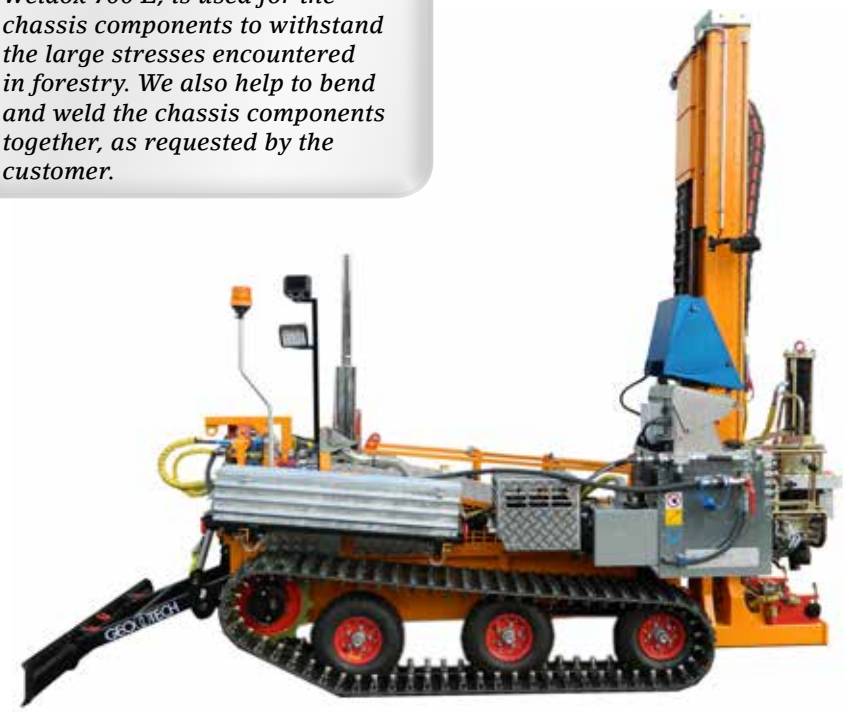
6-16 mm high grade sheet metal, Weldox 700 E, is used for the chassis components to withstand the large stresses encountered in forestry. We also help to bend and weld the chassis components together, as requested by the customer.

Components for drilling rigs

The Askim company, Geotech AB, develops, manufactures and markets a large assortment of geotechnical products.

Weland supplies the sheet metal for Geotech's drilling rigs and the material is mainly sheet metal, grade 350.

Apart from laser cutting, Weland machines and bends the material according to Geotech's drawings.



Laser-cut boat hulls

The project "On the right track" is being run in Umeå. This is a vocational upper secondary programme, where 9 students who have been diagnosed with ADHD are building a 16-metre long ocean-going sailing boat. The boat is intended to go into service in the Baltic Sea.

Weland AB, at the request of Stena Stål AB, has laser-cut parts for the hull, bottom plate, stern post, frame and transom.

Stud plate

The stud plate is laser-cut, folded and threaded. A screw tap is welded on and then the stud plate is painted.

Throw in for automatic waste collection systems

On behalf of Envac AB in Gothenburg, Weland AB has developed a throw in for modern automatic waste collection systems.

We have laser-cut sheet metal plates, folded them and welded, powder painted and partially assembled them.

Sweden's largest digital trees

Two laser cut trees to act as advertising frames at St Wäsby Allé and one at Infracity. At the request of Smidesbyggarna in Högdalen, Weland has laser-cut parts for the tubular frame and the "crown" of the tree.

The trees are 17 metres tall and 10.5 metres wide, and comprise 5 tons of tubing and approx. 2 tons of sheet metal. They have been manufactured in Cortén steel.

Laser cutting of tubes

Cutting of tube and other long goods

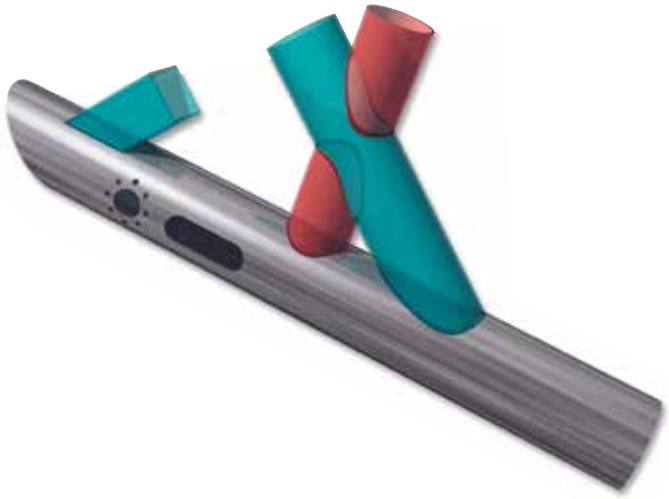
We have various types of laser machines for cutting tubes, with either a fixed or movable cutting head.

Cutting with a movable cutting head (3D cutting) enables the production of components where the use of laser cutting has not been possible before. For example, welding chamfers are cut without any need for finishing. Likewise, countersinks can be cut at the same time as holes are made. The fit is just superb when the arched surfaces are fitted to each other.

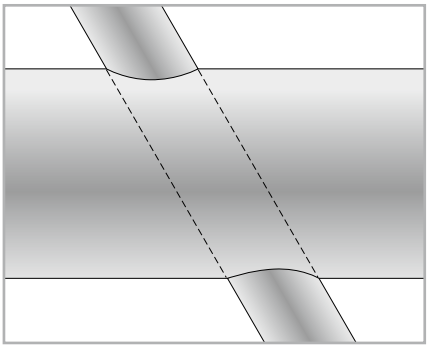
It is possible to cut "edge-to-edge" tube joints with arched surfaces with great precision. Angled connections and tubes in different dimensions can also be cut.

Max. and min. capacity

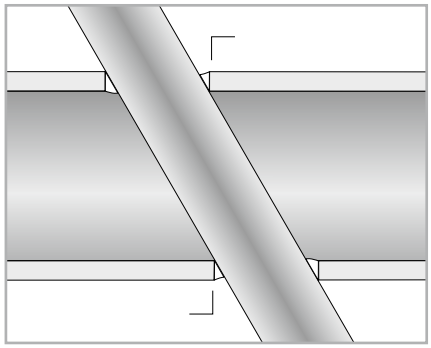
- Max. material length for cutting: 12,200 mm
- Max. dimension: Ø 267 mm / 270 x 270 mm
- Min. dimension: Ø 10 mm / 10 x 10 mm
- Max. thickness: 15 mm
- Max. weight: 871 kg or 72.5 kg/m



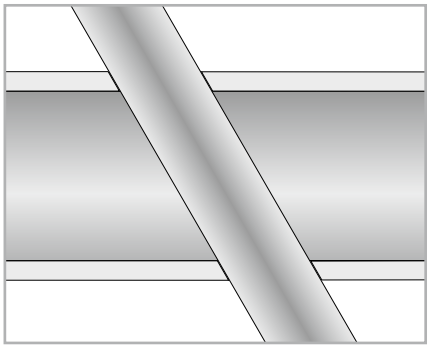
The difference between standard tube cutting and 3D cutting with movable cutting head:



Example: A narrow tube must pass diagonally through a thick tube.



In ordinary tube cutting, section surfaces are perpendicular to the pipe's longitudinal direction.



With 3D cutting, the surfaces can be angled towards the tube's longitudinal direction

Fibre-optic laser cutting

Weland can now also offer fibre-optic laser cutting of tubes. Fibre lasers are a compact, effective and reliable method that has long been used within several other business areas. It is now also possible to use the technique for metalworking, which provides a number of advantages compared to traditional laser techniques:

- Green Tech – Up to 80 per cent lower energy consumption results in more environmentally friendly production.
- New materials – Fibre lasers can cut highly reflective materials such as stainless steel, aluminium, brass and copper.

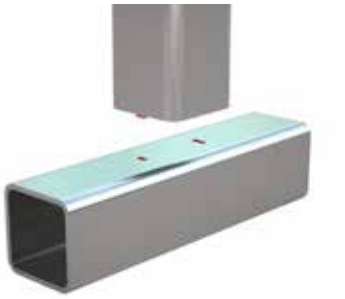
"Tenoning"

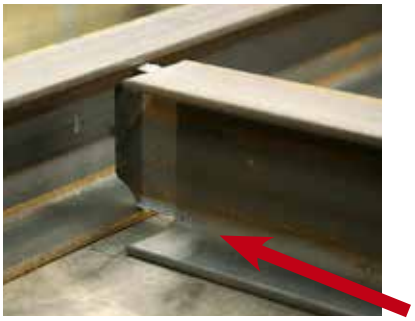
Once the details have been laser cut, the parts can be prepared with matching tenons, mitres, notches, radial cutting and holes. This gives a perfect fit prior to welding **without any need for welding jigs.**

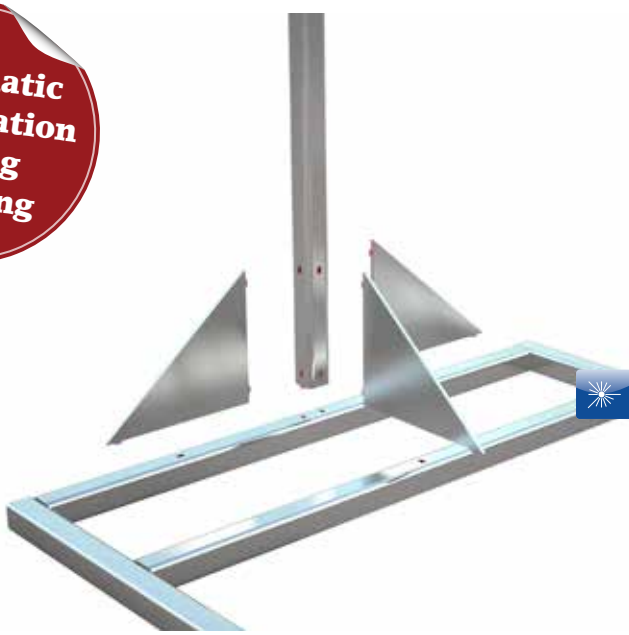
Tenoning facilitates the assembly and joining of the parts. You get a perfectly assembled product.

We have software that automatically optimises tenoning to give the absolute best result!

Automatic optimisation during tenoning







Reference object

Furnishings for the changing room

The Båstad company, Hoffmanns Smide AB in Skåne, has delivered furnishings for Mora Ice-Hockey Club's changing room.

On behalf of Hoffmanns Smide, Weland has tube laser cut, bent and punched components for the furnishings.

JUMBO Tube Laser

Cutting heavy gauge profiles with movable cutting head

We are the first company in Sweden to offer 3D "Jumbo cutting". This is opening up entirely new production opportunities in the heavy-duty segment for the steel construction industry.

This unique machine offers the same precision and speed as our normal laser machines for cutting tubes.

The "Jumbo" is located in a new, purpose-built part of our factory, which is tailor-made for loading and unloading long and heavy profiles.

In addition to round and square profiles, which can also be cut in oval, semi-oval and elliptical profiles, as well as rolled steel beams. Certain other profiles can also be cut.

2D cutting at right angles to the item

3D cutting with the cut surface at any angle in relation to the item

In our Jumbo tube laser, we have cut gas turbine tubes with the dimensions 506 x 6 mm in Alloy/ Inconel 600 grade. Each tube has been perforated by 4770 laser cut holes with the dimension Ø20 mm.

Max. and min. capacity

• Max. material length for cutting	18,000 mm
• Max. dimension:	Ø 508 mm 400 x 400 mm 500 x 300 mm
• Min. dimension:	Ø 80 mm / 80 x 80 mm
Max. thickness*:	16 mm (black steel) 12 mm (stainless Steel)
Min. thickness:	2 mm
Max. weight:	3600 kg or 200 kg/m

* incl. 3D cutting.

In the Jumbo laser, Weland has cut large HF HRS sections for a staircase tower next to Svenska Foder's silos in Oxelösund.

Using the Jumbo laser, superb precision is obtained regarding hole patterns, angles and the length of the beams.

Reference object

Laser cut pillars and load bearing support structure for a water slide.

Sweden Hydro Sport AB is a leading supplier of water slides. On their behalf, we have laser cut the supporting tube columns, which have the dimensions Ø 508 x 10 mm, length 10,200 mm, for Himlabadet in Sundsvall. Notches have been cut in the pillars for mountings, mounting lugs have been welded on, as has a bottom plate measuring 850 x 850 x 40 mm.
Prior to delivery, the structure was hot dip galvanised at Zinken Weland AB.

A very special project involves the laser cut "bollards" to Strandskogen in Täby. Our client is M. L. Smide in Upplands Väsby. The Cortén tube is Ø 308 x 4 mm with the name of birds and plants punched on, in Swedish and Latin.

Gas / Plasma cutting

Here we cut in the really heavy sheet sizes with precision and impressive speed. Double cutting head for both gas and plasma and double table for setting up the sheet metal gives a very large capacity.

The choice between gas and plasma cutting is determined by the material, quality, thickness and the tolerances required.

Max. capacity

- Max. material length: 15,000 mm
- Max. material width: 2500 mm
- Max. thickness: 40 mm (Plasma)
  200 mm (Gas)

Water jet cutting

Water jet cutting is an alternative to laser cutting. With this technique we can cut all metals up to 100 mm thick.

Because this is a cold cutting method, it does not cause any thermal structural changes in the edge zone. This also means that all types of material can be cut, including wood, glass, natural stone, ceramic, rubber, plastic and even porous materials.

Max. capacity

- Max. material length: 4000 mm
- Max. material width: 3000 mm
- Max. thickness: 100 mm

Gas/plasma cutting is a good alternative for cutting very heavy-duty plates.

Mobile Flood Barriers

Inero AB is a company that works with patented flood barriers.

Weland has laser cut and bent components for Inero in Månsarp. The sheet metal is 3 to 5 mm marine aluminium, grade EN-AW-5754 H22. Aluminium support leg with the dimensions 120x30x3 mm and grade EN-6063-T6.

Pictures from flooding in Halland, August 2014

Punching, nibbling, and panel folding

Weland has a number of automatic punching plants that incorporates equipment for handling work pieces in the machine as well as the discharge / stacking of "reject skeletons". Moreover, the facility has a triple-axis picking device that can pick a punched item and stack it on a pallet.

The punching machine has 45 different tools.

