

## **PRODUCT MANUAL**

Edition 7

## WELCOME TO WELAND AB

We are a family company with roots deeply embedded in Småland. A leading manufacturer and supplier of spiral staircases, straight flight staircases, railings, wheelchair ramps, steel walkways, gratings, and mezzanines. We are also one of Sweden's major players in the sheet metal working sector.

The first incarnation of our business came into the world in 1947, and the culture that was founded then continues to live on in many ways - our flexibility, our personal service, and our ambition of always being at the vanguard of developments. We work purposefully to develop our products and our sheet metal processing so that they are always in line with market expectations, and preferably one step ahead.

All our production takes place in Smålandsstenar, where we have just over 100,000 m<sup>2</sup> of factory space at our disposal and where we work according to the motto "efficient production with the smallest possible impact on our shared environment". You can read more about our sustainability work in our Sustainability Report. The report is available from weland.se. It goes without saying that a lot has happened since 1947. At that time, it was all about a little company and a wing nut. Today, we are an industrial group with a single common denominator – all product manufacturing happens in Sweden.

"We're proud of our Småland heritage – managing our resources and creating an environment where we give the seeds we plant the space to germinate. We place great value on delivering first-class products and so all our investments are made with great care and with a careful hand. We believe in the saying that hard work pays dividends and, with a secure and stable foundation, we are creating opportunities far beyond the Småland forests."

> Jonas Welandson, Group CEO







## SWEDISH QUALITY

Weland - Swedish, innovative, sustainable. We develop solutions and products that last - ideally for several generations. We combine knowledge and years of experience with a professional pride that forms part of everything we do. Basing all our manufacturing in Sweden was a natural step for us to take. We believe that Swedish-made products and employing sheet metal processing standards that are required on the Swedish market are good environmental choices and guarantee a high level of quality. Our basic housekeeping principle, where we use resources efficiently and recycle everything wherever possible, is with us every day at work. We combine this with an aggressive future-focused approach, where we quickly invest in new machinery, which contributes to us enjoying efficient, innovative, and sustainable production over time.

## CONTENTS

### **PRODUCTS** | 10-199

STAIRCASES 10	
Spiral staircases12	
Straight flight staircases28	
Special staircases42	
Stair treads50	
Landings54	
GRATINGS 58	
GRATINGS	
Pedestrian60	

Frames ......82

Fixings ......88

RAILINGS	90
Sectional railing	92
Universal railing	102
Fencing	108
RAMPS	112
Steel Walkway Flex	114
Wheelchair ramps	124
Ramps	134
MEZZANINE	138
Mezzanine	140
Sigma beam	148

#### STORAGE EQUIPMENT..150

Pallet racks152
Pull-out units156
Cantilever racks 160
Vertical racks164
Collision protection 166
Steel pallets168

#### PLANK TYPE FLOORING, SLIT PLANK TYPE FLOOR-ING & FIRE EXTINGUISH GRATING......170 Plank type flooring .......172

Slit plank type flooring ..... 174 Fire extinguish gratings ... 176

OTHER178	3
Ladders &	
escape platforms180	)
Outdoor furniture188	3
Expanded metal190	)
Anti-slip protection &	
Contrast markings192	•
Profiles194	ŀ
Metal labelling196	)
Foot scraper 198	3

#### SHEET METAL WORKING | 202-241

CUTTING	204
Laser cutting	206
Tube laser cutting	208
Waterjet cutting	210
Gas cutting	211
Plasma cutting	212
Slitting	213

PUNCHING Punching Perforation line	216
MACHINING	
Finishing Cutting machining Bending Welding	224 226

OTHER230	
Design232	
Sheet metal & tube stock 234	
Control measurement 236	
Surface treatment 238	
Stocks240	

#### PROJECT PLANNING | 244-435

#### STAIRCASES

Spiral staircases
Straight flight staircases 258
Special staircases
Stair treads
Landings

#### GRATING

Grating2	290
Pedestrian traffic	304
Vehicle traffic	326
Entrance	334
Large mesh grating	342
Frames	346
Fixings	352

#### RAILINGS

Sectional railing	360
Universal railing	366
Fencing	372

#### RAMPS

Steel Walkway Flex	376
Wheelchair ramps	382
Ramps	392

#### MEZZANINE

Mezzanine	. 398
Sigma beam	. 400

#### STORAGE EQUIPMENT

Storage equipment	2
Pallet racks404	1
Collision protection 406	ċ

#### PLANK TYPE FLOORING, SLIT PLANK TYPE FLOOR-ING & FIRE EXTINGUISH GRATING

Plank type flooring ...... 408 Slit plank type flooring ..... 414 Fire extinguish gratings ... 420

#### OTHER

Expanded metal 424
Anti-slip protection &
Contrast markings 428
Profiles432

#### WELAND GROUP | 438-459

Weland Group .....438

Contact us ......458





## SWEDISH QUALITY SINCE 1947



# STAIRCASES

We offer the widest range of staircases currently available on the market, and our product development team boasts many years of knowledge and expertise. All our staircases are made in Sweden and you can rest assured that the quality and function of your staircase will live up to your expectations, regardless of whether you choose one from our standard range or buy a custom one that is tailored to your exact requirements.

## SPIRAL STAIRCASES

We have a wide range of spiral staircases for both indoor and outdoor environments. Spiral staircases require very little room at the base, which make them an excellent alternative for instances where space is limited or needs to be used for something else. With their modern architectural design, spiral staircases blend into the environment whilst still being an eye-catching feature.

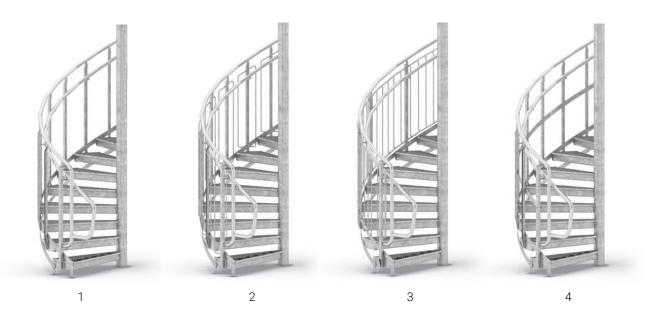
They are suitable for evacuation, industry, public places, offices, shops, and homes, and can be used as industrial staircases, evacuation staircases, or general access staircases. In order to satisfy your needs and requirements, we offer a wide range of different railing types and stair treads.





### RAILINGS

Our railings have been developed to create safe and secure staircases in all types of environment, regardless of whether the staircase is to be sited indoors or outdoors. Hoops, round bars, mesh, and glass are all childproof alternatives with a maximum opening of 100 mm.



5 6 7

#### 1. STANDARD

Mainly suited for use in industrial applications, but can also be used for evacuation staircases where there are no children present.

#### 2. HOOP

A simple railing that is always in stock.

#### 3. ROUND BAR

A railing focusing on form and design.

#### 4. INTERMEDIATE RAIL

Railing that can be provided with one to four steel bar intermediate rails.

5. SHEET METAL Railing with solid or perforated sheet metal.

#### 6. WOVEN WIRE MESH Railing with crenelated mesh.

Railing filled with glass infill for an extra finish.

7. GLASS



UNTREATED STAINLESS STEEL





BEECH



ASH



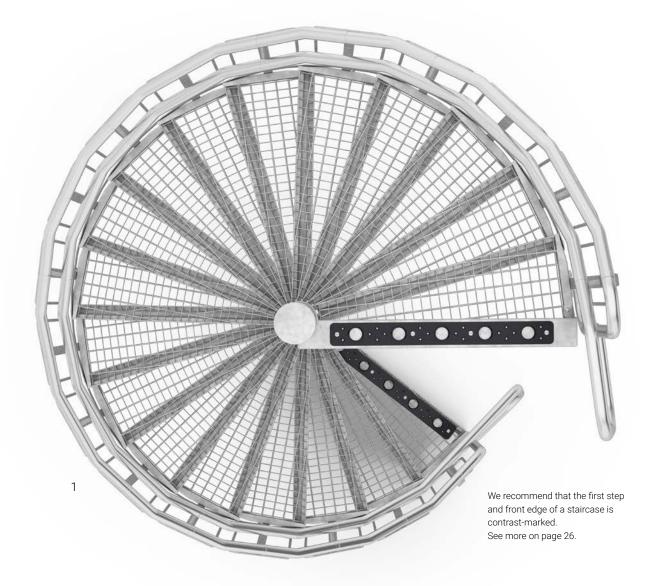
OAK

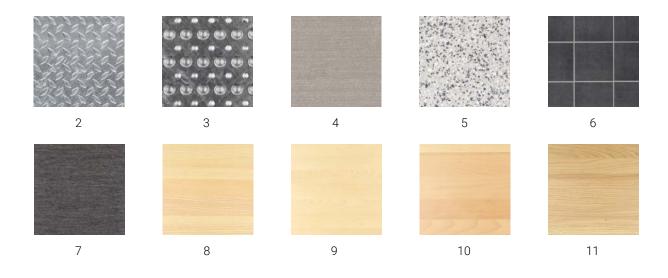
### HANDRAILS

BIRCH

Handrails are usually integrated in the railing and are manufactured from untreated stainless steel as standard. We also offer a wide range of painted or wooden handrails. A wooden handrail is primarily used as an extra handrail; see the available accessories on page 26.







### STAIR TREADS

The choice of stair treads and landings is generally based on the environment in which the staircase is to be located and if it is to be used indoors or outdoors. Sometimes, functionality is the sole consideration, but often design also plays an important role when choosing the material of a stair tread. The following step types are suitable only for indoor use – sheet metal for tile, sheet metal for carpet, terrazzo concrete, ash, birch, beech, and oak.

#### 1. GRATING

Hot-dip galvanized grating step supplied in standard mesh width 33  $\times$  50 mm.

#### 2. TEAR PLATE

Step made from tear patterned hot-dip galvanized solid checker plate.

#### 3. PERFORATED GRIP PLATE

Hot-dip galvanized perforated plate stair tread – a good alternative to grating if you are looking for a more solid step surface.

#### 4. GREY CONCRETE

Grey concrete stair tread supplied for both indoor and outdoor use.

#### 5. TERRAZZO CONCRETE

Stair tread with terrazzo concrete tread surface. We offer several different standard colours.

#### 6. SHEET METAL FOR FLOOR TILES

Stair tread designed as a sheet metal box to simplify tile laying.

#### 7. SHEET METAL FOR CARPET

Sheet metal step adapted for the laying of carpet.

#### 8. ASH

Stair tread in glued laminated ash. Supplied varnished as standard.

#### 9. BIRCH

Stair tread in glued laminated birch. Supplied varnished as standard.

#### 10. BEECH

Stair tread in glued laminated beech. Supplied varnished as standard.

#### 11. OAK

Stair tread in glued laminated oak. Supplied varnished as standard.



### LANDINGS

Our spiral staircases are adapted for use in both public and industrial environments. A number of different landings are available to break climbs depending on the environment in which the staircase is to be located.

We manufacture our landings in quadratic form as standard. However, 90° landings with radius or final step landings are also available. Landings can also be extended to a platform or balcony. In instances where it is not possible to use a standard landing, we can make adaptations according to your requirements and fabricate a landing the fits your needs like a glove.

Our stair treads and landings are usually made from grating, durbar plate, or perforated plate, but we also offer them in other materials as well, including concrete, or a wide variety of timbers such as ash, birch, beech, or oak.