The plant concludes with a panel folding machine, which automatically folds all sides in single or more complicated folds, e.g. double-fold or at the desired angle. The equipment is particularly suitable for boxes, cabinets and suchlike. Sheet thickness is max. 2 mm, and the diagonal dimension of the sheet must not exceed 2700 mm for automatic handling on the worktable.

We can help with the drawing work and also accept drawings in DXF files from Auto-CAD.

Automatic panel folding.

Max. capacity punching

- Max. material length: 4300 mm
- Max. material width: 1524 mm
- Max. thickness: 8 mm

Railings along Skeppsbrokajen in Stockholm.

The metal sheets in the railings have been punched and folded in our automatic punching facility.

A flexible system of wall panels for creating a pleasant working environment as well as creating order. The only limits as to what the system can be used for and where are those set by your imagination.

Trays and flexible fitting systems for storage handling systems

Compact Lift is one of the most efficient storage handling systems on the market. Weland manufactures the fast-moving trays that are used for different machine widths and different load requirements.

Facade sheets in Cortén flat sheet

On behalf of our customer, LW Sverige AB, we have punched and folded 7,000 m2 facade cladding in Cortén flat sheet for the New Karolinska Hospital, Teknikbyggnad U3.

Bending

Edge press up to 800 tons

Weland has about 10 such machines in different sizes. The edge presses have a capacity of 40 to 800 tons.

The 800-ton edge press enables us to take on work very few companies can do. The press force of a whopping 800 tons and maximum working length of 6,200 mm inspire respect.

Add a sophisticated CNC control unit, and we have yet another unique resource at Weland.

Max. capacity

- Press force: 800 ton
- Max. bent length: 6200 mm
- Tool space: 735 mm
- Stroke 565 mm

Edge press Beyeler PR 800/6,2 with integrate hydraulic CNC controlled camber.

Edge bending machines

In connection with laser/water jet cutting, we perform finishing and bending in NC controlled edge bending machines with a press force of 320 tons and a max. working length of 4100 mm.

Max. capacity

- Press force: 320 ton
- Max. bent length: 4100 mm
- Tool space: 525 mm
- Stroke 465 mm

Bent sheet metal parts in 6-16 mm high grade sheet metal, Weldox 700 E, for forestry machinery chassis.i.

Levelling

Levelling sheet metal components

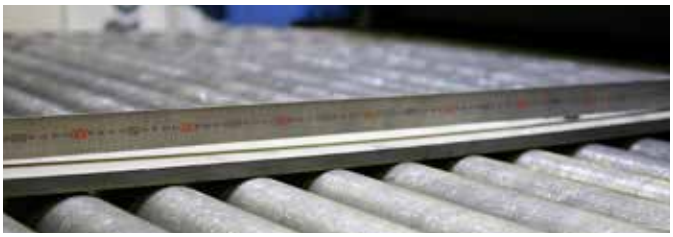
We have an HRC levelling machine that levels sheet metal components up to 20 mm thick with a very high level of precision. The levelling machine consists of a number of rollers that, through electro-hydraulic control, automatically regulate the roller pressure and feed to achieve the optimum results.

Thanks to the CNC control, no adjustments need to be performed to take into account holes and indentations in the components.

Max. and min. capacity

- Part thickness: 0.8 - 20 mm
- Part width max.: 2000 mm

Levelling machine HRC 80 provides precision and tolerances for sheet metal, which have not been possible previously.

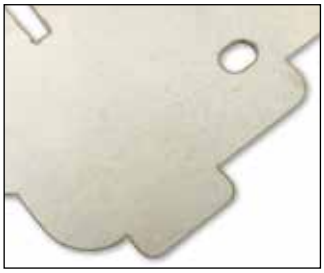


Sheet metal before levelling

Sheet metal after levelling

Brush deburring

A new method for removing the oxide film on cut surfaces. This is important in order to obtain good adhesion for future surface treatments, e.g. painting etc. Machines both the upper and lower sides simultaneously.



Untreated sheet metal

Brushed sheet metal

Grinding

Grinding or forming of edges of laser cut or punched surfaces are carried out on request.

Untreated sheet metal

Ground sheet metal

Deburring

Small components can be deburred to remove burrs and sharp edges.

Machines both the upper and lower sides simultaneously.

Before

After

Cutting machining

Multi-operation machining

In multi-operation machines, we carry out drilling, reaming, threading etc.

If the precision of the laser cut holes is not sufficient, we carry out reaming or another process in order to attain the correct tolerance.

Normally, laser cut holes can be threaded directly, without any other pre-treatment.

Machining area

- Max. length: 800 mm
- Max. width: 3000 mm

3-axle, 4-axle and 5-axle machines

Horizontal machining with rotating table makes it possible to machine from 3 sides in a single set-up.

Larger and heavier machining machinery

We have invested in a new bed milling machine and a horizontal multi-operation machine in the large segment.

Bed milling machine

Max machining area:
8 x 2.6 x 1.3 metre

Horizontal multi-operation machine

Max machining area: 1.7 x 1.4 x 1.5 metre
(60 different tools)

Chain blades for chainsaws on harvester heads

Weland laser-cuts chain blades for harvester heads in 6.2 mm hardened steel 42CRMo4. Following the laser cutting, we mill a 2 mm track for the chain around the entire chain blade.

Robot cell

Flexible machining cell that provides the opportunity for rapid change-overs

Cutting machining after laser cutting has been a cramped sector at Weland. Drilling and milling with short cycle times results in a very high number of component changes. In many ways, this is costly and non-ergonomic work that requires somebody to be present at the machine at all times to ensure effective production.

A concept has been developed in the form of a machining cell that combines a high degree of flexibility and the potential for rapid change-overs.

The cell comprises a horizontal multiple operation machine. The robot cell contains long belt conveyors that provide the potential to buffer for unmanned operation, as well as a robot that picks the work pieces directly from the pallet. In the cell, it is possible to unload finished components at three pallet locations.

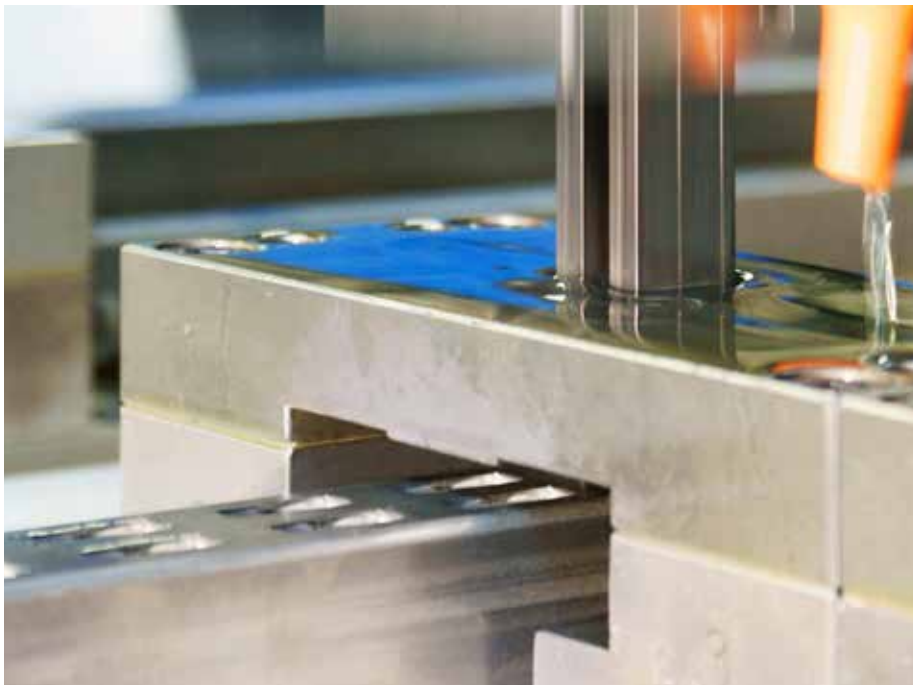
Perforation line

Perforation of square tube

We have installed a perforation line, where we perforate/ punch holes in tubes in a number of different dimensions. This way of punching holes in tubes (4 at a time) is a fast and rational method. We produce tools for new hole patterns or tube sizes as needed.

Max. capacity

- Max. rectangular tube: 110 x 30 x 3 mm
- Max. square tube: 80 x 80 x 3 mm
- Max. tube weight: 30 kg
- Max. tube length: 3500 mm (Min. 800 mm)
- Cutting power/punch: 15 ton



Perforated tube for shop fittings. Ptec Inredningar AB in Kulltorp

A welding cell containing 2 robots working simultaneously provides very large welding capacity.

Robot welding

The welding department supplements all our other production units. When finished components are ordered, for example including laser cutting, bending, tumbling and welding, Weland's production resources are fully utilised.

The customer receives project management into the bargain to control the flow of materials, and does not have to think about transport and delivery times for the various constituent components.

Small projects are welded by hand, whereas larger ones are robot-welded. If a welding jig is required to manage the welding work, we will design and manufacture it.

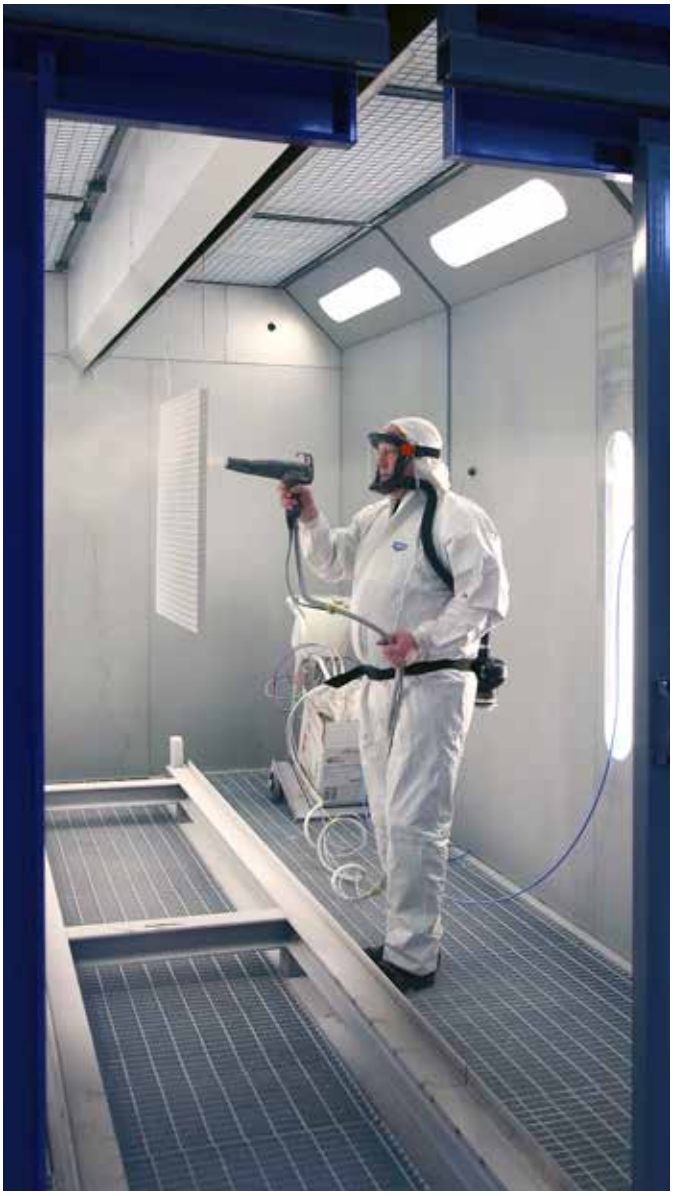
All welding work is carried out in accordance with SS-EN 287.

Reference object

Svepac has a wide range of vibratory compactors. Weland manufactures the chassis, which is delivered in hot-dip galvanised version.
The vibratory compactors are used for compacting both gravel and asphalt.

Control measurement

Our quality control department has at its disposal measurement equipment of the absolute highest class. In our new measurement room, we have, among other equipment, CMM measuring equipment of impressive dimensions. The massive stone measurement table is a full 5 x 2 metres and weighs 19 ton. We can measure details in size up to 4 x 1.5 metre with an precision of 3.5 my + L/300. Apart from the CMM equipment, we also have various types of measurement arm for simpler measurements.



Painting

In a completely new paint shop, we can offer painting using various methods, such as traditional "wet" as well as powder painting.

Stocks

For large customers or products in large series as suborder products, we have the potential, in an extremely rational way, to stock the products on our customers' behalf in our automated warehouse.

Slitting of coils

We have an extensive stock of hot-rolled sheet metal in grades 240 and 355, in thicknesses 1.5 to 6.0 mm.

We can slit strip in widths from 18 to 1500 mm and thicknesses up to 6 mm.

Apart from the material grades above, we can also cut, for example, hot dipped galvanised metal and stainless steel.

Contact us if you need strip in other material grades and thicknesses.

We can cut narrow strip and heavy duty sheet metal!

Cutting and straightening

In connection with slitting, we can also help straighten and clip the steel strip. This applies for strip of all sizes with lengths up to 6 metres.

Other Products

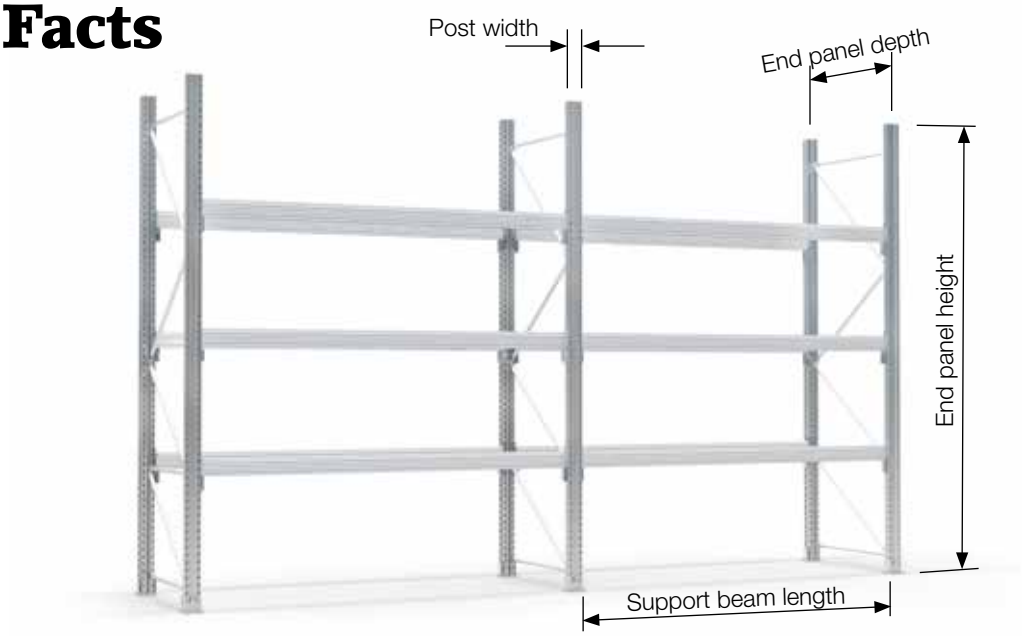
Storage Equipment

Pallet rack for modern warehouse management

Weland pallet racks are designed with the focus on future requirements for rational material handling. The pallet rack's design contributes to a well thought-out functionality with a high level of safety. Both end panel posts and support beams are made of closed profiles for the maximum bearing strength. All components are hot-dip galvanised. The Weland Pallet Rack is dimensioned and tested according to SS-EN 15512:2009. All screws needed are enclosed. Push through protection should be used, unless it can be considered manifestly unnecessary (another permanent obstruction behind the pallet rack) in accordance with AFS 2006:4. Other suitable accessories include post protection and end panel protection (prescribed in SS-EN 15512:2009).

With Weland AB as your supplier, you obtain a committed partner with wide experience and a high level of competence in efficient warehouse management. In all of our contacts with the market and users, we pay special attention to the requirements and needs that govern our development work. We provide efficient warehouse management solutions using quality products manufactured in Sweden.

Technical Facts



End panels

- End panel depth: 500, 800 and 1100 mm. Other end panel depths are manufactured to order.
- End panel height: 1500 to 13000 mm at intervals of 500 mm. Other end panel heights are manufactured to order.
- Load: Alternatively, 10,000, 12,000, 13,500 or 17,500 kg/section.
- Post width: 110 mm

Support beams

- Length: Freespan dimensions 1850, 2700 and 3600 mm. Other lengths are manufactured to order.
- Support beam height: 80, 100, 120, 140 and 160 mm.
- Load: Support beam in standard lengths, 200 to 2400 kg/pallet depending on the support beam height.
- Partitioning: The support beams can be placed at height intervals of 50 mm.

Standards and regulatory requirements

The harmonisation within the EU and the development of common standards has consequences for both manufacturers and users of warehouse management equipment. The official designation for pallet racks is Steel Static Storage Systems.

Applicable European standards for pallet racks

- Application and maintenance of storage equipment. SS-EN 15635:2008
- Tolerances, deformations and clearances. SS-EN 15620:2008
- Specification of storage equipment. SS-EN 15629:2008
- Adjustable pallet racking systems. Principles for structural design. SS-EN 15512:2009
- Terms and definitions for adjustable pallet racking systems. SS-EN 15878:2010

AFS 2006:4

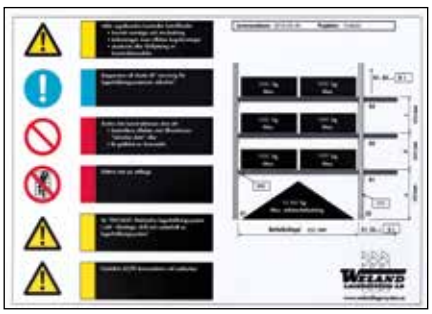
If risks could arise due to a collision, collision protection must be installed. Pallet racks must be equipped with protective devices that prevent the pallets from being pushed through the rack (i.e. so-called push through protection), unless this is manifestly unnecessary.

SS-EN 15512:2009

Collision protection with a height of not less than 400 mm must be placed next to the outer posts, where truck aisles cross.

Post marking

Support beam marking



Maximum load sign

"Simple pallet rack"

To make it easier for those who want to order pallet racks quickly and easily, we have developed the "simple pallet rack". This is a pallet rack with the **heights 2500 and 3500 mm, depth 1100 mm** and **width suitable for 2 or 3 load pallets**. The pallet rack is dimensioned for **500 or 1000 kg per load pallet**.

This is a "staple product", which we can deliver very quickly.

If you want pallet racking with other dimensions and load conditions, our engineers will be happy to help you with the design and dimensioning.

End panel height 2500 mm, 6 pallet places, 1000 kg/pallet

Basic section

Expansion section

End panel height 3500 mm, 8 pallet places, 1000 kg/pallet

Basic section

Expansion section

End panel height 2500 mm, 9 pallet places, 500 kg/pallet

Basic section

Expansion section

End panel height 3500 mm, 12 pallet places, 500 kg/pallet

Basic section

Expansion section

End panel height 2500 mm, 9 pallet places, 1000 kg/pallet

Basic section

Expansion section

End panel height 3500 mm, 12 pallet places, 1000 kg/pallet

Basic section

Expansion section

Accessories **(A selection, there are more accessories available)**

Post protection floor height 200 mm

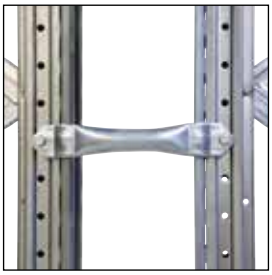
Collision protection floor height 400 mm

Post protection / post height 2000 mm

End panel and collision protection single

End panel and collision protection double

Asphalt box hot-dip galvanised sheet metal



End panel spacer 150 - 500 mm

Mesh shelf max 1000 kg/m²

Sheet metal shelf Width 442 mm.

Grating shelf max. 1000 kg/m²

Half-pallet insert

Long-side insert for goods handling on the long side

Fork spacer for flat goods without pallet

End protection

Fall protection net grating end panel/long side

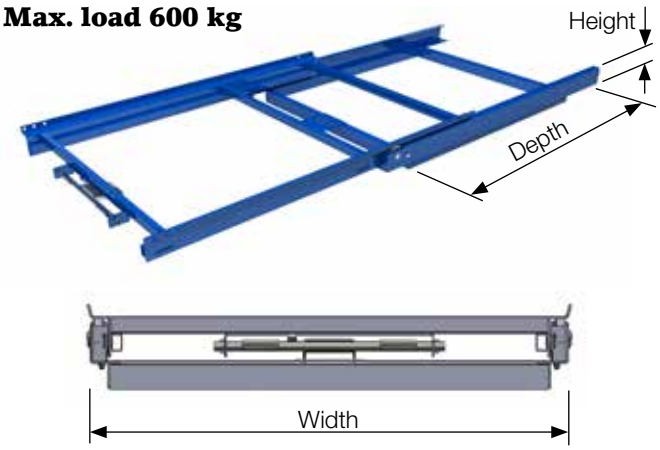
Pull-out units for pallet racks

Weland pull-out units make work easier when handling picked goods on pallets. Makes it easier to access the items on the pallet and the function saves storage space.

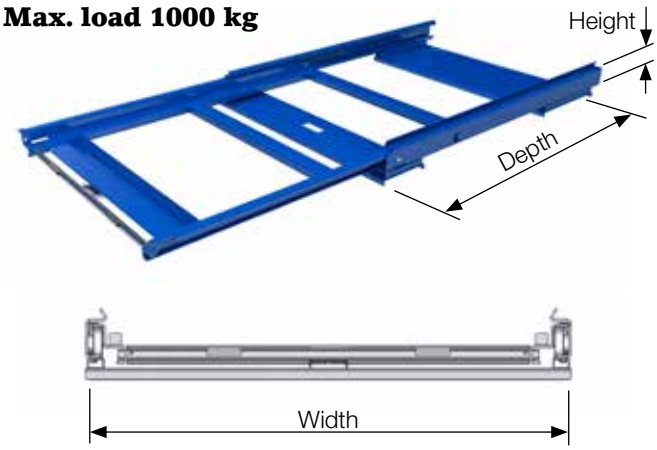
The pull-out unit is available as standard in both a beam and a floor version. The beam model is intended for installation on the horizontal supporting beams in a pallet rack. In the floor version, the pull-out unit is equipped with four support legs to enable handling with trucks. The raised handle on the floor model makes the pull-out easier to use, while providing a comfortable working posture.

Weland pull-out units are suitable for most available makes of pallet racks.

Max. load 600 kg



Max. load 1000 kg



Model	Dimensions W x D x H (mm)	Pull-out capacity / max. load
Beam model 600	842 x 1200 x 102	70% pull-out / 600 kg
Beam model 1000	890 x 1200 x 113	70% pull-out / 1,000 kg
Floor model 600	864 x 1200 x 250	70% pull-out / 600 kg
Floor model 1000	890 x 1200 x 195	70% pull-out / 1,000 kg

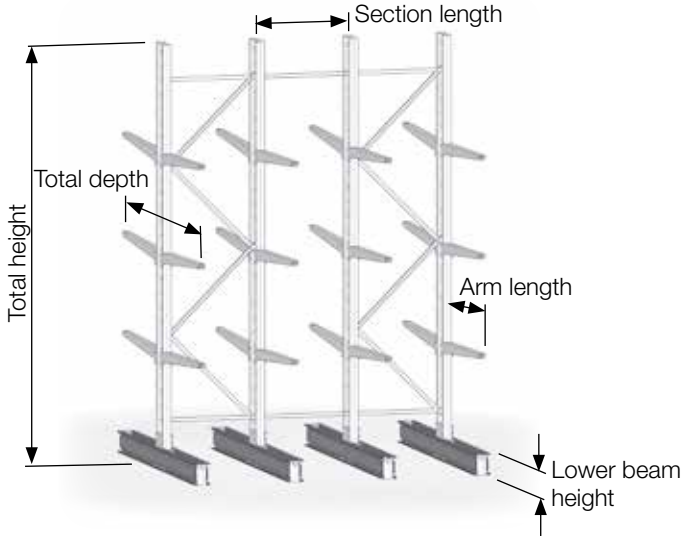
Accessories: Standard floor kit, 4 feet and a handle, complete – Shelf 800 x 1200 mm – Sheet metal box 800 x 1200 x 50 mm
Standard colour: blue, corresponding to RAL 5002.

Compact warehouse with cantilever racks installed on movable frames.

Cantilever racks for all types of warehouse

Weland cantilever racks are designed to be flexible so they are suitable for all occurring types of warehouse space. In single or double versions, the cantilever racks turn your warehouse into an easy-to-grasp and easy-to-use part of the company's logistics function. Thanks to the variable height and different lengths of the sections and arms, the cantilever racks can be set up to suit the most changeable conditions.

Weland cantilever racks are both functional and hard-wearing. The cantilever racks are made from hot-dipped galvanised steel, which means they are very suitable for use both indoors and out. Weland cantilever racks fulfil the requirements in the Nordic standard INSTA 253. Each cantilever rack is delivered with detailed assembly instructions.



Cantilever rack height Standard heights: 2000, 2600, 3000, 3600, 4000, 4600, 5000, 5600, 6000 mm, partition 200 mm. We can also produce customer specific heights with 200 mm partitions

Section lengths: 750–2 350 mm, partition 200 mm

Arm length: 500, 750, 1000, 1200, 1500 and 1800 mm

Load per arm: 250–2500 kg

Lower beam height: 200, 300 and 400 mm. Linked to the dimensions of the columns

The cantilever rack's total depth: 800–4100 mm. Depending on whether it is single or double rack and the arm length

Grating shelves

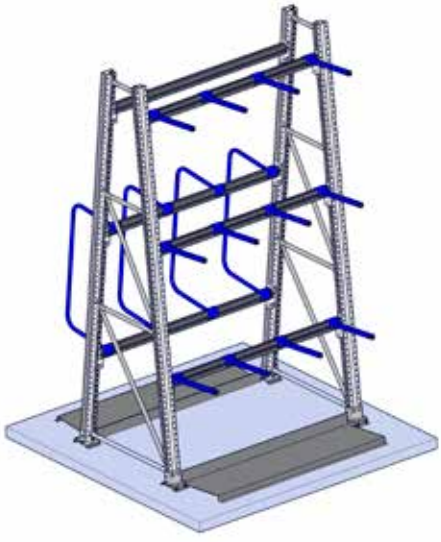
If a grating is placed on the support arms, goods of varying size can be easily placed at any point along the cantilever racks. This makes handling goods considerably easier and increases safety in the workplace.

Vertical rack for wood strips and other long goods

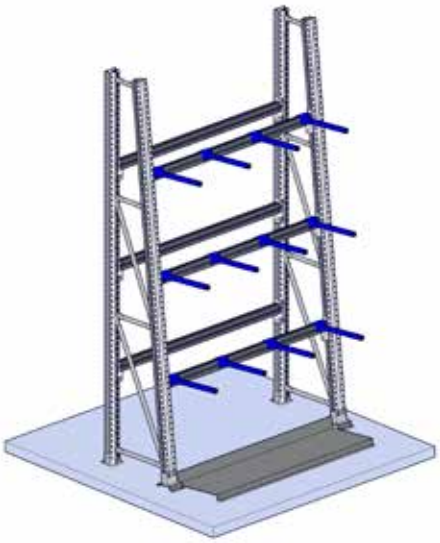
Weland's vertical rack provides practical and easy to grasp storage of wood strips, weaker profiles and pipes in various materials. The vertical rack makes very efficient use of the space available and it is available in single and double versions.

The vertical rack is made of the same hot-dip galvanised sections as our pallet rack, and the dividers are painted in blue.

The vertical rack is 3500 mm high.



Double vertical rack (Goods on 2 sides)



Single vertical rack (Goods on 1 side)

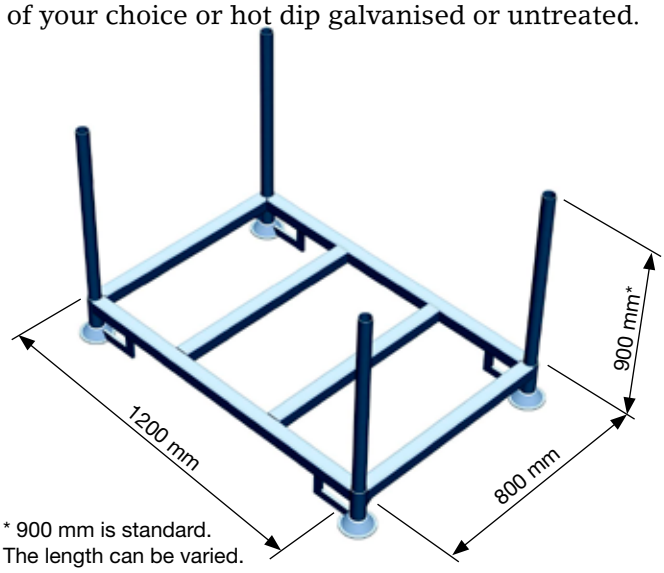
Steel pallets for vertical stacking

Weland has developed a stackable steel pallet that is usable in most contexts, including internal as well as external handling. The pallet's size is 1200 x 800 mm and it can be handled by most types of truck. Maximum load is 1200 kg.