#### 1. FINAL STEP

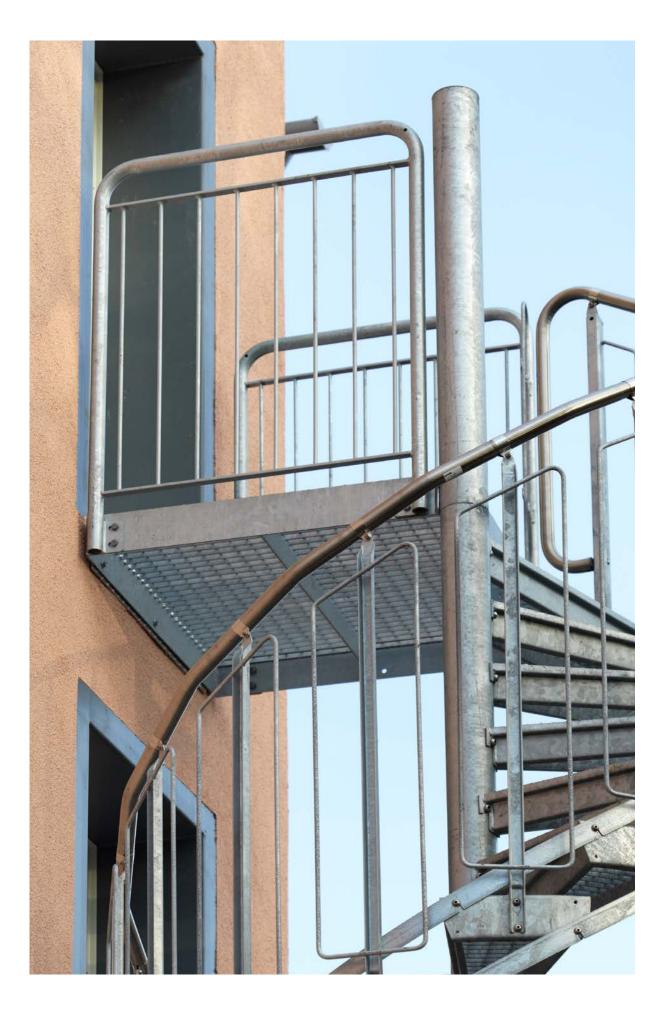
A smaller type of landing that is suitable for attaching to things such as an existing balcony.

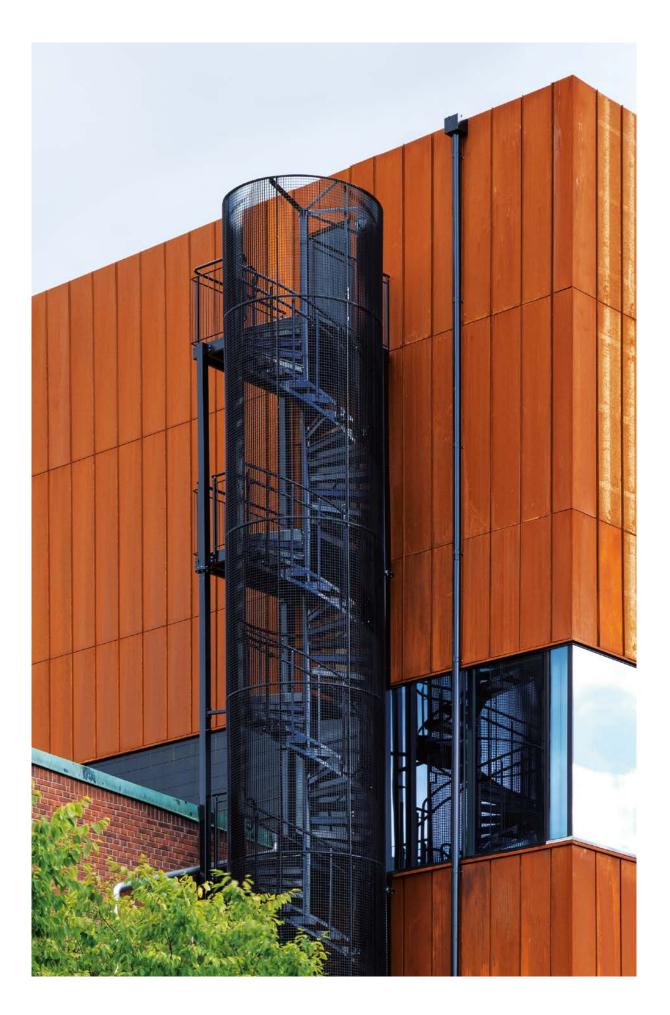
#### 2. SQUARE

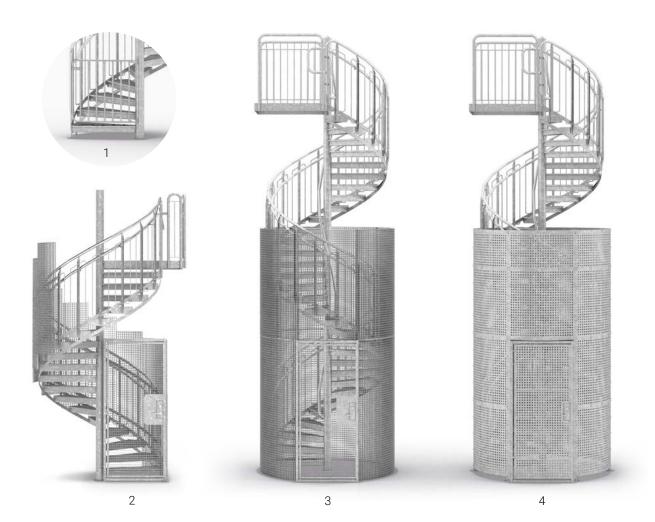
Square landing for placing in the corner or connection to arch edge.

#### 3. 90° LANDING WITH RADIUS

 $90^{\circ}$  landing with radius for connection to round hole in arch.







### PROTECTIVE CAGE & GATE

To prevent unauthorised persons from entering the staircase, you can add a protective cage or gate. Our protective cages are made from grating as standard and are available in a number of different models and heights.

#### 1. GATES

Gates can be fitted at the bottom or top of a staircase. The lock is spring loaded and is so firm that it cannot be opened by small children.

#### 2. QUARTER

Protective cage that follows parts of the stairwell. The height is 2250 mm.

#### 3. ROUND

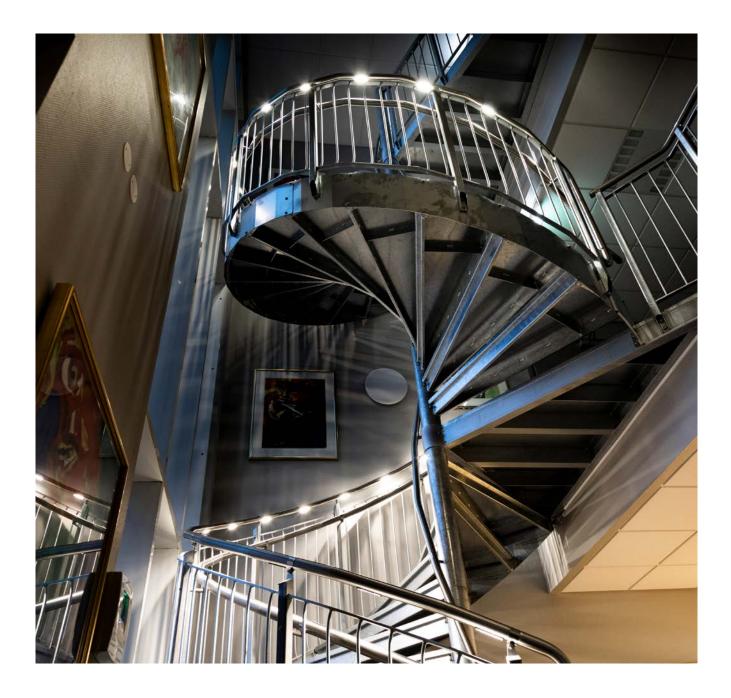
Protective cage around the entire spiral staircase. Made as standard in heights of 2245 and 4000 mm. Can also be fabricated according to custom dimensions.

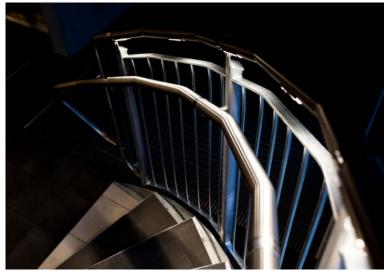
#### 4. STAIRCASE ENCLOSURE

Protective cage in perforated plate. Can be made in any height.

## LIGHTING

Adding optional lighting to the bannister makes a spiral staircase safer to use, particularly in dark and dim environments. This accessory also brings a sense of excitement to a staircase design and gives it a more elegant appearance.









ARCH RAILING

### ACCESSORIES

To increase the accessibility and safety of the staircase, our spiral staircases can be equipped with many accessories, such as handrails, inner handrails, contrast marking, and arch railings.

#### ARCH RAILING

We offer several different types of arch railing, all of which are fabricated in heights of 1100 mm. These are fitted from the top or side.

#### CONTRAST MARKING

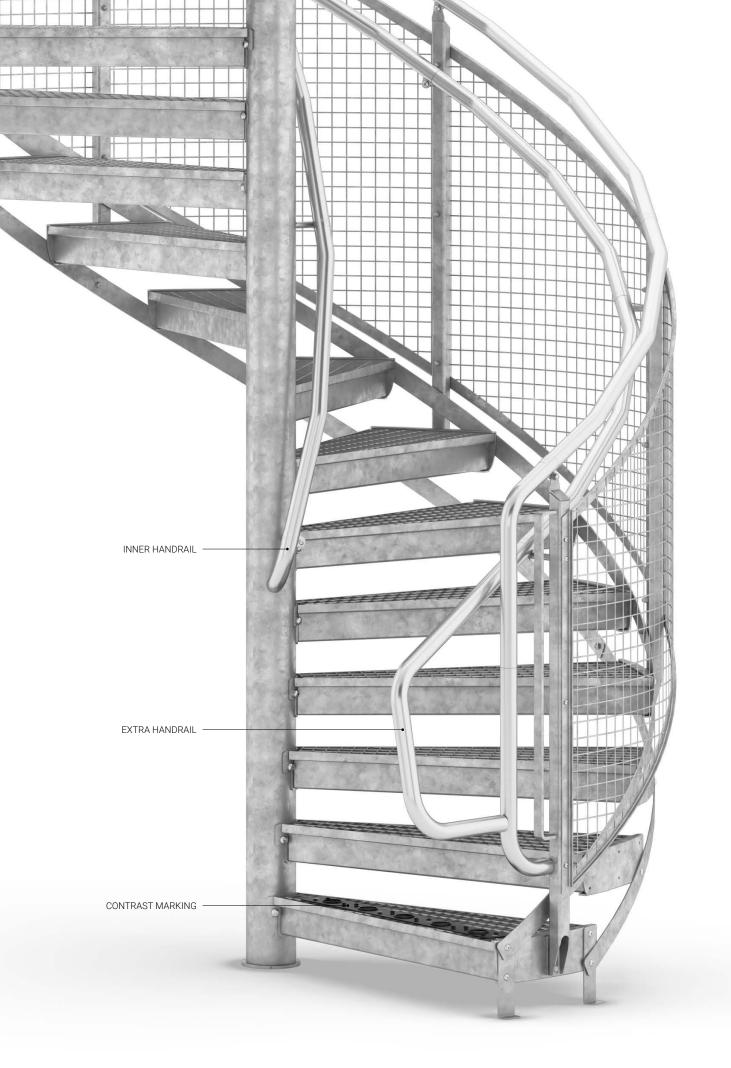
The first stair tread of each flight, as well as the front edge of landings, can be provided with contrast marking. The design differs depending on the type of stair tread used. Contrast marking on steps made from grating is black as standard, but is also available in other colours upon request.

#### INNER HANDRAILS

Spiral staircases with large radii can be equipped with inner handrails in the central tube. This provides increased safety on a wider staircase and when, for example, two people pass on the stairs.