The rounded foot restraints on which the pallet stands are a refinement that, together with the socket pipe, mean stability is maintained when stacking vertically. The standard height of the socket tube is 900 mm.

Empty pallets are stacked compactly, thereby taking up the minimum space.

The steel pallets are delivered painted in the colour of your choice or hot dip galvanised or untreated.



* 900 mm is standard.
The length can be varied.

Dimensions for steel pallets with socket tubes.

Steel pallets stacked on top of each other.

Adapted for the maximum effective freight volume.

Collision Protection

Weland steel collision protection can be used as protection next to machinery and buildings, indoors as well as outdoors.

Weland påkörningsskydd består av lösa standardkomponenter som Weland collision protection consists of separate standard components that can be easily screwed together during assembly. The cold-formed Sigma beam has thickness of 3 mm and is 400 mm high, extremely strong and weighs only 12.7 kg/meter. The Sigma section is hot-dipped galvanised and its is jointed with fittings that are anchored in the ground.

90°- corner joints, connections and fittings are available off the shelf and the installation is easy, completely without welding.

Collision protection by the wall indoors.

Collision protection by the wall outdoors.

Cat ladders

Weland manufactures various types of cat ladder. These are used primarily to access roofs, towers, silos, etc.
Cat ladders are also manufactured for evacuation purposes.
The products are held in stock for immediate delivery.


p. 247-251

Cat ladder

Cat ladders and accessories in modular systems for all types of assembly. Can be very tall, with rest landings on the way.


p. 252-253

Folding cat ladder

Folding cat ladder made of hot dip galvanised steel. It is mounted on all types of building, and when folded against the façade it looks just like a 45 mm wide bar.

Cat ladders

Weland stocks cat ladders and accessories in modular systems for all types of assembly. If, for some reason, the standard products are not suitable, we manufacture special products according to customer wishes.

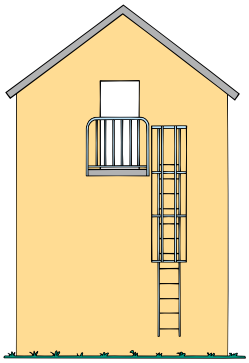
All stock products are made in steel that is hot dip galvanised for the best possible corrosion protection. Most of the products are also available in painted versions (painted after hot dip galvanisation) in black or brick-red.

Weland's ladders can be used for towers, silos, bridge piers, chimneys etc. In the case of tall ladders, there should be a rest landing if possible. Where hoop guards are used, these finish max. 2.5 m from ground level. We recommend that ladders above 6 m should have hoop guards.

Evacuation

Escape ladders should always have hoop guards when they are combined with an escape platform.

This is to ensure that you do not "step out into open space".



Easy to assemble

Cat ladders are made up of easy-to-handle parts that are screwed together.

NOTE! No welding is necessary during assembly. Clear installation instructions are supplied with each delivery.

Short delivery times

Weland cat ladders can be supplied with short delivery times provided standard components are used.

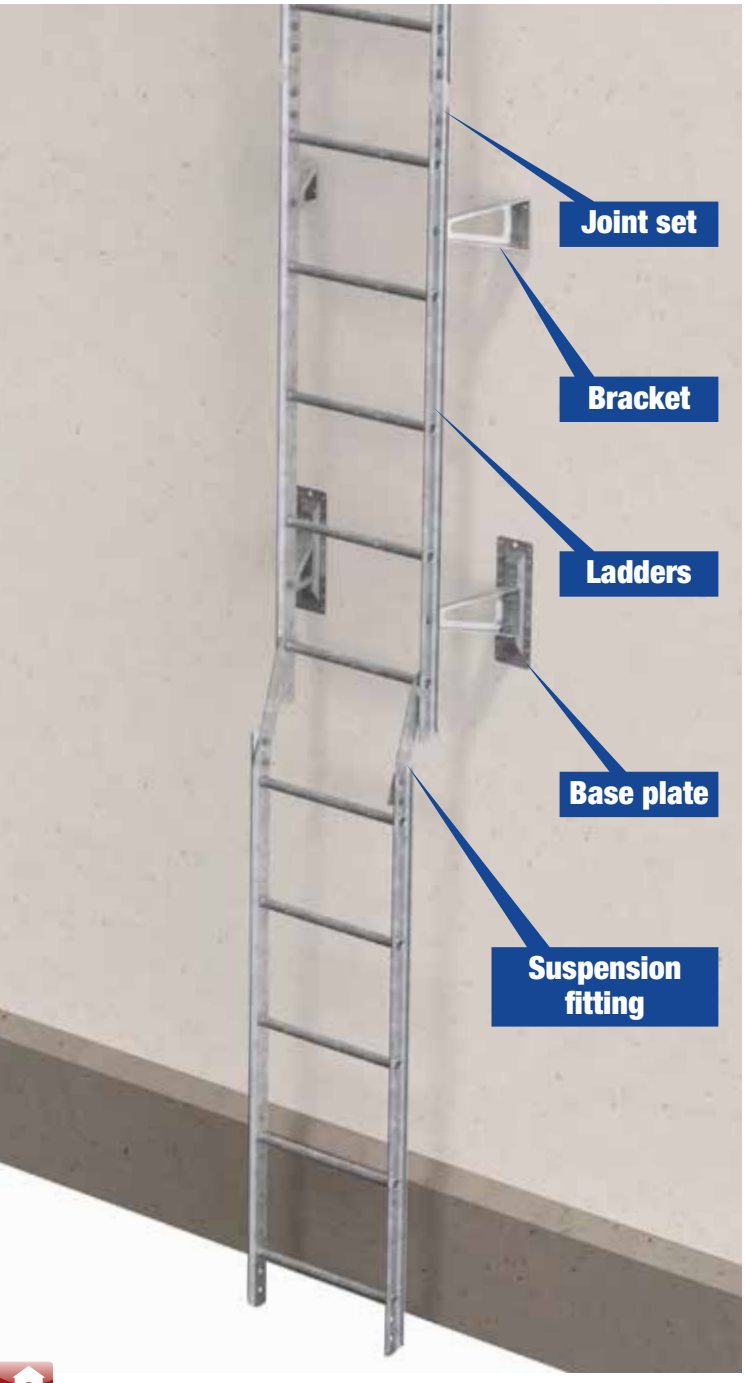
Approved

Weland cat ladders are approved in accordance with SS 831340 (function standard) and SS-EN ISO 14122-4.

The subsidiary company Weland Stål AB can provide more information about products that improve safety on roofs and facades.
Read more at www.welandstal.se

Cat ladder

Lightweight ladder offering good stability. The ladder's stringers are in a roll-formed U-profile. The rungs are profiled to reduce the risk of slipping and are swaged on both the inside and outside for double safety. Design according to SS 831340 and SS-EN ISO 14122-4.




Adjustable bracket


Stiffening rail

Ladders

Length x width (mm)	Part no.	Weight (kg/item)
1500 x 400	ST 1540	6.2
1800 x 400	ST 1840	7.5
2400 x 400	ST 2440	10.1
3000 x 400	ST 3040	12.6

Joint set

Joint set consists of the following components: fishplate bracket 2x, bolt 10x, nut 10x. A fishplate bracket is assembled with 4x M10x20. One set, required per joint.

Description	Part no.	Weight (kg/kit)
Fishplate bracket (2x)	SK 2500	0.6
Set of bolts M10x20 (10 off)	BU 1201	0.2
Set of nuts M10 (10 off)	MU 1001	0.1

Pair of brackets

Which bracket you should select depends on the distance between the outer wall and the outer edge of the gutter.

The max. distance between fixing points in the wall is 2500 mm. The brackets are placed closer together if the wall construction demands this.

Distance	Part no.	Weight (kg/pair)
Bracket, 150 mm	KS 0150	0.7
Bracket, 300 mm	KS 0300	1.7
Adjustable bracket, 450-700 mm	KS 4570	7.9
Adjustable bracket, 700-1000 mm	KS 7010	10.1
Set of bolts M10x20 (10x)*	BU 1201	0.2
Set of nuts M10 (10x)*	MU 1001	0.1
Fixing angle, fixing to the floor	TS 4000	0.5
Base plate to panel wall	FP 0300	0.44
Set of screws<0.7, 6.3x19 (10x)	SS 6191	0.1
Screw set 5.5x22 (10 off)	SS 5221	0.1
Carriage bolt M10x30 (10x)	VB 1301	0.25

Suspension fitting

Description	Part no.	Weight (kg/kit)
1 set (2 brackets incl. screw)	UB 5003	0.6
Set of bolts M10x20 (10 off)	BU 1201	0.2
Set of nuts M10 (10 off)	MU 1001	0.1

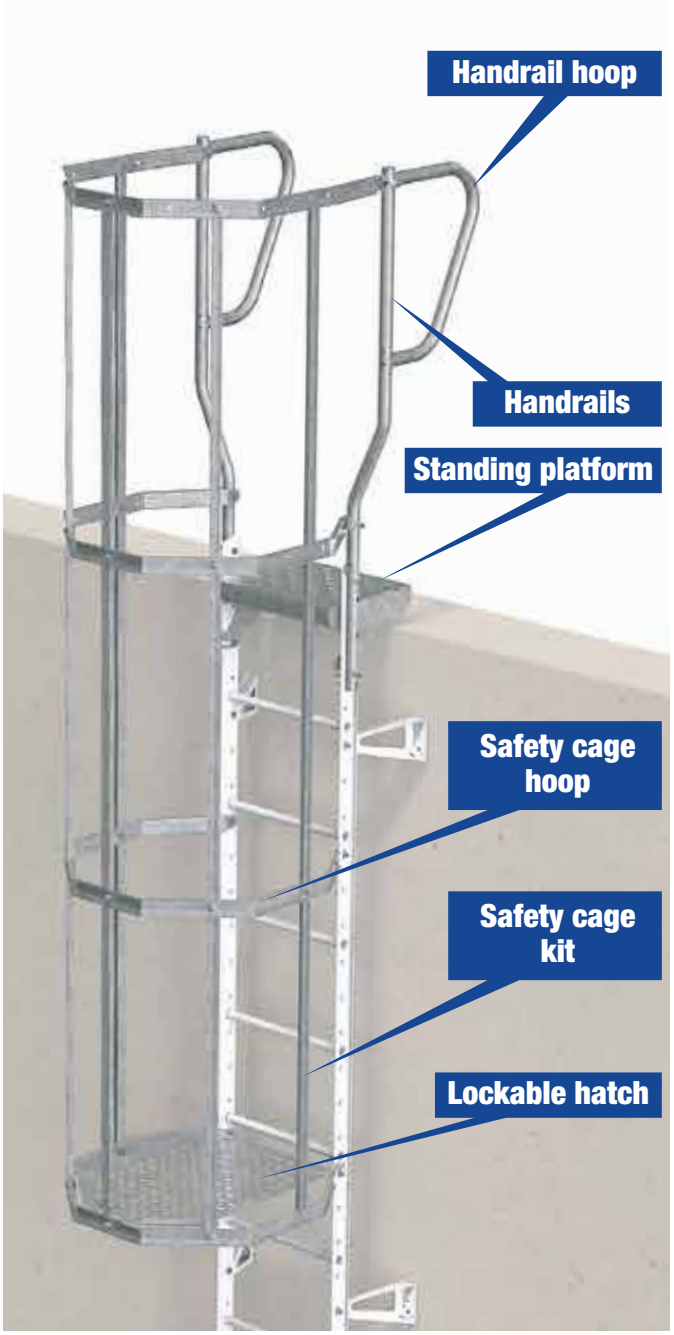
Reinforcement of cat ladder

Description	Part no.	Weight (kg/kit)
Stiffening rail cat ladder	ST 1200	5.6
Carriage bolt M10x30 (10x)	VB 1301	0.2
Set of nuts M10 (10 off)	MU 1001	0.1

Cat ladders, accessories

Safety cage for cat ladder

In the event of a falling height of more than 4 metres, the ladder must be fitted with a safety cage in accordance with BBR. The safety cage for the cat ladder is made up of modules with a length of 900 mm. The safety cage ends 2-2.5 m above ground and can be supplied with a hatch to prevent unauthorised access. Version in accordance with SS 831340.



Handrails

Description	Part no.	Weight (kg/item)
Handrail, out-turned 1200 mm	HL 1200	2.8
Handrail hoop	HL 1240	1.9
Set of bolts M10x60* (10x)	BU 1601	0.34
Set of nuts M10* (10 off)	MU 1001	0.1
Sleeve for removing handrail	UH 0515	1.4
Plastic cover (1 / handrail)	PL 0034	0.05

*) Requires 4 bolts/nuts for ladders without safety cage, and 8 bolts/nuts for ladders with safety cage.

Standing platform

Description	Part no.	Weight (kg/item)
300 x 400 mm, adjustable 0-20°	SP 3040	3.3
Set of bolts M10x20* (10x)	BU 1201	0.2
Set of nuts M10* (10 off)	MU 1001	0.1

*) Installed with 2 bolts and nuts per step plate.

Safety cage

Description	Part no.	Weight (kg/item)
Safety cage hoop set	SK 0650	2.1
Safety cage set 5 intermediate rails, 900 mm	SK 9005	3.0
Set of bolts M10 x 20 (10x)*	BU 1201	0.2
Nut set for set of bolts (10x)*	MU 1001	0.1

*) 7x bolts needed per hoop with 5 intermediate rails.

Lockable hatch

Description	Part no.	Weight (kg/item)
Lockable hatch for safety cage hoop	LL4570	4.1

Self-closing gate

Description	Part no.	Weight (kg/item)
Gate hoop (1x)	HL 5843	4.3
Hinge set (2x)	GJ 3400	0.16
Set of screws (10 x screws / gate)	SS 5221	0.07
For Lock Option		
Hinge half (2x)	GJ 3401	0.10
Set of nuts M10* (10 off)	MU 1001	0.1


Out-turned handrail


Self-closing gate

Cat ladders, accessories

Intermediate landing for cat ladder

In order to improve safety, ladders that are longer than 6 metres should be supplied with an intermediate landing/load distribution beam. On very long ladders, the distance between the intermediate landings should not exceed 6 metres. Version in accordance with SS 831340.