#### EXTRA HANDRAIL

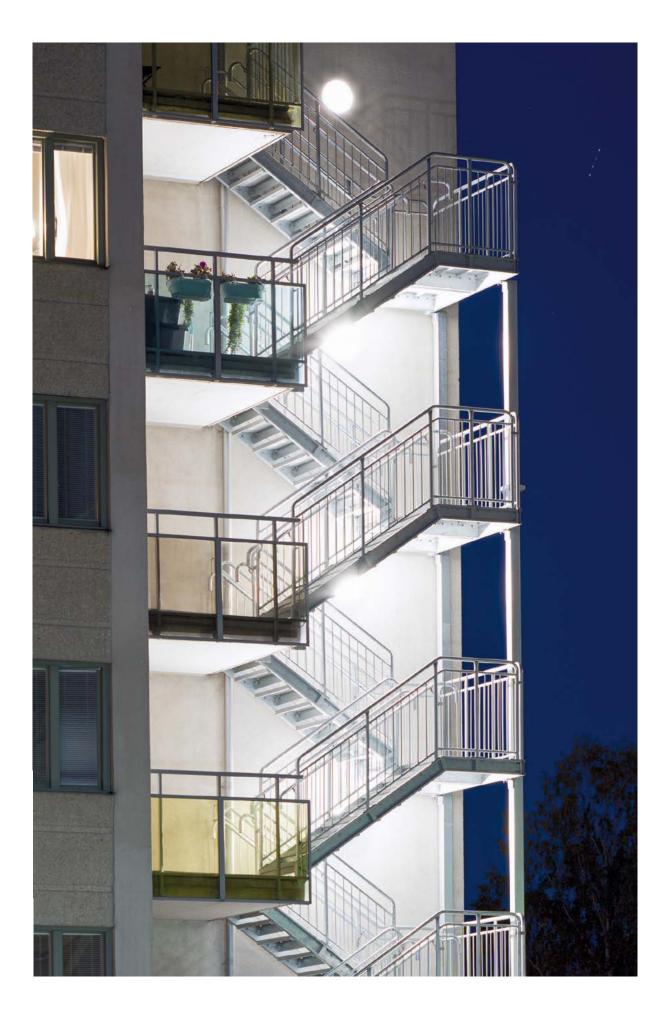
Weland spiral staircases can be equipped with extra handrails in order to increase safety. They are usually positioned at a height of 900 mm and can be extended to the beginning and end of the staircase.

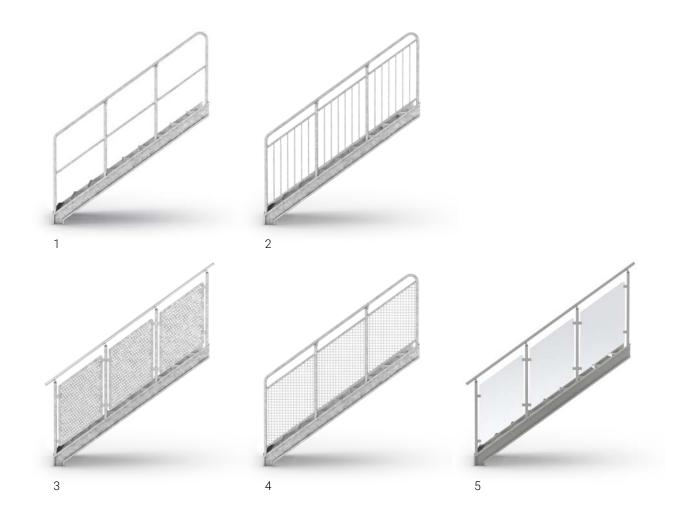


## STRAIGHT FLIGHT STAIRCASES

Our straight flight staircases are developed, designed, and manufactured in Sweden. Thanks to an efficient production line and modern machine park, we minimise our environmental mpact whilst also guaranteeing a high level of quality and short delivery times. The staircases only comprise a few main components, making installation quick and easy.







### RAILINGS

There are several different types of rail that can be used with our straight flight staircases. The choice of rail is dictated by the environment in which the staircase is to be located and whether it is to be used by children. Round bar, sheet metal, mesh, and glass have a maximum opening of 100 mm, all of which are childproof.

1. INTERMEDIATE RAIL An industrial railing with an intermediate rail.

2. ROUND BAR A railing focused on form and design.

3. SHEET METAL Railing with solid or perforated sheet metal. 4. WOVEN WIRE MESH Railing with crenelated mesh plate.

5. GLASS Railing infill with glass for that extra finish.







BIRCH



PAINTED



BEECH



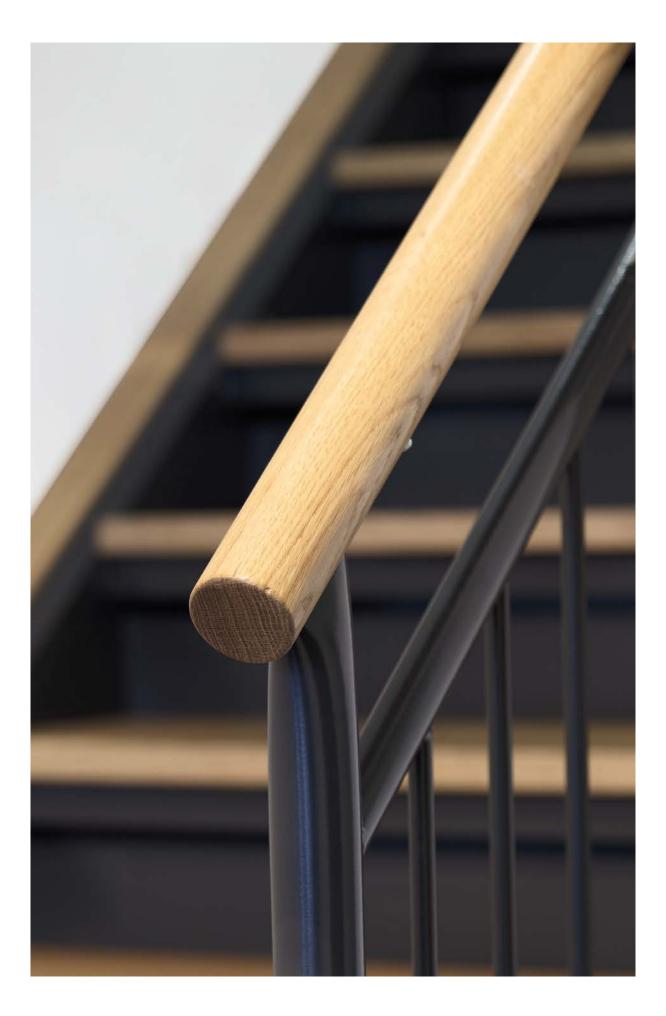
ASH



OAK

### HANDRAILS

Our handrails are made as standard from hot-dip galvanized steel, but we also have a wide selection of wood varieties or painted options if you prefer. A wooden handrail is primarily used as an extra handrail. See accessoires on page 40.





We recommend that the first step and front edge of a staircase is contrast-marked. See more on page 40.

### STAIR TREADS & LANDINGS

Generally, the environment in which a staircase is to be located dictates the choice of stair treads and landings. Sometimes, the only consideration is function, but often a lot of emphasis is placed on the design of the staircase when choosing a material.

The following step types are suitable only for indoor use – sheet metal for tile, sheet metal for carpet, terrazzo concrete, ash, birch, beech, and oak.

#### 1. GRATING

Hot-dip galvanized grating step Supplied in standard mesh width 33 x 75 mm.

#### 2. TEAR PLATE

Step made from tear patterned hot-dip galvanized solid checker plate.

#### 3. PLANK TYPE FLOORING

Hot-dip galvanized plank type flooring step. Plan type flooring is available in four "flavours", one of which is solid, with the remaining three featuring some form of hole pattern.

#### 4. GREY CONCRETE

Grey concrete stair tread supplied for both indoor and outdoor use.

#### 5. TERRAZZO CONCRETE

Stair tread with terrazzo concrete tread surface. We offer several different standard colours.

#### 6. SHEET METAL FOR FLOOR TILES

Stair tread designed as a sheet metal box to simplify tile laying.

#### 7. SHEET METAL FOR CARPET

Sheet metal step adapted for the laying of carpet.

#### 8. ASH

Stair tread in glued laminated ash. Supplied varnished as standard.

#### 9. BIRCH

Stair tread in glued laminated birch. Supplied varnished as standard.

#### 10. BEECH

Stair tread in glued laminated beech. Supplied varnished as standard.

#### 11. OAK

Stair tread in glued laminated oak. Supplied varnished as standard.



### PROTECTIVE CAGE & GATE

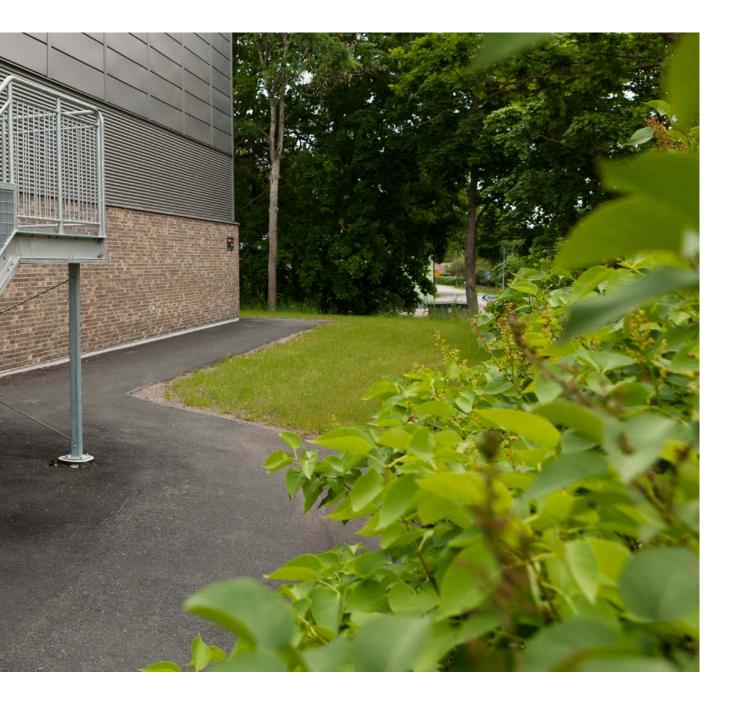
To prevent unauthorised persons from entering the staircase, you can add a protective cage or gate. Our protective cages are made from grating as standard and are available in a number of different models and heights.

#### PROTECTIVE CAGE, STRAIGHT

Protective cage that follows parts of the stairwell. The cage door is opened by a key from the outside and knob from the inside. Hot-dip galvanized version.

#### GATES

Gates can be fitted at the bottom or top of a staircase. The lock is spring loaded and is designed so that it cannot be opened by small children. Hot-dip galvanized version.



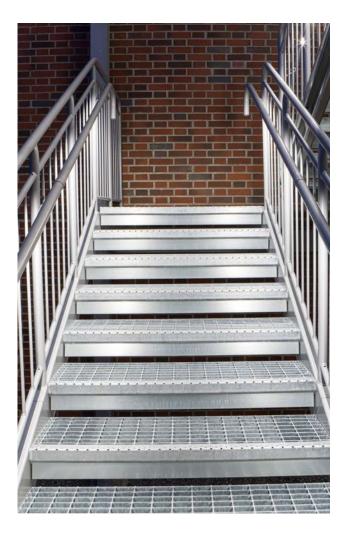




# LIGHTING

Adding optional lighting to the bannister makes a staircase safer to use, particularly in dark and dim environments. The lighting also makes an exciting part of the staircase design and gives it a more elegant appearance.









### ACCESSORIES

To increase the accessibility and safety, our straight flight staircases can be equipped with many optional extras, such as s handrail, inner handrail, contrast marking, and arch railings.

#### CONTRAST MARKING

Contrast marking is placed on the first stair tread of each flight, as well as the front edge of landings. The design differs depending on the type of stair tread.