Intermediate landing

Intermediate landings comprise the following components: 1x grating with edging bar, 4x angle stays, 4x "half" safety cage hoops, 2x horizontal and 7x vertical flat bars. Each intermediate landing requires 2.1 m extra ladder.

Description	Part no.	Weight (kg/item)
Intermediate landing 600 x 600 mm	VP6060	33.4

Anti-climbing device

Anti-climbing device

Device to prevent climbing up cat ladders.

Description	Part no.	Weight (kg/item)
Lockable anti-climbing device	KH 2100	14.7

Drop Down ladder

With our solution, you can let the permanent ladder finish a good way up the wall and, even so, have access to an evacuation ladder that reaches all the way to the ground. On evacuation, you climb down the ladder, kick the locking device, on which the loose ladder comes loose and slides down to the ground. You then just continue, down to solid ground.

Description	Part no.	Weight (kg/kit)
Drop down ladder lock catch	FB 7001	0.10
Drop down ladder slide fitting	FB 7000	0.15
Rubber stop	FB 7002	0.17

Drop Down ladder

Single step plate

Double step plate

Foldable step plate

Two standing platforms for cat ladders. Both of them are folding. They can be used with advantage where there is a need for an intermediate landing at the middle of the cat ladders, in order to stand more comfortably. This could be next to a service point or in the middle or a longer run of cat ladders.

The platform is normally folded back behind the rungs and it is easily pulled out with your foot.

The standing platforms are available for the whole width of the ladder or split so they can be used together with a fall arrestor/ safety wire.

The single standing platform is assembled using 2 x M10x20 + locking nuts. The double platform is sold as a complete set, with the necessary fixing materials.

Description	Part no.	Weight (kg/kit)
Foldable step plate, single	SP 3740	3.7
Set of bolts M10x20 (2 /single platf.)	BU1201	0.20
Locking nuts M10 (2 /single platf.)	LM 1000	0.01
Foldable step plate, double	SP 3716	3.3

Project Planning/Building Regulations

Remember

Weland cat ladders are approved in accordance with SS 831340 and SS-EN ISO 14122-4. Permanently installed cat ladders are required for façade heights exceeding 4 m. The ladders end a suitable distance above the ground, depending on what accessibility you want.

Escape ladders must end a maximum of 1.5 m above ground.

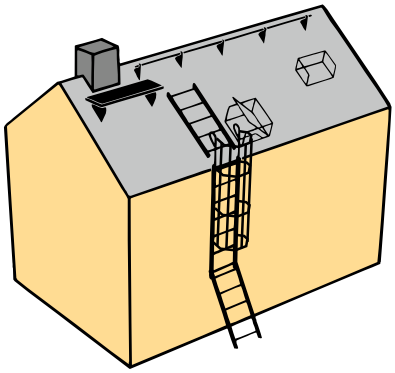
In the event of a falling height of more than 4 metres, the ladder must be fitted with hoop guards. The safety cage ends 2-2.5 m above the ground. We recommend that ladders above 6 m should have hoop guards.

Escape ladders should always have hoop guards when they are combined with an escape platform.

In the case of tall ladders, there should be a rest landing if possible.

Cat ladder made from stainless steel.

Swedish Board of Housing, Building and Planning's Building Regulations - 08



Access to roofs

Façade height between 4-8 m.

There must be an external permanent cat ladder or internal staircase. (BBR 8:2421)

Gangway to ridge railing and service position/chimney

Roof gangway are used up to 12 degrees gradient.

Roof stair treads are used between 8-45 degrees gradient.

Roof ladder used from 25 degrees gradient and greater.
(BBR 8:2422 and 2426)

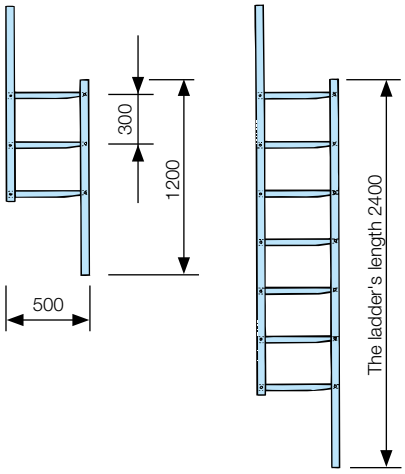
NOTE! Weland has a complete assortment of roof safety products. Order the brochure, "Safety on the Roof".

Folding cat ladder

Folding cat ladder that is primarily used for evacuation purposes. A simple, discreet product that can be mounted on various types of façade. When folded against the façade, it looks just like a 45 mm wide bar.

The ladder is burglar proof and can only be folded out by pulling the cable outside the window. If required, the cable can be extended down to the bottom of the ladder, and then it can also be used for climbing up.

The ladder is supplied in modules that are hot dip galvanised and powder coated in a discreet light grey colour.



Ladder in
normal position

Ladder
folded out

Ladders

Length x width (mm)	Part no.	Weight (kg/item)
1200 x 500	FB 1250	7.5
2400 x 500	FB 2450	15.5

Joint set

Complete fishplate with one rung and associated bolt. One set required per fishplate bracket.

Description	Part no.	Weight (kg/kit)
Joint set	FB 2000	1.0

Bracket

Distance between wall and ladder	Part no.	Weight (kg/item)
Standard bracket 15-25 mm (1 kit)	FB 0012	0.2
Bracket 150 mm (1 kit)	KS 0150	0.8
Bracket 300 mm (1 kit)	KS 0300	1.2
Set of bolts M10x60 (10x)	BU 1601	0.4
Set of nuts M10 (10 off)	MU 1001	0.13
Spacer washer 35x40x5 mm (5x)	MB3545	0.04

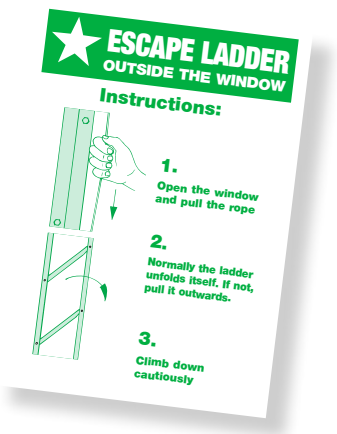
*) 2x bolts and nuts as well as suitable number of spacer washers per kit.

Top part, cable and plate

Description	Part no.	Weight (kg/item)
Top part	FB 1000	0.2
Cable (sold by the metre)	FB 0010	-
Instruction plate	FB 0001	-

Handrail and standing platform

Description	Part no.	Weight (kg/item)
Handrail for installation on wall	HL 0300	0.8
Standing platform for inst. on wall	SP 0400	3.7



Escape platform

Weland's escape platform is made up of modules. If necessary, these can be connected together to make a larger platform.

Specially manufactured, the platform can also be supplied with a floor made, for example, from wood or chequer plate. The railings and grating can also be made of stainless steel. Other dimensions are also available to order. Railings in standard or childproof versions that can be supplied with a kick strip.

Platform

The platform comprises a frame with modular dimensions. Weland grating is placed in this frame.

NOTE! The grating does not need to cover the entire frame – a "hole" can be left for climbing up.

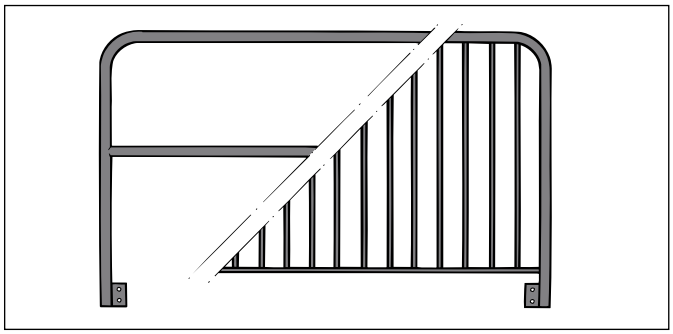
Several modules can be connected together.

Length x width (mm)	Part no.	Weight (kg/item)
1000 x 700	PF 1007	34
1500 x 700	PF 1507	46
2000 x 700	PF 2007	60
1000 x 1000	PF 1010	49
1500 x 1000	PF 1510	67
2000 x 1000	PF 2010	85

Fixings for platforms

Description	Part no.	Weight (kg/item)
J-hook set, (10x)* M8x48	JK8481	0.21
Nut set, (10x)* M8	MU0801	0.07

*) Installed with 4 hooks and nuts per platform up to 1000 mm and 8 hooks and nuts per platform over 1000 mm.



Standard railings

The standard railing is 1100 mm high.

Length (mm)	Part no.	Weight (kg/item)
700	UI0742	8.0
1000	UI1042	9.4
1500	UI1542	11.6
2000	UI2042	13.9

Childproof

The childproof railing is 1100 mm high.

Length (mm)	Part no.	Weight (kg/item)
700	UB0742	13.3
1000	UB1042	17.8
1500	UB1542	25.0
2000	UB2042	32.1

Fixings for railings

Description (mm)	Part no.	Weight (kg/item)
Side bracket, right	UV1002	1.2
Side bracket, left	UV1001	1.2
Set of bolts M10x20 (10x)*	BU1201	0.20
Set of nuts M10 (10x)*	MU1001	0.13
Lock washer M10 (10x)*	UL4201	0.12

*) 6 nuts and bolts and 2 lock washers per railing.

Corner coupling to rail

Description	Part no.	Weight (kg/item)
Gull wing connection	MK4200	0.45

Kick strip for railing

Description (mm)	Part no.	Weight (kg/item)
700	SL0710	1.2
1000	SL1010	1.9
1500	SL1510	2.9
2000	SL2010	3.9
Self-drilling staps 5.5x22 (10x)*	SS 5522	-

*) Installed with 2 self-drilling staps per kick strip.

Suspension bracket

Description	Part no.	Weight (kg/item)
Universal version	HK 0700	5.2

Bracket

Description	Part no.	Weight (kg/item)
For 700 mm wide platform	PK 0700	8.0
For 1000 mm wide platform	PK 1000	9.3

Fixings for brackets

Description	Part no.	Weight (kg/item)
Set of bolts M10x20 (10x)*	BU1201	0.20
Set of nuts M10 (10x)*	MU1001	0.13

*) Installed with 2 bolts and nuts per bracket.

Labelling goods

Die sunk letters and figures on metal, brass, aluminium or stainless steel band.

p. 257

Tag embossing press

Flexible, easy-to-operate, computer-controlled tag embossing press. Produces die sunk marking tags on various metal bands.

p. 258-259

Marking tags

The tags can have an optional number of characters (letters and figures). Manufactured with one or two lines and up to 40 characters.

Tag embossing press

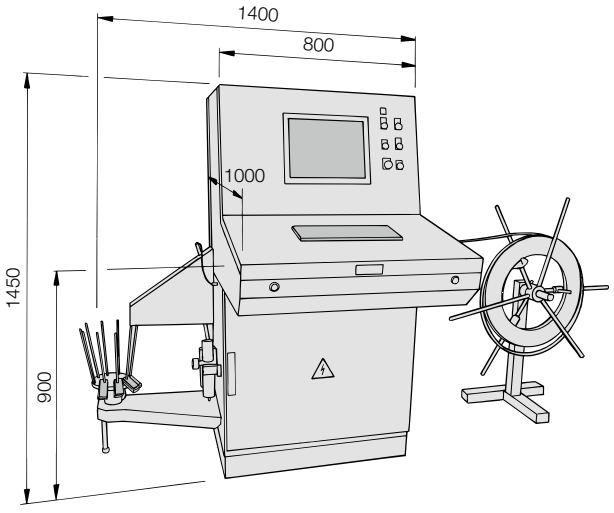
Simple to use. The monitor provides clear information about which choices are to be made.

Weland's computer-controlled tag embossing press is of our own design and manufacture. The machine is very flexible and easy to use.

The tag embossing press is controlled by a computer that both looks after the communication between the operator and the press as well as controlling motor and pneumatic cylinder to give the end result an identification tag.

The information that will be included on the tags is typed in either manually via the keyboard, down-loaded via a USB memory or by connecting the machine to a network.

The press is supplied with a tag collector as standard.



The following are required for operation:

- *Supply voltage 220 V, 50/60 Hz*
- *Compressed air, 6 at.*

Identification tags can be made with any number of characters (max. 40 characters). The length of the tags varies with the number of characters. Holes can be punched in either one of the ends or both ends. Automatic counting of serial number is possible for every tag.

Marking tags

Finished marking tags from Weland

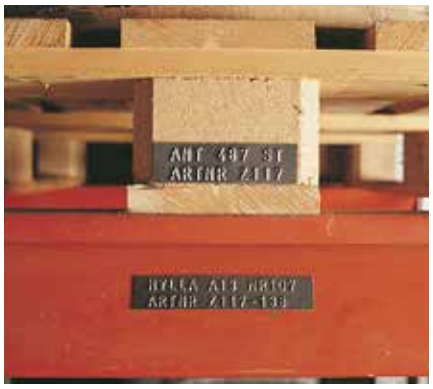
For customers who need identification tags, but not to the extent that the purchase of their own tag embossing press can be justified, we can supply tags in large or small series in the required version. We can supply the marking tags in various materials with single or double line embossing.

Double line tags

Weland die sunk marking tags can be made of hot dip galvanised steel plate or stainless steel. The tags can be made with any number of characters (letters and figures) in 2 rows, up to 40 characters. The width of the tags is approx. 30 mm and the length varies with the number of characters. Holes can be punched as requested in one or both ends. Automatic counting of serial number can also be done.

Since the tags are die sunk, they are easy to read, even after, for example, hot dip galvanisation, sand-blasting and painting. Tags that are made for non-corrosive materials are always easy to read, even in dirty and aggressive environments.

Even after painting, the tags are easy to read.



Identification tags in your warehouse provide you with clean labelling that lasts for many years.

Label the boat club's moorings with uniform and unambiguous name tags.

Plot and boundary markings in stainless steel or aluminium are durable and easy to read for decades.

All types of posts can be labelled using identification tags.

1 row tags in stainless steel

The tag is attached using plastic or stainless ties. Number series can be produced and delivered on tape strips.