#### ARCH RAILING

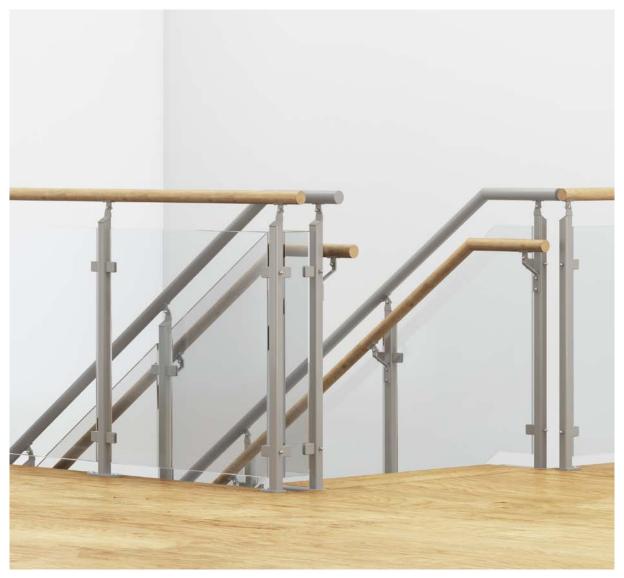
We offer several different types of arch railings. They are manufactured to a height of 1100 mm and attached from the top or side.

#### EXTRA HANDRAIL, EXTENDED

You can equip your staircase with an extra handrail that can also be extended 300 mm at the beginning and end of the staircase. The extra handrail is placed under the standard handrail and helps increase safety on the staircase even further.

#### BANISTER

Equipping your staircase with a banister, which is fixed to the wall, increases safety.



ARCH RAILING



EXTRA HANDRAIL, EXTENDED

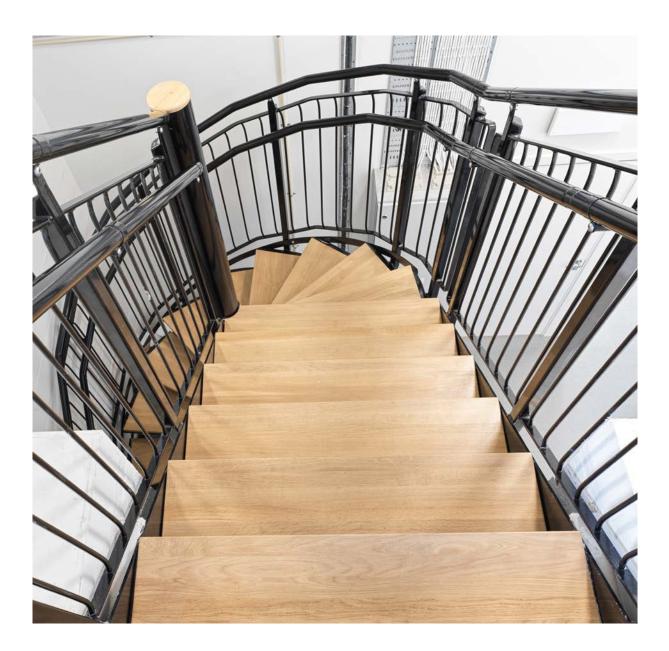


BANISTER

# SPECIAL STAIRCASES

We customise special staircases according to our customers' requirements. A custom staircase may be equired if, for example, the location in which the staircase is to be placed has special criteria that need to be taken into account. Our experience and high level of expertise ensure that you get a staircase that satisfies your specific requirements.



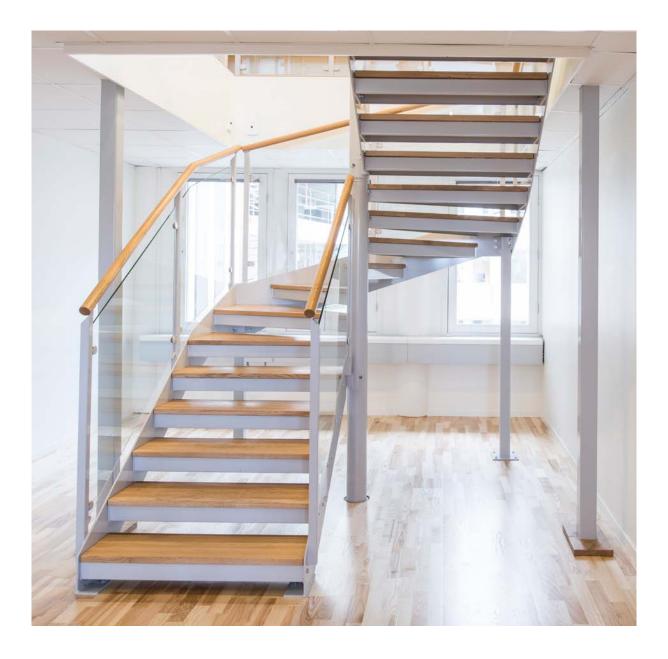


## COMBI-STAIRS

Sometime, the environment imposes requirements on a custom staircase. Our combi staircase, which is a combination of a straight staircase and a spiral staircase, may be the solution.

In the curved section of the staircase, we fabricate the stair treads to follow the radius of the staircase in a safe and attractive way. Can be combined with stair treads and railings from our standard range. By focusing on function, form, and design, we come with you every step of the way from concept to finished staircase that is precisely designed to be compatible with the environment in which it is to be located.





## CORNER STAIRCASES

Our corner staircases are a combination of a straight flight staircase and a spiral staircase.

Unlike the combi staircase, the curved steps do not follow a radius, but instead go out into corners and form right angles. Combines with stair treads and railings from our standard range. We make sure that the corner staircase is designed so that it fits erfectly into the intended environment and meets your expectations of both function and design.





## WINDING STAIRCASES

Our winding staircases are made with curved stringers, which makes this staircase the perfect choice if, for example, it is to follow a silo on the inside or outside.

Stair treads and railings are available in the same combinations as for spiral staircases. We customise winding staircases so that they are adapted to environments that place very specific demands on the design of the stairs.





# CURVED STAIRCASES

The custom-made curved staircases with stringers are adapted and designed so that they become a natural part of the environment in which they are located.

When it comes to steps and railings, you are offered the same combination options that apply to our spiral staircases.





# SPECIAL SPIRAL STAIRCASES

Our special spiral staircases open the door to new solutions and opportunities.

You may need an extra strong centre tube, larger radius, customised railings or something else that does not fit within the established standard. We offer completely customised solutions that address the circumstances of the environment in which the stairs will be located.





# FOLDING STAIRCASE

In environments with different levels, our folding staircase is an excellent alternative to a fixed construction.

Our folding staircase is primarily used in the petrochemical industry, but also in other types of environment where a fixed staircase design is not an option.

The staircase, which is articulated, consists of a number of grating stair treads with parallel stringers, rubber clad support bellows, railings on both sides, as well as the attachments. The two dampers on the side make the stairs easy to handle. The folding staircase is available in stock for immediate delivery; see page 244.





# STAIR TREADS

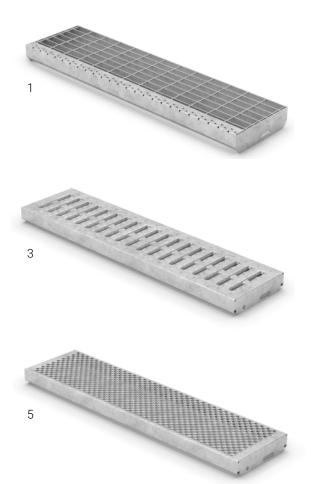
(0)

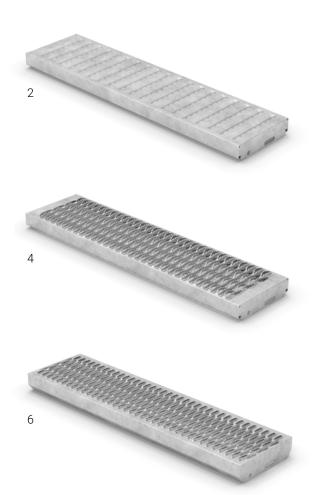
AFFFFFFFFFF

07)

We offer straight stair treads in grating, slit plank type flooring and plank type flooring. The majority of the stair treads are kept in stock for immediate delivery.

20





## STAIR TREADS

We manufacture steps in different materials and versions for easy adaptation to different types of environment and requirement. For all dimensions and designs, see project planning on page 244.

#### 1. TH6-S, GRATING

The vast majority choose steps in our TH6-S press welded grating. The stair tread has a safety front edge that clearly marks the leading edge and also provides increased anti-slip protection.

#### 2. TLDT, PLANK TYPE FLOORING

TLDT stair treads are made from solid plank type flooring. The top has an embossed pattern offering good anti-slip protection.

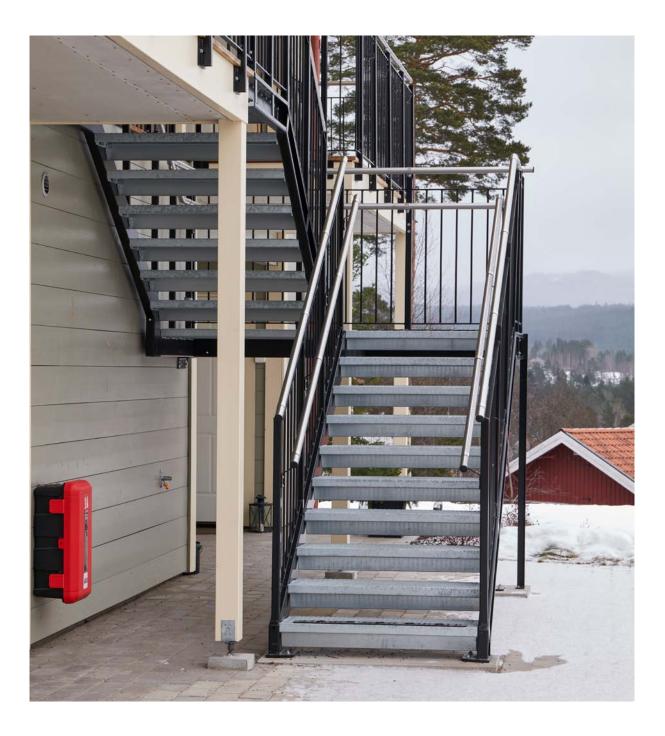
### 3. TLDH, PLANK TYPE FLOORING

7

TLDH stair treads are made from holed plank type flooring. The top has an embossed pattern offering good anti-slip protection. In principle, this is the same as solid plank type flooring but supplemented with punched oval holes.

#### 4. TLDS, PLANK TYPE FLOORING

TLDS stair treads are made from slit plank type flooring. The serrated top provides extremely good anti-slip protection.



#### 5. TLDP, PLANK TYPE FLOORING

TLDP stair treads are made from perforated plank type flooring. The unique top side provides very good anti-slip protection. The flooring has smaller openings which minimises the risk of objects falling through.

#### 6. TSD, SLIT PLANK TYPE FLOORING

TSD stair treads are made from slit plank type flooring. The serrated top provides extremely good anti-slip protection.

### 7. LOOSE RISER BARS

Loose, stock riser bars for straight flight staircases. The riser bars are bolted to the tread to satisfy child safety requirements between the treads. Scraper steps are available in several different lengths. See project planning on page 244.

# LANDINGS

STIT

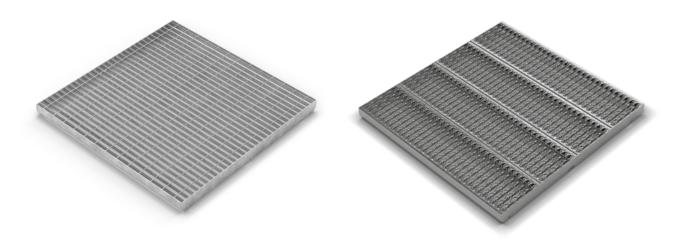
We offer landings made in grating and slit plank type flooring. The majority of our landings are kept in stock for immediate delivery.





## LANDINGS

We manufacture landings in different materials and with varying mesh width openings. For more information about dimensions of landings, see project planning on page 244.



### TH6, GRATING

TH6 is manufactured from grating with a mesh width opening c/c  $34 \times 75$  mm. Hot-dip galvanized.

### TSD, SLIT PLANK TYPE FLOORING

TSD is made from slit plank type flooring. The serrated top provides very good anti-slip protection and lets through dirt, oil, and other spillages. Hot dip galvanized.