Use Weland's identification tags on hydraulic hoses, pneumatic pipelines and electric cables, and you obtain clean labelling that lasts for many years.

Even after, for example, a fire, electrical cables can still be identified.

Outdoor furniture

Outdoor furniture for public spaces, where the furniture is subjected to rough treatment, e.g. in parks, picnic places, Metro stations etc. The series includes benches and picnic furniture (bench + table).

As standard, the outdoor furniture is hot dip galvanised.


p. 261

Bench Bonum

Easy to maintain and comfortable bench made of grating. Primarily for public spaces where the bench is subjected to rough treatment. A very robust bench.


p. 263

Picnic Furniture Bonum Duo

Hardwearing and easy to maintain picnic furniture for hamburger and hot-dog stands, parks etc. The furniture is assembled to create a single unit, and can be anchored to the ground.

More information and other designs of outdoor furniture can be found on: www.welandutemiljo.se

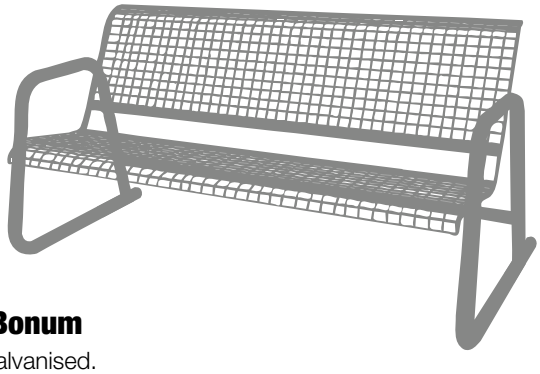
Bench Bonum

Weland benches are manufactured in hot dip galvanised steel grating. Robust, but even so, "trendy" design for use both indoors and out.

Suitable for public spaces, such as streets and squares, parks, golf courses, picnic places, camp sites, bathing places etc. or for private use.

Advantages of Bonum benches:

- *Can stand outside all year round with out suffering damage*
- *Can be anchored to the ground*
- *You avoid the work of taking it in and repairing it in the winter*
- *Best imaginable surface treatment*
- *Durable and uninteresting target for vandalism*
- *Allows the rain to run through, doesn't absorb water and dries quickly*
- *The furniture is stable and comfortable to sit on*



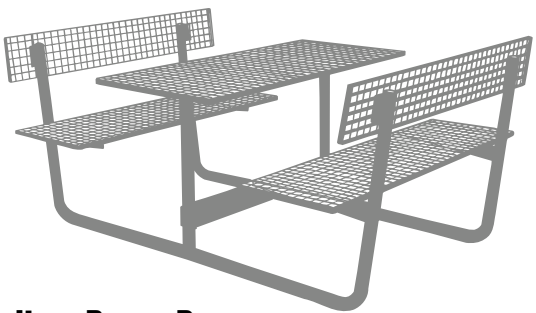
Bench Bonum

Hot dip galvanised.

Dimensions L x H x W (mm)	Part no.	Weight (kg/item)
1594 x 820 x 763	1781500	46.1

Picnic Furniture Bonus Duo

Weland picnic furniture is made from hot dip galvanised steel grating. Suitable for car parks, kiosks, hamburger and hot-dog stands, picnic places, restaurants, camp sites, bathing places, ski resorts etc. Wherever you want to sit down and take a break.



Picnic Furniture Bonus Duo

Hot dip galvanised.

Dimensions L x H x W (mm)	Part no.	Weight (kg/item)
1920 x 856 x 1300	1788681	71.5

Advantages of Bonum Duo picnic furniture:

- *Can stand outside all year round without suffering damage*
- *Can be anchored to the ground*
- *You avoid the work of taking it in and repairing it in the winter*
- *Best imaginable surface treatment*
- *Durable and uninteresting target for vandalism*
- *Allows the rain to run through, doesn't absorb water and dries quickly*
- *The furniture is stable and comfortable to sit on*

Expanded metal

A strong, mouldable material that can be used for a wide range of applications.

Untreated expanded metal is held in stock for immediate delivery.

Expanded metal is a strong, mouldable product with almost limitless areas of application. Used for example in fences, anti-burglary protection, wastepaper baskets, infills for railings, etc.

Expanded metal is manufactured in many different mesh widths, material sizes and sheet formats. Normally, the expanded metal is delivered untreated in standard formats but can also be hot dip galvanised prior to delivery.

Both untreated and stainless steel expanded metal are kept in stock for immediate delivery. The hot dip galvanised version has a delivery time of approximately one week.

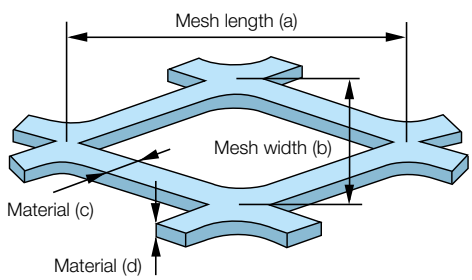
Weland also manufactures expanded metal in special dimensions, other materials or other formats.

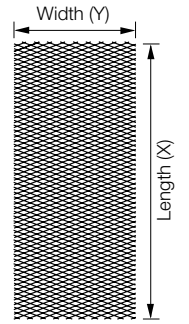
Flat rolling

Expanded metal can also be flat-rolled. This means that expanded metal can be an alternative to perforated sheet metal.

Contact us, and we will come up with the answer for your request.

Various dimensions for expanded metal





Untreated expanded metal, stock format

Untreated expanded metal can also be supplied in hot dip galvanised version, although this is not held in stock.

Name	Mesh size a x b (mm)	Material width c (mm)	Material thickness d (mm)	Format Width x Length Y x X (mm)	Part no. Untreated version	Weight Untreated (kg/each)	Weight Galv. (kg/each)	Light opening (%)
168/1510	16x8	1.5	1.0	1000 x 2400	16815101	7.1		62.5
2010/2015	20x10	2.0	1.5	1000 x 2250	201020151	10.6	13.2	60.0
2812/2010	28x12	2.0	1.0	1500 x 1500	281220105	5.9		66.6
2812/2515	28x12	2.5	1.5	1500 x 1600	281225154	11.8	14.4	58.3
2812/2515	28x12	2.5	1.5	1500 x 2200	281225153	16.2	19.8	58.3
2812/3015	28x12	3.0	1.5	1500 x 2200	281230153	18.2	22.2	50.0
4218/2020	42x18	2.0	2.0	1500 x 1700	4218202011	8.9	10.1	77.7
4218/2020	42x18	2.0	2.0	1500 x 2000	421820209	10.5	11.9	77.7
4218/2520	42x18	2.5	2.0	1000 x 2500	421825205	10.9	12.3	72.3
4218/4030	42x18	4.0	3.0	1000 x 2000	421840308	20.9	22.8	55.5
4218/4030	42x18	4.0	3.0	1500 x 2000	421840309	31.4	34.2	55.5
4218/4530	42x18	4.5	3.0	1000 x 2000	4218453010	20.9	22.8	49.9
4218/4530	42x18	4.5	3.0	1500 x 2000	421845309	31.4	34.2	49.9
4218/4530	42x18	4.5	3.0	1200 x 2000	4218453013	25.1	27.4	49.9
6228/2020	62x28	2.0	2.0	2000 x 2000	622820202	9.0	9.8	85.7
6228/4030	62x28	4.0	3.0	1000 x 2500	622840308	16.8	18.2	71.4
6228/4030	62x28	4.0	3.0	1500 x 2000	6228403013	20.2	21.8	71.4
6228/4530	62x28	4.5	3.0	1500 x 1600	622845309	16.1	17.4	67.9
6228/4530	62x28	4.5	3.0	1000 x 2500	6228453010	16.8	18.2	67.9
6228/4530	62x28	4.5	3.0	1500 x 2000	6228453013	20.2	21.8	67.9
6228/6030	62x28	6.0	3.0	1200 x 2250	6228603011	25.9	28.0	57.1
6228/6030	62x28	6.0	3.0	1500 x 2250	6228603012	32.4	35.0	57.1
6228/6030	62x28	6.0	3.0	2000 x 2250	6228603015	44.0	47.5	57.1
6228/6040	62x28	6.0	4.0	1500 x 2300	6228604014	46.5	50.2	57.1
7532/5530	75x32	5.5	3.0	1250 x 2250	753255301	21.7	23.4	65.6
7532/5530	75x32	5.5	3.0	1500 x 2250	753255303	26.0	28.1	65.6
11544/3030	115x44	3.0	3.0	2400 x 1500	1154430308	11.0	11.8	87.0
11544/4530	115x44	4.5	3.0	2000 x 2400	1154445309	23.2	24.8	79.5
11544/6040	115x44	6.0	4.0	1500 x 2000	1154460405	25.7	27.5	72.8
11544/9040	115x44	9.0	4.0	1500 x 2500	1154490406	48.2	51.6	54.0
20076/6040	200x76	6.0	4.0	1500 x 2400	2007660401	17.9	19.1	84.2

Stainless steel expanded metal, stock format

4218/2520RF	42x18	2.5	2.0	1000 x 2000	421825208RF	8.9		72.3

Profiles

Weland manufactures and stocks various profiles in sheet metal and steel. The profiles are available both untreated and hot dip galvanised.

Sigma beams

The Weland Sigma beam is a cold-formed section with low weight and high strength.

The Sigma beam is manufactured in 3 different standard heights: 200, 300 and 400 mm. Each height is available in 5 different material thicknesses, 2, 2,5, 3, 4 and 5 mm thick.

The beam can be supplied in lengths ranging from 300 to 12000 mm, with an interval of 50 mm.

The design of the Sigma beam means that it is possible to join two beams to make a single profile by screwing the beams together.

The Sigma beam is very well suited, for example, for mezzanine constructions. See more about mezzanines on pages 190-197.

The beams have punched holes with a separation of 50 mm, which are adapted to our assembly fittings and railing systems. This means that assembly can be performed quickly and easily, with no need for welding.

The Sigma beams are so light that they usually do not require lifting assistance. There are also large holes in the centre of the beam for routing electrical cables and pipes.

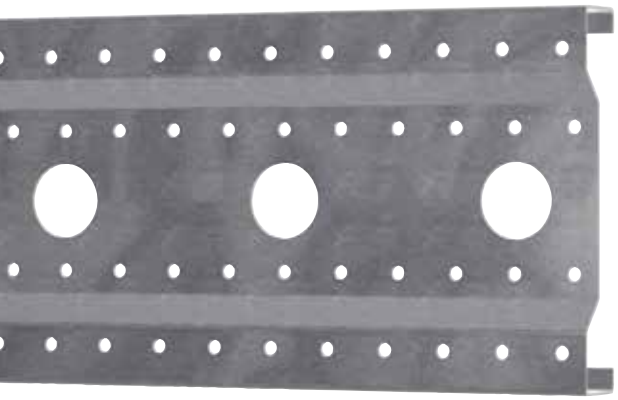
A material grade with a yield strength of 250 N/mm² is standard for the Sigma beam. We can also offer Sigma beams in materials with a yield strength of 340 N/mm² in a hot dip galvanised version.

The beams are manufactured from hot dip galvanised Z 275 steel, and they can be used both indoors and outdoors without any additional surface treatment.

Sigma beams

Hot dip galvanised version.

Beam height (mm)	Material thickness (mm)	Part no.	Weight (kg/m)
200	2	1101202	5.6
200	2.5	1101252	6.9
200	3	1101302	8.2
200	4	1101402	10.8
200	5	1101502	13.3
300	2	1101203	7.0
300	2.5	1101253	8.7
300	3	1101303	10.4
300	4	1101403	13.7
300	5	1101503	16.9
400	2	1101204	8.5
400	2.5	1101254	10.6
400	3	1101304	12.7
400	4	1101404	16.8
400	5	1101504	20.8



Fixed lengths

Weland stocks Sigma beams in lengths of 4.6, 5.2, 6.0 and 7.2 metres for immediate delivery. The beam is 300 mm high and has a material thickness of 2.5 mm. The yield strength is 250 N/mm². We also cut beams according to your wishes.

Sigma beam, fixed lengths

Hot dip galvanised version.

Beam length (mm)	Beam height (mm)	Material thickness (mm)	Part no.	Weight (kg/item)
4600	300	2.5	110125304600	40.0
5200	300	2.5	110125305200	45.0
6000	300	2.5	110125306000	52.0
7200	300	2.5	110125307200	63.0

Beam joint/Corner joint

We stock beam joints (length 500 mm) and corner joints for all Sigma beam heights.

Sectional railings in steel that can be assembled entirely without welding are available as an accessory, see more under railings 170-177.

Beam joint

Hot dip galvanised version.

Description	Height (mm)	Part no.	Weight (kg/item)
Model 200	200	11040006	4.4
Model 300	300	11040005	7.4
Model 400	400	11040004	9.5

Corner joint

Hot dip galvanised version.

Description	Height (mm)	Part no.	Weight (kg/item)
Model 200	200	11040001	1.0
Model 300	300	11040002	1.5
Model 400	400	11040003	2.0

WUC profile

Weland manufactures cold-formed WUC profiles. The profile has a low weight and offers high strength.

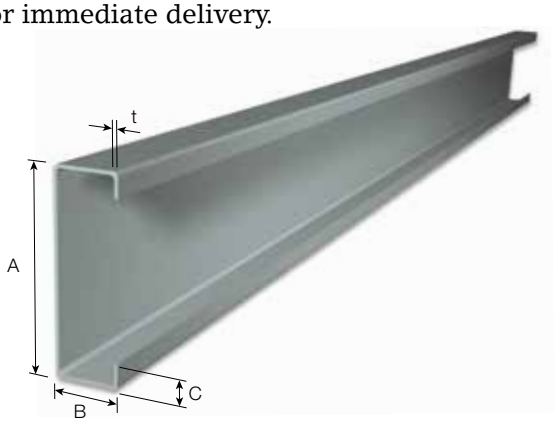
The WUC profile is manufactured in two standard heights, 120 and 170 mm. The material thicknesses for the profile are 3, 4 or 5 mm.

The WUC profile is very well suited to e.g. straight flight staircases. See more about straight flight staircases on pages 128-149.

The WUC profile is hot dip galvanised as standard and can be used both indoors and outdoors, without any additional surface treatment.

Stock profile

Weland stocks the WUC profile in the length of 5 metres for immediate delivery.



Values for WUC profile, stock

Untreated or hot dip galvanised versions.