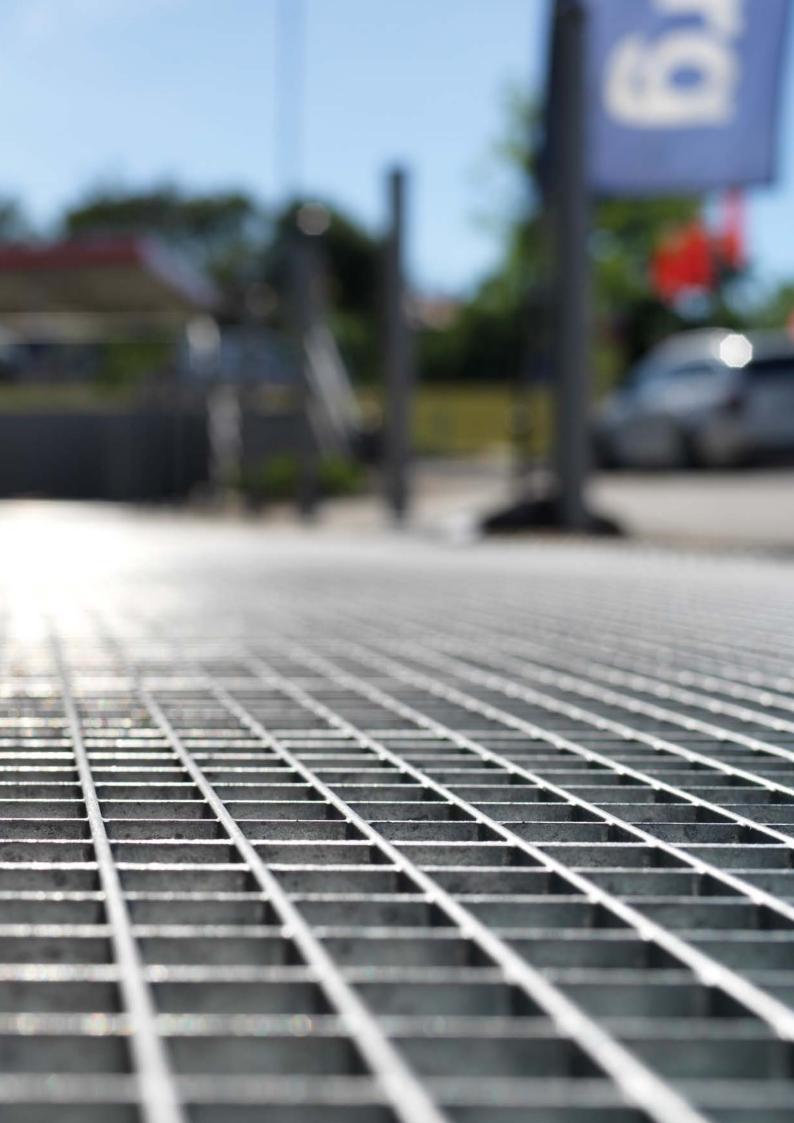


# GRATING

Historically, grating is the backbone of Weland's business. To match different uses and varyingneeds, we manufacture it in a variety of designs. Our grating is used as components in wheelchair ramps, footbridges, mezzanines, ramps, and staircases. Here you will find information about our different types of grating and everything that is needed for planning and assembly.

# **GRATING PEDESTRIAN TRAFFIC**

Pressure welded gratings are manufactured in various mesh widths and heights. We have a large range in stock for immediate delivery. Gratings for pedestrian traffic can also be made to order with different load bearing bar heights, mesh widths and formats, to meet special specifications and requirements.



### STOCKED WALKWAY GRATINGS

We manufacture and stock our press welded grating in a variety of mesh widths and heights. This means that you, our customer, benefit from a wide range of different options and fast deliveries. These stocked formats are easy to handle, which affords quick and easy installation as the edge bar does not require cutting or welding. We offer same day delivery on orders placed before 10 a.m. For more information about our complete range of stock grating, see project planning on page 244.

#### H6 MESH WIDTH 34 X 75 MM

H6 press welded grating is the most common grating for pedestrian areas. Available in three different load bearing bar heights.

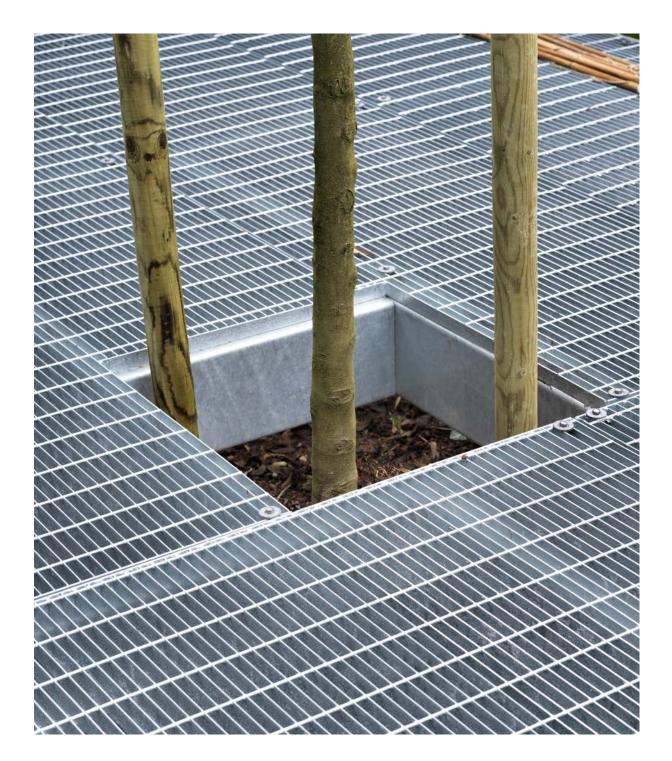
#### H3 MESH WIDTH 34 X 37 MM

H3 press welded grating is a commonly used grating for pedestrian areas. It is available in two different bar heights and each height is stocked in different formats.

#### N6 MESH WIDTH 17 X 75 MM

Available in two load bearing heights. This type of grating is used when you need a denser mesh.

We also manufacture different types of grating in full format  $3 \times 1 \text{ m}$ ,  $6 \times 1 \text{ m}$ , and  $8 \times 1 \text{ m}$ . These gratings can also be cut to requirements and delivered with a short delivery time.

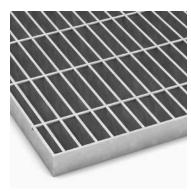




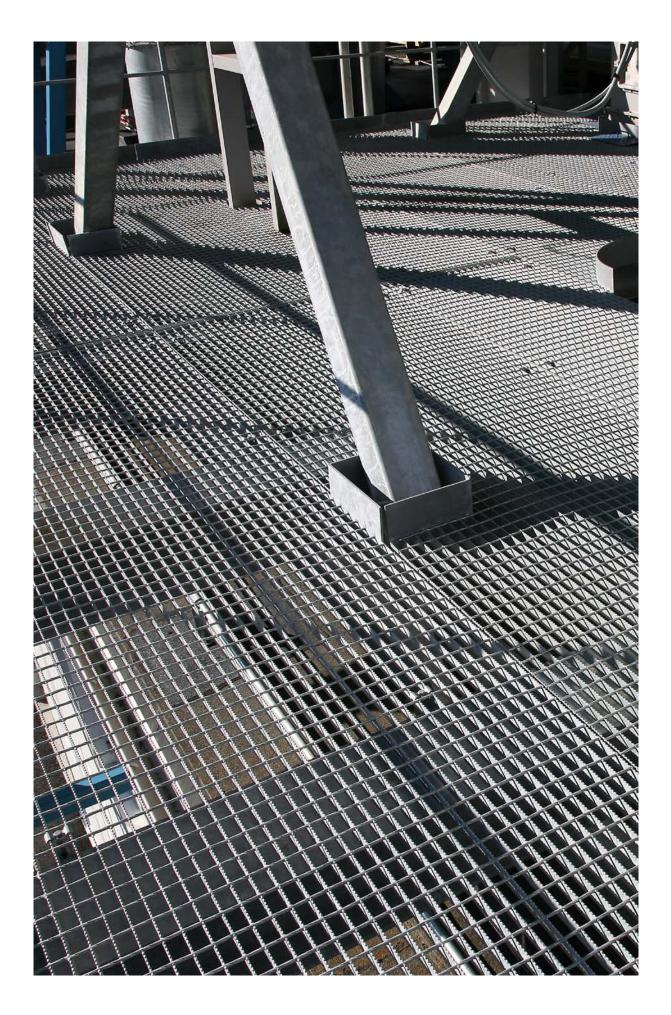
H6 MESH WIDTH 34 X 75 MM

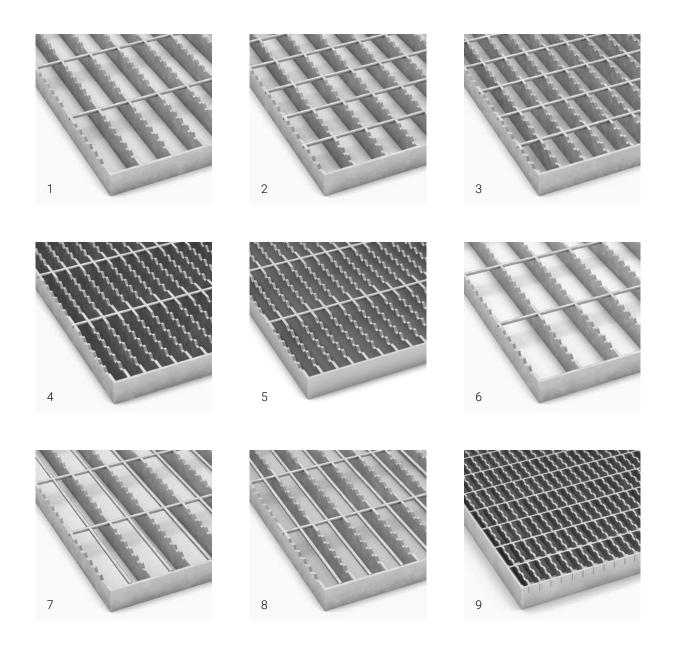






N6 MESH WIDTH 17 X 75 MM

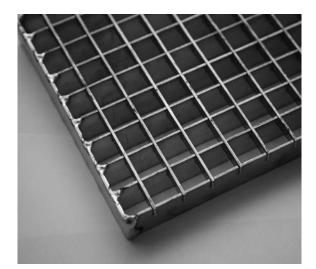




### SERRATED WALKWAY GRATING

In addition to our wide stocked range, we also offer serrated walkway gratings in a number of different variants. This type of grating provides very high anti-slip protection in environments where there are particularly high demands on slip resistance. For our complete stocked range, see project planning on page 244.

- 1. H9-T, mesh width 33 x 100 mm
- 2. H4-T, mesh width 33 x 50 mm
- 3. F4-T, mesh width 25 x 50 mm
- 4. N9-T, mesh width 16 x 100 mm
- 5. N9-T stainless steel, mesh width 16 x 100 mm
- 6. J9-T, mesh width 41 x 100 mm
- 7. JN9-T, mesh width 41 x 100 mm
- 8. HN9-T, mesh width 35 x 100 mm
- 9. A33x11, serrated



WALKWAY GRATING, ALUMINIUM TYPE A



WALKWAY GRATING, STAINLESS STEEL TYPE A



CUSTOM-MADE WALKWAY GRATING

### CUSTOM-MADE WALKWAY GRATINGS

We offer walkways that are tailored to your needs and requirements. For more detailed technical information, see project planning on page 244.

#### WALKWAY GRATING, ALUMINIUM TYPE A

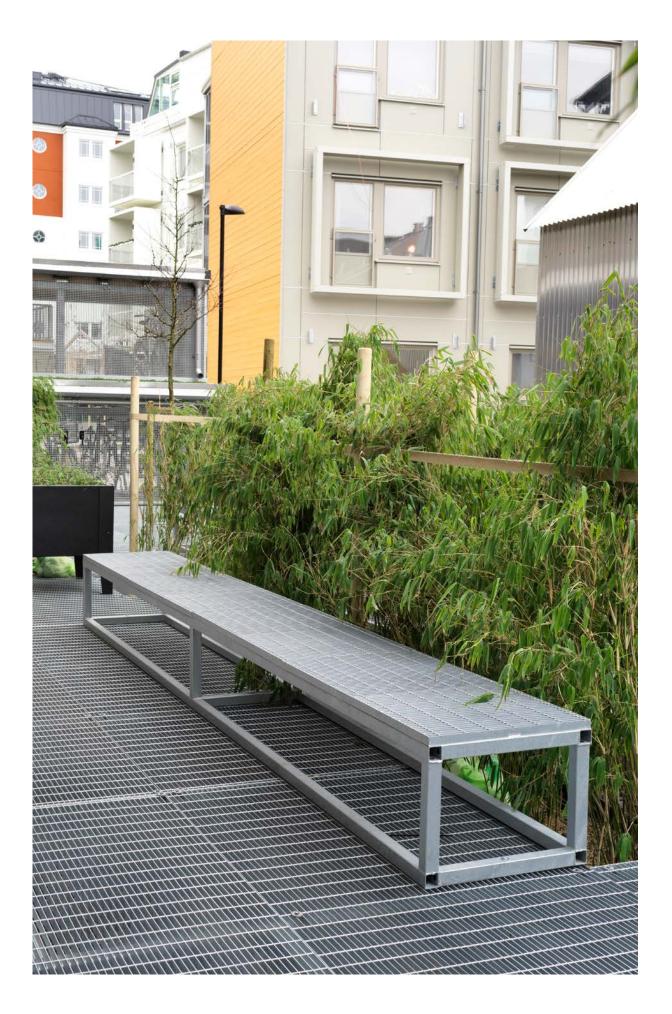
Aluminium grating is a light and stable grating that is best suited for dry indoor environments. One of many advantages is its weight, which is about 30% less than its steel counterpart. Aluminium grating is always manufactured with an edging bar and with a pickled finish.

# WALKWAY GRATING, STAINLESS STEEL TYPE A

The stainless A-grating is the best choice if you're looking to achieve a more exclusive and appealing entrance.

#### CUSTOM-MADE WALKWAY GRATING

In addition to our stocked range, you can also order grating that is cut and customised to your requirements. The gratings can be ordered with different bearing bar heights, mesh widths, and formats.

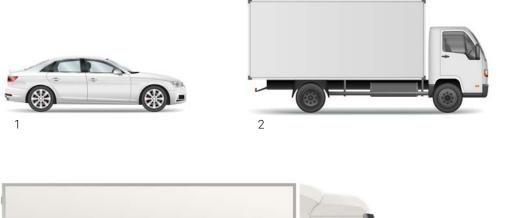


# GRATING VEHICLE TRAFFIC

= = - -

We provide gratings for vehicle traffic in a myriad of different variants. As standard, we keep the majority in stock. Special sizes of kerb angle frames and other steel supports are manufactured to order.







# GRATINGS FOR VEHICLE TRAFFIC

Vehicular gratings are stocked for immediate delivery, but they can also be custom-made to meet special specifications and requirements. Apart from our standard assortment, which is hot dip galvanized, we also offer gratings in stainless steel. For our complete range of stocked grating, see project planning on page 244.

#### 1. PRIVATE CARS MAX. 3 TONNES

Vehicular gratings for private cars with total max. weight of 3 tonnes.

### 2. VEHICLES TOTAL WEIGHT BETWEEN 3 - 16 TONNES

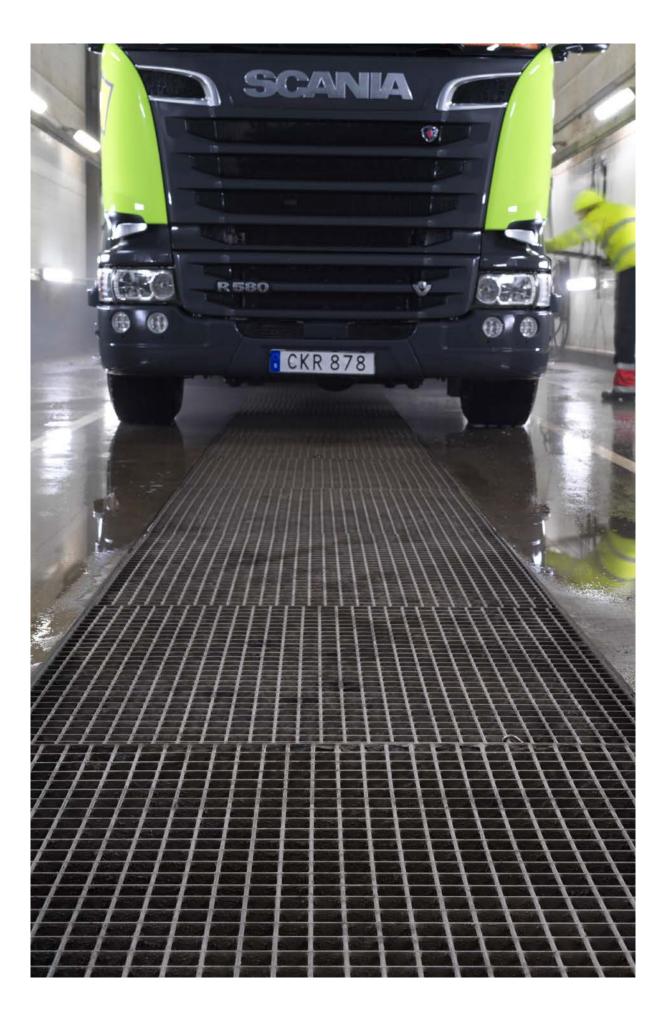
Vehicular gratings for small goods vehicles with total max. weight 3 - 16 tonnes.

### 3. HEAVY GOODS VEHICLES

Vehicular gratings for heavy traffic.

### 4. FORK LIFT TRUCKS

Vehicular gratings for fork lift trucks with solid or pneumatic tyres.

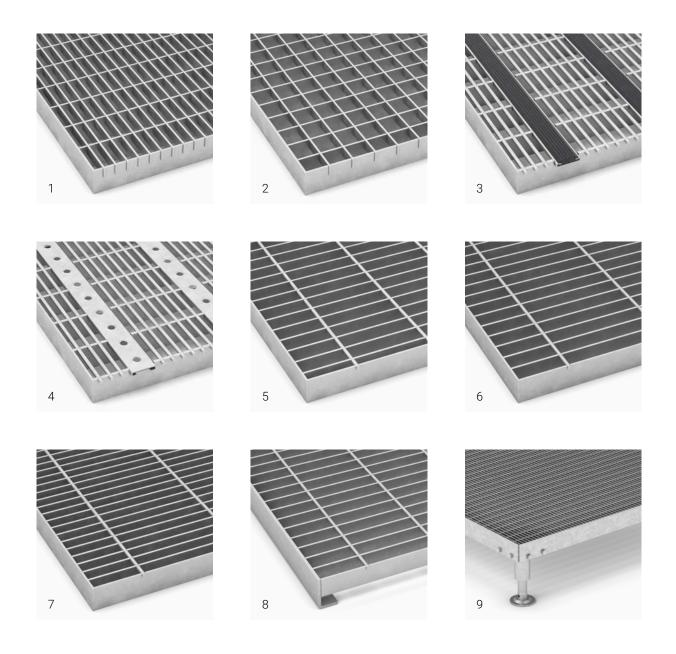






# ENTRANCE GRATINGS

We offer fully integrated solutions for small and large entrances where things such as kerb angle frames, entrance gratings, and anti-slip protection form part of the solution. Our entrance gratings are available in a large number of different variants, and we also manufacture customised gratings if necessary. Most of our gratings are kept in stock for immediate delivery, making your planning process more manageable and simple.



## ENTRANCE GRATINGS

Our A-gratings are fine meshed and have a dense mesh width. This makes them a good choice for most entrances. Our N and B gratings also feature a dense mesh but can be formed for bearing heavier loads.

- 1. A33x11, mesh width c/c 33 x 11 mm
- 2. A22x22, mesh width c/c 22 x 22 mm
- 3. AR1-25 with rubber strip, mesh width c/c 45 x 10 mm
- 4. AR1-25 with scraper strip: mesh width c/c 45 x 10 mm
- 5. N6-25, mesh width c/c 17 x 75 mm
- 6. N9-25, mesh width c/c 17 x 100 mm
- 7. B9-25, mesh width c/c 12 x 100 mm
- 8. N6 grating with L-profile edge bar
- 9. Entrance grating with adjustable legs





# CUSTOMIZED GRATING

.....

Our customised offering contributes to both increased flexibility and varied choices for you as a customer. Significantly, we are generally not limited by special dimensions or meshes. The size of the mesh does not need to be the same across the whole surface, which can provide new and interesting patterns.



## LARGE MESH GRATING

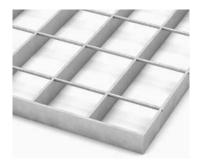
Large mesh grating is available in three mesh widths. Customised formats are manufactured according to specifications, requirements, and preferences.

Our press welded gratings I4, I6, and I9 work perfectly as protective grating, gates, burglar protection, fences, suspended ceilings, screens, trellises, and display stands. Supplied hot-dip galvanized as standard, but can also be supplied painted.

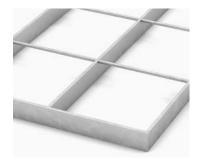




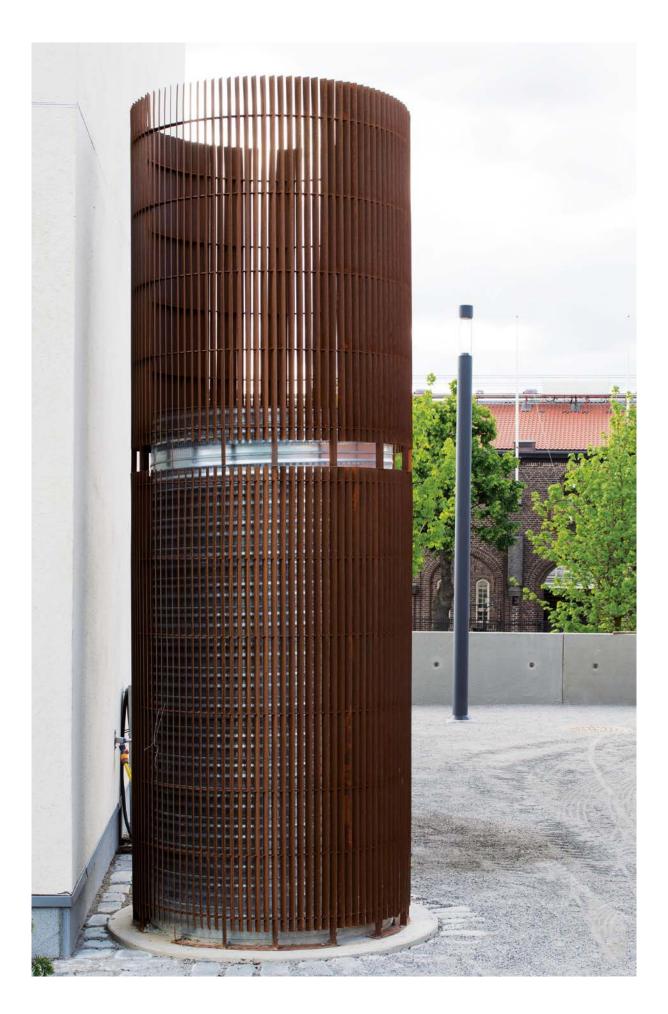
14 - mesh width 68 x 50 mm



16 - mesh width 66 x 75 mm



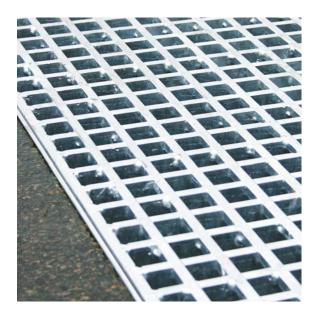
19 - mesh width 100 x 100 mm



## FLEXIBLE AND HEAVY-DUTY GRATINGS

When extra high demands are placed on gratings, our flexible grating is an excellent choice. The possibilities for variation are endless and the grating is manufactured and designed completely according to your requirements. As standard, the grating comes in a hot-dip galvanized version, but is also available in other materials, such as Corten, aluminium, and copper. The gratings are made to order.