Stringer alternatives	Length (mm)	A (mm)	B (mm)	C (mm)	t (mm)	Surface treatment	Deflection resist. Wy in cm^3	Part no.	Weight (kg/item)
WUC 120/3	5000	120	55	22	3	Untreated	28.1	WUC1203	30.0
WUC 120/3	5000	120	55	22	3	Hot dip galv.	28.1	WUC12031	32.5
WUC 170/3	5000	170	55	25	3	Untreated	46.1	WUC1703	39.0
WUC 170/3	5000	170	55	25	3	Hot dip galv.	46.1	WUC17031	42.0
WUC 170/4	5000	170	55	25	4	Untreated	59.0	WUC1704	52.0
WUC 170/4	5000	170	55	25	4	Hot dip galv.	59.0	WUC17041*	56.0
WUC 170/5	5000	170	55	25	5	Untreated	70.6	WUC1705	64.5
WUC 170/5	5000	170	55	25	5	Hot dip galv.	70.6	WUC17051*	69.5
WUC 200/5	5000	200	55	25	5	Untreated	89.3	WUC2005	70.5
WUC 200/5	5000	200	55	25	5	Hot dip galv.	89.3	WUC20051	75.4

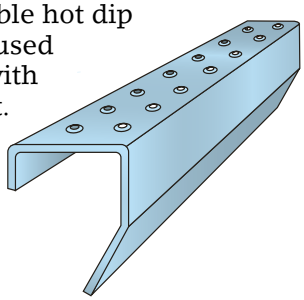
* = Made to order

Safety front edge

The safety front edge is a cold-formed profile with punched holes providing improved anti-slip protection.

Weland stocks untreated safety front edges. The front edge is also available hot dip galvanised and can then be used both indoors and outdoors with no further surface treatment.

This applies to all profiles.



Stock safety front edge

Untreated or hot dip galvanised version.

Length (mm)	Surface treatment	Part no.	Weight (kg/item)
491	Untreated	732500*	0.8
491	Hot dip galv.	TN5035051*	0.9
591	Untreated	732600	1.0
591	Hot dip galv.	TN5035061*	1.1
691	Untreated	732700	1.1
691	Hot dip galv.	TN5035071*	1.2
791	Untreated	732800	1.3
791	Hot dip galv.	TN5035081*	1.4
891	Untreated	732900	1.5
891	Hot dip galv.	TN5035091*	1.6
991	Untreated	7321000	1.6
991	Hot dip galv.	TN5035101*	1.7
1091	Untreated	7321100	2.1
1091	Hot dip galv.	TN5035111*	2.3
1191	Untreated	7321200	2.2
1191	Hot dip galv.	TN5035121*	2.4
1291	Untreated	7321300	2.4
1291	Hot dip galv.	TN5035131*	2.6
1391	Untreated	7321400	2.6
1391	Hot dip galv.	TN5035141*	2.8
1491	Untreated	7321500	2.8
1491	Hot dip galv.	TN5035151*	3.0
1591	Untreated	7321600*	3.0
1591	Hot dip galv.	TN5035161*	3.2
1691	Untreated	7321700*	3.2
1691	Hot dip galv.	TN5035171*	3.4
1791	Untreated	7321800*	3.4
1791	Hot dip galv.	TN5035181*	3.6
1991	Untreated	7322000*	3.7
1991	Hot dip galv.	TN5035201*	3.9

* = Made to order

Angle bar

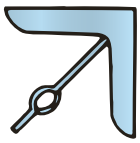
The angle bar is a hot-rolled profile and is hot dip galvanised as standard.

Stock angle bar

Length (mm)	Dimensions (mm)	Part no.	Weight (kg/item)
3000	50 x 50 x 5	16150531	11.4

Ferrule

Ferrules are hot-rolled profiles with welded embedment ties and are hot dip galvanised as standard.



Stock ferrule

Length (mm)	Dimensions (mm)	Part no.	Weight (kg/item)
3000	50 x 50 x 3	1615050531	7.5

Edging for chequer plate

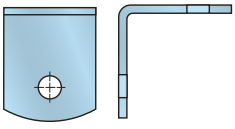
Edging for chequer plate is a hot-rolled profile with welded embedment ties, and is hot dip galvanised as standard.

Stock edging

Length (mm)	Dimensions (mm)	Part no.	Weight (kg/item)
3000	50 x 50	162575031	15.2

Wall mount

Wall mounts can be used as mounting lugs for WUC profiles, and are hot dip galvanised as standards.



Length (mm)	Dimensions (mm)	Part no.	Weight (kg/item)
60	70 x 70 x 4	6576041*	0.3

* = Made to order

Surface treatment

Weland performs two types of surface treatment, painting and hot dip galvanisation.


p. 271

Painting

Priming for painting is carried out in our modern facility. Top-coating with all the shades on the NCS or RAL scale.


p. 272-273

Hot dip galvanisation

A very effective way of rust-proofing steel products against corrosion. The surface treatment can in turn be painted with NCS or RAL colours.

Painting

In our modern paint shop, we can offer painting using various methods, such as traditional "wet" as well as powder painting.

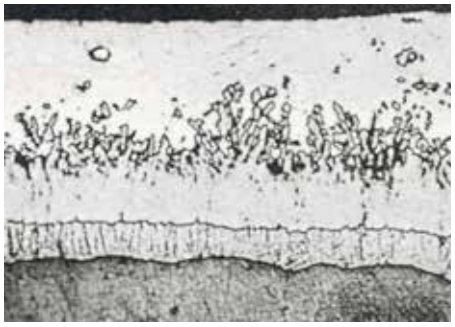
Weland's products can be obtained painted in the requested corrosivity class in accordance with EN 12944. Carried out as traditional "wet" or powder painting to the requested colour.

Hot dip galvanisation

Hot dip galvanisation of steel is one of the most effective and most tested surface treatments available.

Steel products that are to be hot dip galvanised and corrosion protected are dipped into a zinc bath with molten zinc, the bath maintains a temperature of approx. 455°. A reaction occurs in the contact surface between the steel and liquid zinc forming a ferrous/zinc alloy. This means that the zinc layer cannot flake off or rust from the inside. Moreover, the coating has a self-healing effect on small scale damage and anodically dissolved zinc covers the damage after a while.

Crucial for the quality is the skill of those carrying out the treatment. Weland's products are delivered as standard hot dip galvanised according to class SS-EN ISO 1461. We are certified in accordance with EN ISO 9001.



97% zinc

Iron-zinc alloy

Steel

Adhesion

At the contact surface between steel and liquid zinc, a reaction takes place between the metals and an iron/zinc alloy is formed. The thickness of this layer depends on the grade of the steel (thicker layer on dense steel).

Hot dip galvanised in Ulricehamn

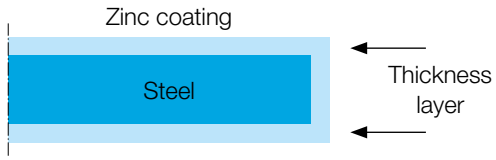
Zinken Weland i Ulricehamn carries out hot dip galvanisation according to the "dry method", which means that the product is provided with fluxing material and dried prior to dipping in the zinc bath. Products up to 6 m can be hot dip galvanised.

Dimensions pickling bath:
1300 x 2500 x 6200 mm

Dimensions zinc bath:
1300 x 2500 x 6200 mm

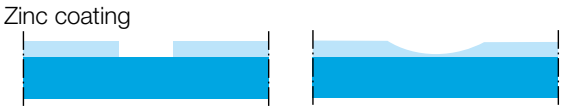
Layer thickness at sharp corners

The zinc layer is as thick or thicker at sharp corners as it is on smooth surfaces.



If the zinc layer is damaged

The steel at the site of the damage is protected against corrosion thanks to the zinc's action at a distance. Anodically dissolved zinc covers the damage after a while. The protection lasts as long as there is zinc around the damage.

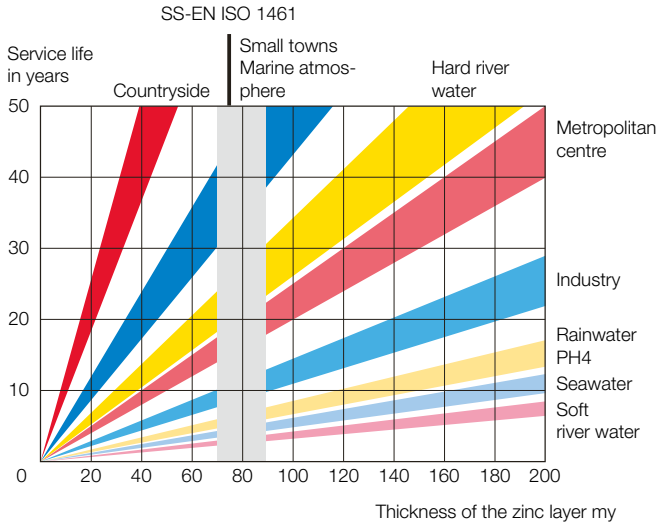


Inside pipe sections and cavities

Pipe sections and products with enclosed spaces must be perforated. The air must come out of the structure and the zinc run in and out. In other words, the product obtains equally good protection inside and out.

Zinc thickness – service life

The diagram on the right shows the average service life for different thicknesses of zinc in different environments.



Entrance Mats, Kåbe Original

Kåbe Original - Swedish quality products for over 70 years

The entrance mat that though all the years has been shown to be the best weapon in the fight against street dirt - Kåbe Original Mat. The mat where the dirt walks off.

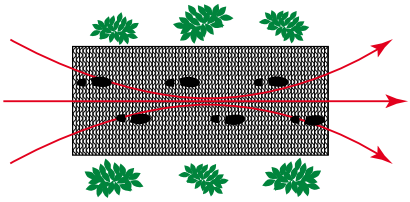
The first step towards a better indoor environment is to stop the dirt at the entrance. You can do this with a correctly fitted door mat.

Flooring is expensive to buy and even more expensive to maintain

If the total cost is calculated during the full service life of the flooring, the purchase price is only 10% while the expense for cleaning/maintenance and repair is 90%. A whopping 80% of the floor cleaning is spent on cleaning out the "street dirt" that we don't wipe off at the entrance and take into the building.

Better indoor environment with proper entrance mat

Almost nobody stops to wipe their feet at a public entrance. With its aggressive rubber curves, a Kåbe Original Mat acts like a windscreen wiper when you walk on the mat, with the wiping motions being made by your feet. The rubber curves efficiently wipe away dirt, gravel, dust and moisture from shoes.



For this reason, it is important to fit an adequately long mat, space permitting. Aim to make it long enough for at least three steps with each foot for good function.

Flexible entrances

Provide aesthetic freedom with maintained functionality. Kåbe Mat Original can be used indoors or out and can be produced with straight or rounded edges in any form, as requested. Simply send a sketch or template, and we will produce to suit.

10-year guarantee

Valid from the month of delivery and covering the wholly cost-free repair of rectangular mats for faults caused by materials and manufacturing as well as natural wear and tear. The guarantee does not cover costs for transport or repair of faults due to obvious damage and if the mats have not been used, installed or maintained according to instruction.

Strengthening

Reinforcement for exposed entrances

If the mat is going to be exposed to excessive loads such as shopping trolleys, use the strengthened variant of Kåbe Mat Original. Strengthened mats should also be used with inclined floors in combination with studs in the floor.

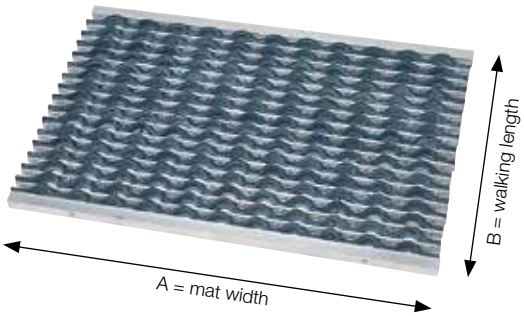
We guarantee that the mat will withstand shopping trolleys weighing up to 200 kg.

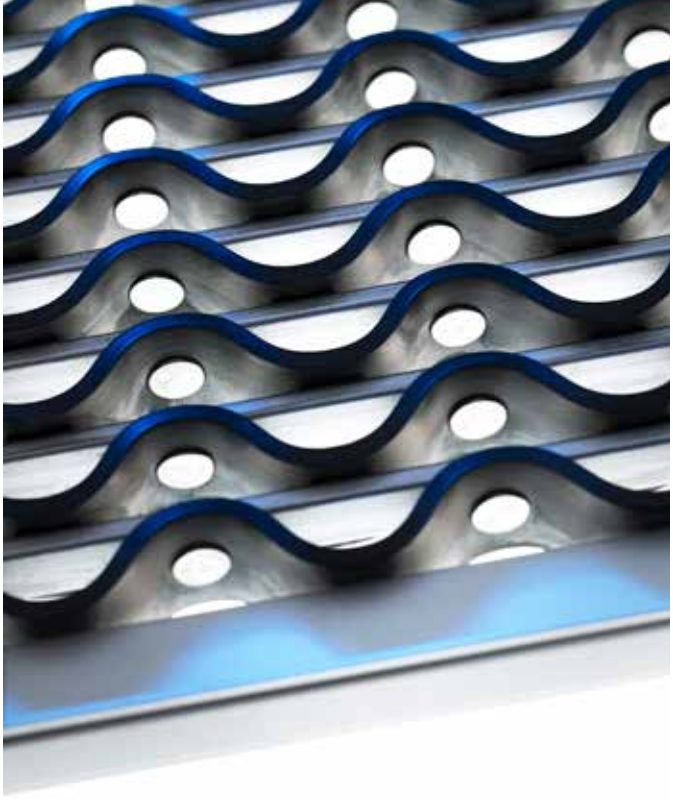
Dimension/size

Total thickness: 22 mm or 18 mm. Kåbe Mat Original is manufactured made to measure in any size.

Max. size of a single piece 2000 x 5000 (A x B). To cover larger areas, the mat is divided into suitably sized sections. We can produce mats of almost any shape.

Provide us with a drawing or template.





Kåbe Original Serrated

- good has become even better!

The mat with serrations

The Kåbe Original Serrated entrance mat basically has the same design as the Kåbe Original entrance mat, except that the rubber strips are serrated for even better scraping and anti-slip protection. As the mat is the same on both sides, you also achieve better drainage and runoff on the underside.

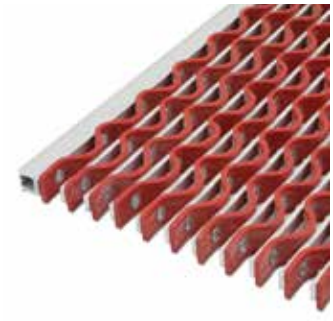
Kåbe Original Serrated entrance mat is a registered design.

Kåbe Original Colour

- the same excellent functions with new opportunities!

Take the step and make the entrance a bit brighter and more fun

Kåbe Original Mat Colour with grey or red rubber as an alternative or combined with a Kåbe Original Mat with black rubber. The primary function to stop dirt and damp from being taken in onto the floor is still just as good. The difference is that you now have the option of another colour or a simple pattern, when the size of the entrance permits.



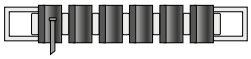
6-year guarantee

We give a 6-year guarantee on Kåbe Original Graphite. The terms and conditions are the same as for Kåbe Original in general.

Read more about our products on the website, www.kabe-mattan.se

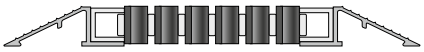
This is how you install your Kåbe Original Mat

Generally, the mat should always be positioned on a fixed, flat surface.



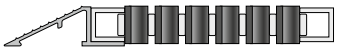
1. On existing floor

If the mat is on a slope or a step, we recommend studs on the underlying surface so that it cannot slip. On a slope, the mat should also be reinforced.



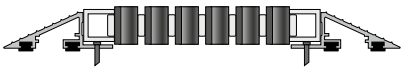
2. On existing floor

Mats can be provided with Kåbe Mat Ramp type 1 on the ends to prevent the risk of tripping.



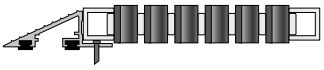
3. On existing floor

If the mat lies against a doorsill or step, a Kåbe Mat Ramp type 1 can be fitted to the front edge.



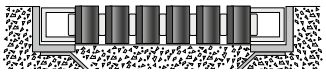
4. "Recessed "on existing floor

Kåbe Mat Ramp type 2 on all four sides of the mat. The ramp is not attached to the mat and should be screwed to the floor if possible.



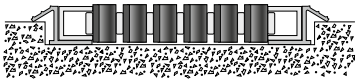
5. "Recessed "on existing floor

Kåbe Mat Ramp type 2 can be placed on two or three sides if the mat lies against a doorsill or step. Ramps should be securely screwed to the floor.



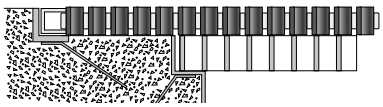
6. Recessed in the floor

The mat should be recessed 20 - 22 mm. The Kåbe casting frame is recommended to protect surrounding floor edges.



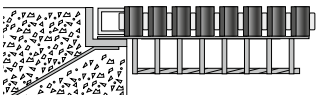
7. Existing recess in the floor

If a mat is placed in a recess of less than 15 mm, fit Kåbe special ramps at both ends. If the recess is 15-19 mm deep, use Kåbe Mat Original, height 18 mm.



8. Drain under the mat

The Kåbe drain has an effective sand separator. With or without water trap.



9. Mat on drainage grid

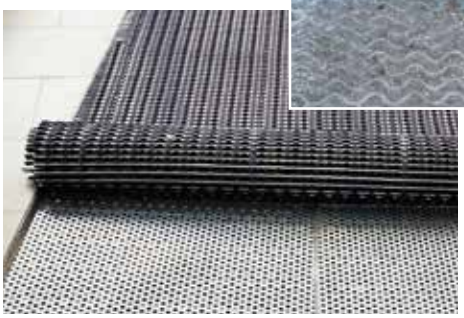
To achieve a self-cleaning effect, place the mat on a Kåbe drainage grid in a deeper recess.

How to look after the original mat

The Kåbe Original Mat is designed to remove sand and dirt from shoe soles as effectively as possible. It is also designed so that a large amount of sand or grit can lie in the mat without the mat appearing dirty.

No heavy lifting with Kåbe Mat Original

There is no need to lift the Kåbe Original Mat to clean up sand and grit. Simply "grip" the steel wire with the Kåbe Mat Lifting Hook and fold up about 15 cm. Then simply roll up the mat and remove the sand and grit with a vacuum cleaner of brush.
Roll long mats half way from each end.



The mat is designed with identical surfaces and should be reversed at least once a year, for maximum service life.

Group products

Weland AB and all its subsidiaries offer a wide range of products made from steel and aluminium. The products are mainly used in the construction industry.

Weland AB and some 30 subsidiary companies range from Malmö in the south to Mora in the north. Most of the companies manufacture steel and aluminium products.

Operations are conducted in Swedish and foreign companies. We have our own sales companies in Denmark, Finland, Norway and Germany.

On the following pages you will find some of our subsidiaries and their products.

Although the Group has grown in size, the companies have the same objectives as before, i.e. to be flexible and provide the same level of service to all our customers, large and small.

See more about our subsidiary companies at www.weland.se

Weland Stål AB

Weland Stål AB in Ulricehamn manufactures and stocks a complete range of roof safety products, such as snow guards, roof gangways, guard rails, roof access treads and roof ladders. We conduct intensive product development and test the products in our own plant, in the same way as performed by the SP Technical Research Institute of Sweden.

Our roof safety products are certified, which means that the SP Technical Research Institute of Sweden performs the testing and certification in accordance with current standards and requirements.

We also offer a wide range of escape products. These include cat ladders and escape platforms. These products are also tested and certified in accordance with prevailing requirements and standards.

Our products also include universal railings, which can be used for temporary or permanent barriers. The railings are hot dip galvanised prior to delivery, and are available in six different standard lengths that can be combined at 250 mm intervals.

We also carry out sheet metal working in large or small series. Our modern machinery is available for laser cutting of sheet metal or tubes, punching, nibbling and moulding, or other common sheet metal working processes.

In addition to this, we also supply hot dip galvanising and powder coating.

Our product range:

- *Lifeline mounts/Ridge rails*
- *Snow guards*
- *Roof gangways*
- *Guard rails on roof*
- *Chimney products*
- *Roof treads/Roof ladders*
- *Fall protection, Weline*
- *Solar panel fixings*
- *Cat ladders/Folding cat ladders*
- *Escape platforms*
- *Universal railing*

Company:	**Weland Stål AB**
Address:	Industrivägen 1 SE-523 90 Ulricehamn, Sweden
Visiting address:	Industrivägen 1
Phone:	+46 (0) 321-261 60
Email:	info@welandstal.se
Website:	www.welandstal.se

Maku Stål AB

Maku Stål AB is one of Sweden's leading manufacturers of framework trusses. We have extensive experience from the manufacture of framework trusses, and design and manufacturing methods have been continually developed.

We use premises that are suitable for the purpose and up-to-date specialised equipment for both design and manufacture. This means that we can manufacture framework trusses of the highest quality with very close tolerances and excellent fit.

Maku's framework trusses are type-approved. The certificate of approval has been issued by a completely independent institute (SITAC & SWEDAC) and provides our customers with proof that our framework trusses conform to legal requirements regarding manufacturing control and technical properties for structures etc.

Maku is affiliated to SBS (Svensk byggstålkontroll). As a building proprietor and builder, you save time by buying from competent suppliers. SBS-approved suppliers have documented experience, skilled personnel, adapted equipment, the correct basic materials as well as quality systems that are adapted to our products and the market.

Our product range:

- *Framework trusses*
- *Pipe bridges, gangways and transport gangways*
- *Steel frames*

MAKU

Company: **Maku Stål AB**
Address: Verkstadsgatan 15
SE-504 62 Borås, Sweden
Visiting address: Verkstadsgatan 15
Phone: +46 (0) 33-23 70 80
Email: info@maku.se
Website: www.maku.se

Zinken Weland i Ulricehamn AB

Zinken Weland in Ulricehamn is a very modern zinc plant that was founded in 1992. Here, goods up to 6-metres long can be hot dip galvanised.

Zinken Weland i Ulricehamn works according to the "dry method", which means that the product is provided with fluxing material and dried prior to dipping in the zinc bath.

Dimensions pickling bath: 1300 x 2500 x 6200 mm
Dimensions zinc bath: 1300 x 2500 x 6200 mm

The company is ISO 9001 certified.

Our product range:

- *Hot dip galvanisation*

Company: **Zinken Weland i Ulricehamn AB**
Address: Industrivägen 3
SE-523 90 Ulricehamn, Sweden
Visiting address: Industrivägen 3
Phone: +46 (0) 321-129 80
Email: uhamn@zinkenweland.se
Website: www.zinkenweland.se

Weland Lagersystem AB

Weland Lagersystem is a leading supplier of solutions for warehouse management and logistics. We deliver customised, optimised vertical storage lifts as well as storage equipment. Our range of storage equipment includes pallet racks, cantilever racks, Sigma beams and pull-out units. With the right products in the right place, it is easy to streamline the entire production.

Our concept is the same as at the start – supplying products made in Sweden that streamline warehouse management and logistics. Our strength is our great skill and attentiveness. We always work closely with our customers and always aim to satisfy their needs. Weland Lagersystem aims to always deliver the most efficient solutions possible.

Weland Lagersystem is a global company that is represented in eight countries and our products are represented in some twenty countries. We have our own sales offices in Gislaved and Västerås. Despite our global brand, all our development, design and manufacturing is still located in Gislaved, Sweden.

We aim to meet the future's demands for logistics and storage. We are working continuously with product development and we are a long-term partner you can trust. Our precise procedures guarantee efficient warehouse management and products with long service life. We are motivated by creating new, innovative solutions for our customers.

Our product range:

- *Cantilever Racks*
- *Deep stacking*
- *Vertical storage lifts*
- *Pallet racks*
- *Sigma beams*
- *Pull-out units*

WELAND LAGERSYSTEM AB

Company:	**Weland Lagersystem AB**
Address:	Anderstorpsvägen 24 SE-332 36 Gislaved, Sweden
Visiting address:	Anderstorpsvägen 24
Phone:	+46 (0) 371-52 30 40
Email:	info@welandlagersystem.se
Website:	www.welandlagersystem.se

Our product range:

- *Entrance mats*
- *Scraper gratings*
- *Convector gratings*

Kåbe-Mattan AB

Our fight to prevent street dirt from coming indoors began in 1944. A doorman at Enskilda Banken in Stockholm became tired of constantly having to sweep away street dirt.

He was a clever man and had a brilliant idea! He found a few wooden poles and some rubber strip and nailed them together. And the first Kåbe mat was born.

During the 70 years that have passed since then, we have developed into experts in ideal entrance solutions. We offer a complete range of entrance mats, scraper gratings and accessories.

Company: **Kåbe-Mattan AB**
Address: Sågverksvägen 10A
SE-716 93 Fjugesta, Sweden.
Visiting address: Sågverksvägen 10A
Phone: +46 (0)585-255 50
Email: mail@kabe-mattan.se
Website: www.kabe-mattan.se

Weland Aluminium AB

Weland Aluminium AB is a manufacturing company focusing on industry, roads and water, as well as the construction sector. Our wide range includes products such as aluminium doors, industrial railings, modular railings, gangways for the disabled, balcony railings and balconies in aluminium, steel and concrete. These are supplemented with glazing systems. Aluminium straight flight staircases are also part of the manufacturing programme.

We supply our products to Sweden, Denmark, Norway, Finland and Germany. This means that we employ flexible customer and product adaptation.

Our product range:

- *Aluminium doors and façade partitions*
- *Balcony glazing*
- *Balcony slabs*
- *Aluminium balcony railings*
- *Steel balcony railings*
- *Bicycle parking*
- *Aluminium gangways for the disabled*
- *Aluminium recycling points*
- *Aluminium modular railing*
- *Aluminium straight flight staircases*
- *Aluminium smoking rooms*
- *Balcony accessories*

ALUMINIUM WELAND

Company: **Weland Aluminium AB**
Address: Björnstorpsvägen 2
SE-342 30 Alvesta, Sweden
Visiting address: Björnstorpsvägen 2
Phone: +46 (0) 472 -445 00
Email: info@welandalumi.se
Website: www.welandalumi.se

Omni Trafikmiljö, Weland Utemiljö and Weland Golf are departments of Weland Aluminium AB

Omni Trafikmiljö is one of Sweden's leading suppliers of street furniture for public transport. Everything from weather protection and stop signs to complete facilities for bus and railway stations.
For many years we have supplied regional public transport companies and municipalities across large areas of Sweden.

Weland Utemiljö has specialised in maintenance-free products for real estate. All products are manufactured at our factory in Alvesta.
The frame is made from powder coated aluminium sections and the filling between the aluminium sections is powder coated perforated aluminium sheet and board material.

Weland Golf is a department specialising in maintenance-free, auxiliary equipment for golf courses, such as tee signs, benches, information boards, weather protection for driving ranges etc.

Hogstad Aluminium AB

For more than 40 years, Hogstad Aluminium AB has been working to achieve good property finances and an attractive living environment – through the development, manufacture and installation of quality products.

We are the oldest company in the balcony business, and our experience, combined with a long-term approach, guarantees modern solutions with low maintenance costs, both as regards new production and renovation.

Our product range encompasses balcony balustrades, balcony glazing systems, window cladding and aluminium façades. We also supply and install balcony slabs made of concrete, steel or aluminium. Hogstad Aluminium takes the responsibility all the way from planning to final installation.

We have offices and production facilities in Mjölby.

Balkongföreningen

Hogstad Aluminium is one of the member companies in the Balkongföreningen (Swedish Balcony Association), which was established in 1998 by the leading balcony companies on the market. Balkong föreningen is working to achieve high levels of manufacturing quality among its member companies, from planning and design to installation on site.

Our product range:

- *Aluminium sheet metal*
- *Balcony glazing*
- *Balcony slabs*
- *Balcony railings*
- *Aluminium window renovations*

Company: **Hogstad Aluminium AB**
Address: Box 245
SE-595 23 Mjölby, Sweden
Visiting address: Transformatorgatan 4
Phone: +46 (0) 142-29 31 00
Fax: +46 (0) 142-29 31 23
Email: info@hogstadaluminium.se
Website: www.hogstadaluminium.se

Weland AB / Box 503 / SE-333 28 Smålandsstenar / Sweden
Telephone:+46 371 344 00 / info@weland.se / www.weland.se

MILJÖMÄRKT Trycksak 3041 0701 201612 www.industrireklam.se Hylte Tryck AB