### FLEXIBLE GRATING

Our flexible gratings create new possibilities, because here we are not controlled by a special height of the grating or a specific measure of mesh width. The size of the mesh does not need to be the same across the whole surface, which can provide new and interesting patterns. For example, cross bars and load bearing bars can be angled and the cross bar does not need to be completely pressed down against the load bearing bar, instead, it can be ordered at any height.

Furthermore, the grating does not limit us either – we can fabricate it in several different materials such as Corten.

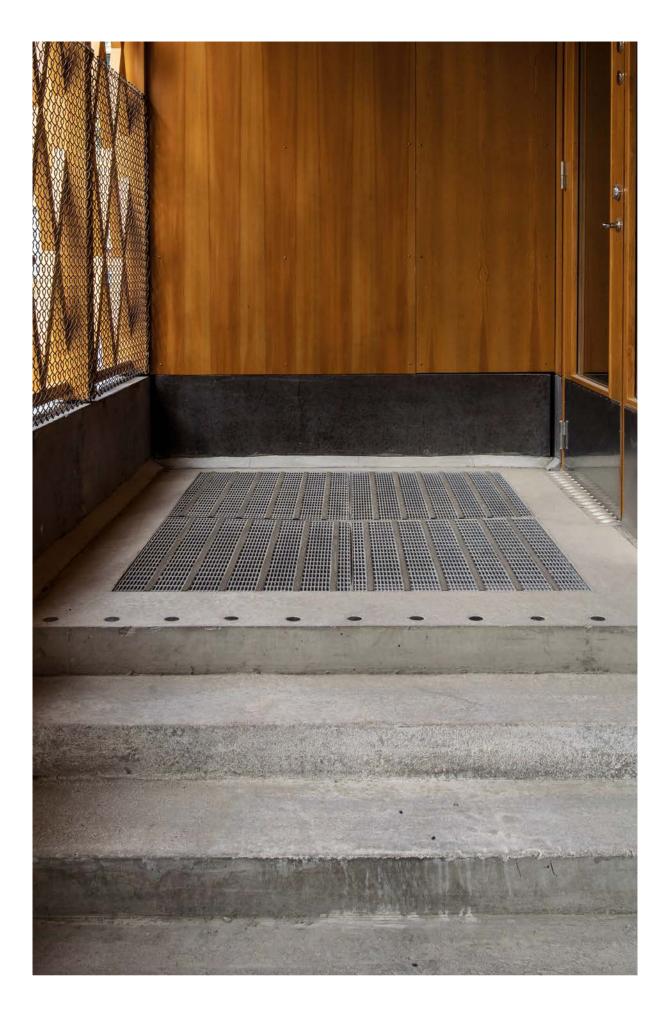
#### HEAVY-DUTY GRATING

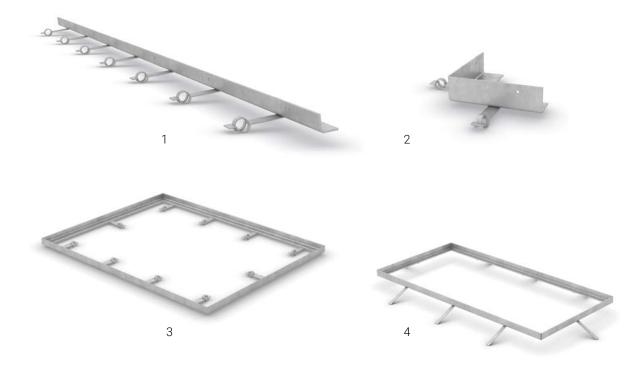
Grating can also be fabricated as an extremely heavy-duty grating that withstands very high spot loads. It is particularly suitable in environments with heavy traffic, such as in the paper, petrochemical, process, and engineering industries.

# FRAMES

We have a wide range of kerb angle frames and free-standing frames for walkway gratings, vehicular gratings, serrated gratings, and entrance gratings.







## L-PROFILE FRAMES

We stock kerb angle frames for all our grating types. The kerb angle frames are available as separate sections that can be cut and easily assembled to the required size, and as welded products. In addition to our stocked assortment, we also manufacture L-profile kerb angle frames to order.

### 1. FRAME SIDES

Frame sides are supplied in 2000 mm lengths and are cut to the required length during installation.

### 2. FRAME CORNERS

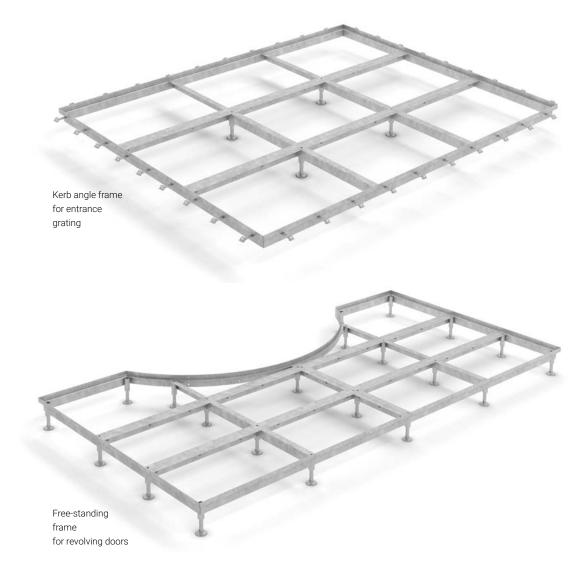
Frame corners with an angle of 90 degrees are available in stock.

### 3. KERB ANGLE FRAME

Stock kerb angle frame for entrance gratings, type A33x11, A22x22, or N6 25.

#### 4. OTHER KERB ANGLE FRAMES

Kerb angle frames are also available in other materials, including aluminium and stainless steel, or for chequer plate surfaces.



### Z-PROFILE FRAMES

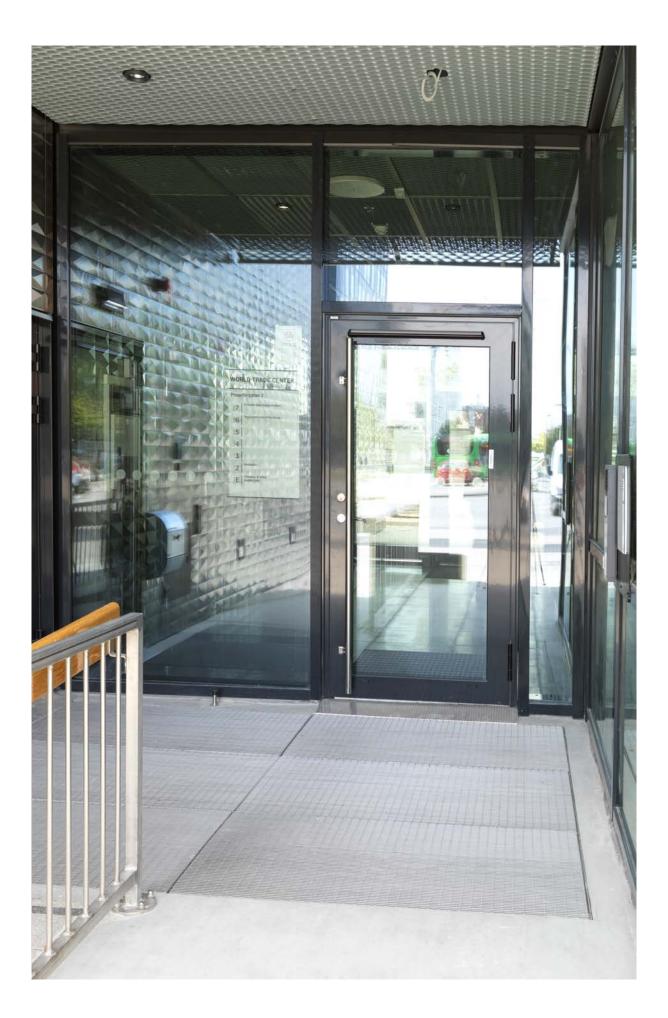
We manufacture various types of Z-frames for both large and small entrances. The Z-frames come with our stocked range of entrance gratings to provide an end-to-end solution for entrances. One of the major advantages of the Z-frames is that large areas can be covered without the need to embed fixing clamps or supplement with other forged components.

#### KERB ANGLE FRAMES

Kerb angle frames for entrance gratings or revolving doors. Supplied with type A22x22 or A33x11 entrance gratings. Z-profile frame for embedding and adjustable legs.

#### FREE-STANDING FRAMES

Free-standing frames for entrance gratings or revolving doors. Supplied with type A22x22 or A33x11 entrance gratings. With adjustable legs.





## FIXINGS

Grating, slit plank type flooring and plank type flooring should be anchored to the supporting structure. This can be done in various ways. Our attachment components, in hot-dip galvanized or stainless steel design, are in stock and are available as both complete and separate components. Complete information about our fixing components can be found under project planning on page 244.





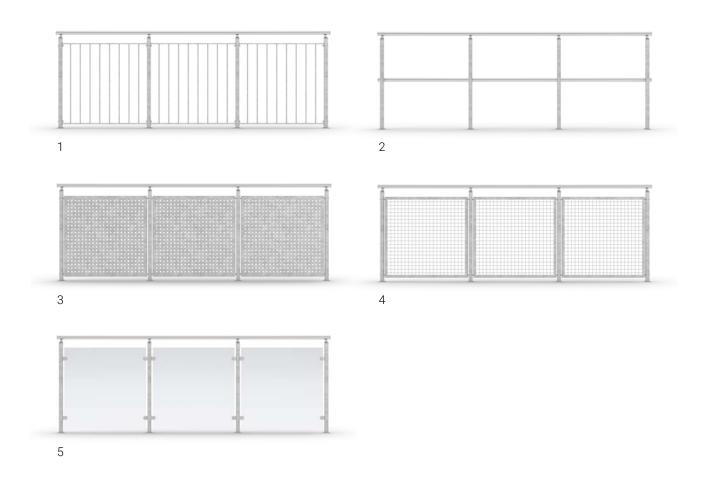
# RAILINGS

Define and secure your environment using flexible and easy-to-install railings from Weland. Our various railing types have many different applications and can be used for mezzanine floors, attic corridors, balconies, and bicycle lanes delimiters, and to create safe and secure surfaces in industrial environments.



# SECTIONAL RAILINGS

Sectional railings are manufactured as standard with attachments for side or top installation. The railing can be placed both indoors and outdoors. Variants that deviate from the standard concept can of course be manufactured, such as wooden handrails, painted finishes, or fillings against walls.



### MODELS

We manufacture several different models of sectional railing. All can be quickly and easily installed without welding; the handrail fastens to the railing posts using clamps and is then bolted securely in position. The railing can also be provided with corner sections. Round bars, sheet metal, woven wire mesh, and glass are all childproof alternatives. Round bar railing and intermediate rail are always kept in stock to ensure quick delivery.

1. ROUND BAR A railing focusing on form and design.

### 2. INTERMEDIATE RAIL

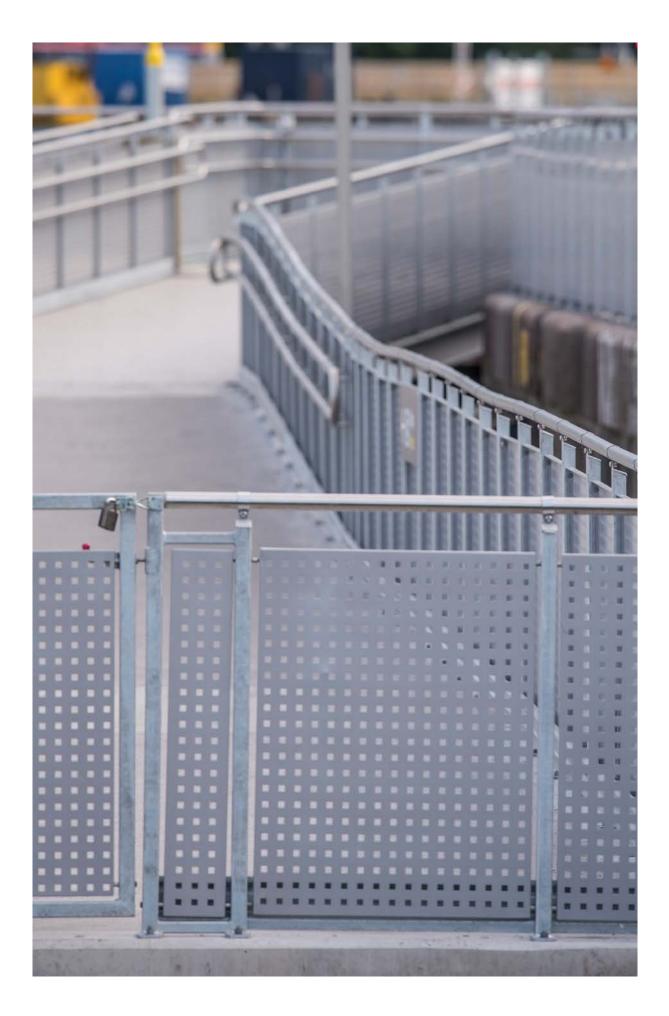
The railing is provided with a FOLLOWER and is an industrial railing. Not counted as childproof.

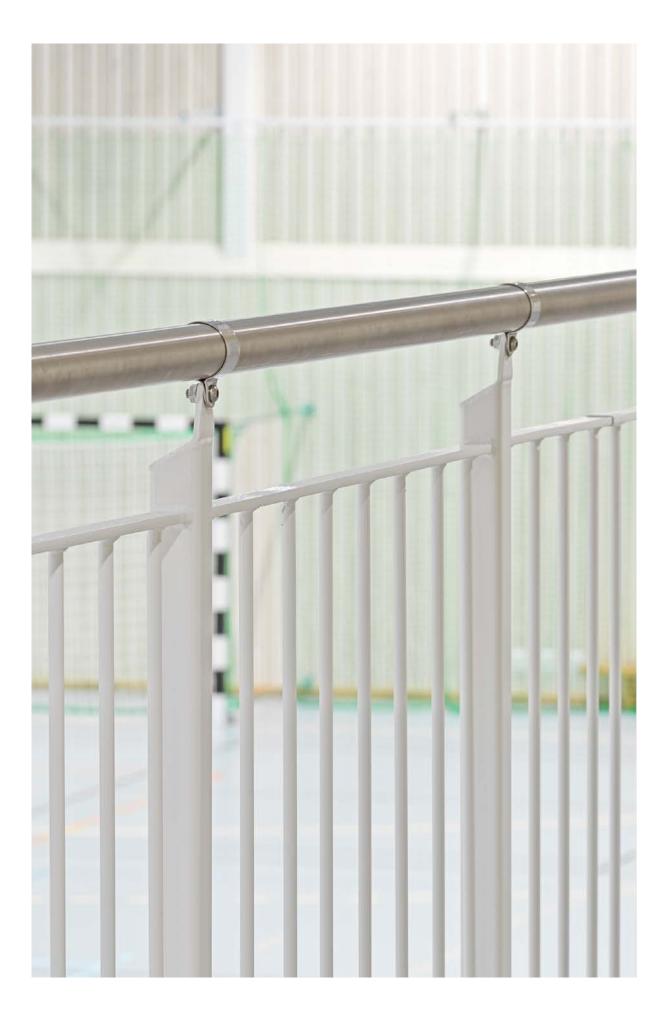
### 3. SHEET METAL

Railing in solid or perforated metal.

4. WOVEN WIRE MESH Railing in crenelated mesh plate.

5. GLASS Railing filled with glass for an extra finish.







## HANDRAIL

Our handrails are usually made from stainless steel, but we also offer a wide range of other types of materials and surface treatments. In painted and stainless steel versions, the handrail is 42 mm in diameter, whilst wooden handrails measure 50 mm. We can also equip our handrails with lighting; see accessories on page 100.

- 1. Stainless steel
- 2. Painted
- 3. Ash
- 4. Birch
- 5. Beech
- 6. Oak



GATE & KICK STRIP

### ACCESSORIES

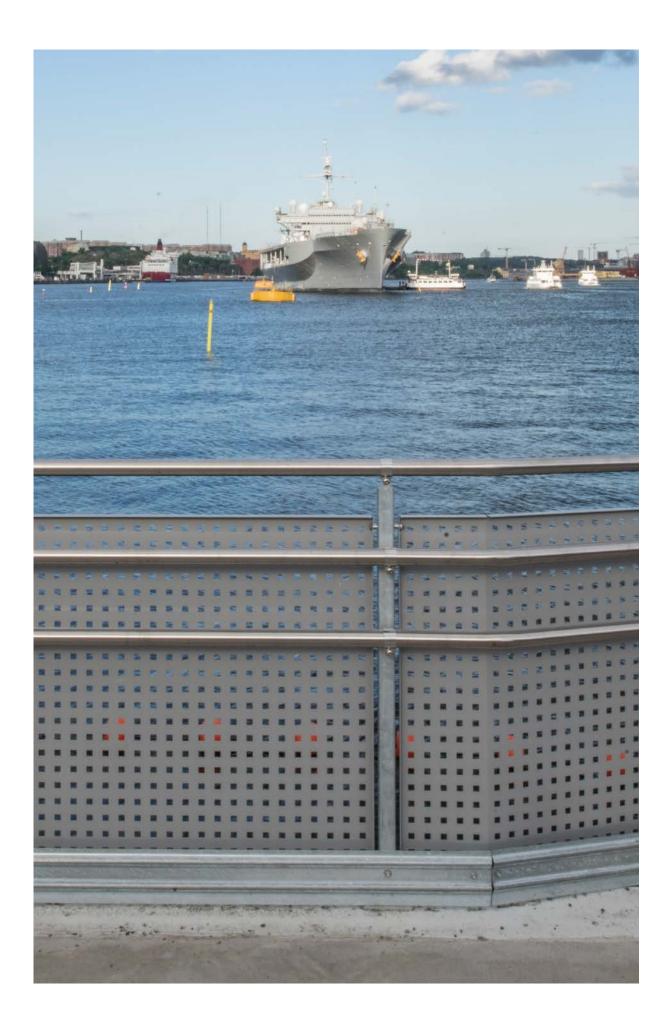
To increase accessibility and safety around the railing, our sectional railings can be equipped with accessories such as lighting and gates.

### GATES

Where railings require openings, a gate can be installed between the sections. The gate is reversible, and works equally well hung on the right as it does hung on the left.

#### KICK STRIP

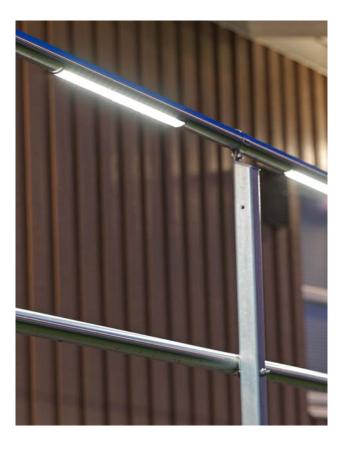
Kick strips are available for all railing lengths, as well as for railing corners intersecting with balusters. Kick strips are secured to the railing baluster using selftapping screws.



## LIGHTING

To create a decorative and pleasing environment, all our sectional railings can be equipped with lighting. Lighting from the handrail can also act as a functional addition to light up create a safe and secure environment.



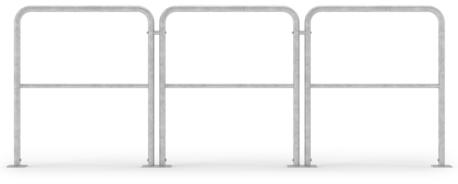






## UNIVERSAL RAILINGS

Weland universal railing is a flexible railing that is well suited for use in industrial environments. The railing is also available in a childproof design. The handrail frames are made in large series and with rational methods. The railings, fixing components and other accessories, such as kick strips and couplings, are items that are kept in stock.



STANDARD



CHILDPROOF

### MODELS

Our railings are available in two different models, a standard design and a childproof alternative. For attachments and more detailed technical information, see project planning on page 244.

#### STANDARD

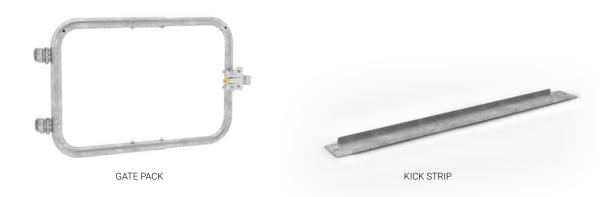
Our standard railing is perfect for various industrial environments where there are no child safety requirements. A robust, flexible and durable railing that is easy to install and essentially 100% maintenance-free.

#### CHILDPROOF

Railings in environments where children are present must be designed so that the risk of accident and injury is minimised. They must not be climbable and the vertical openings must not exceed 100 mm.









### ACCESSORIES

To further increase both safety and accessibility, we offer a range of accessories for our railings.

### GATE PACK

Gate consisting of a railing section that is fitted with at least two hinges and one "box lock". If the lock is not needed, the lock plate can be used as a stop. The gate frame is adjustable between 600 - 900 mm. For larger gate openings and heavy traffic, using an extra hinge may be appropriate. At least two hinges (sets) needed per gate.

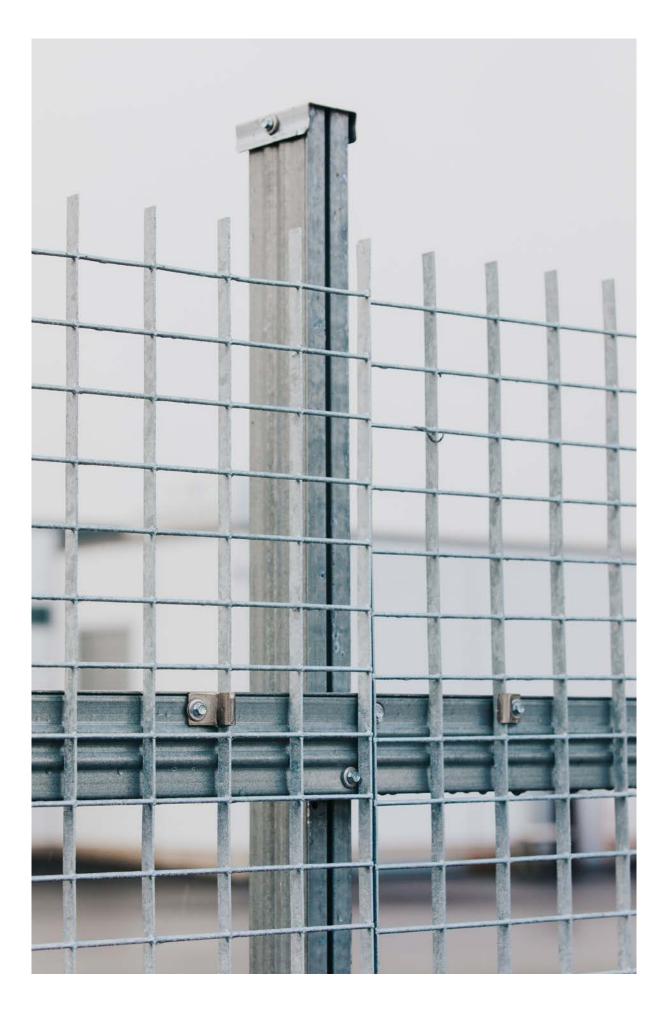
### KICK STRIP

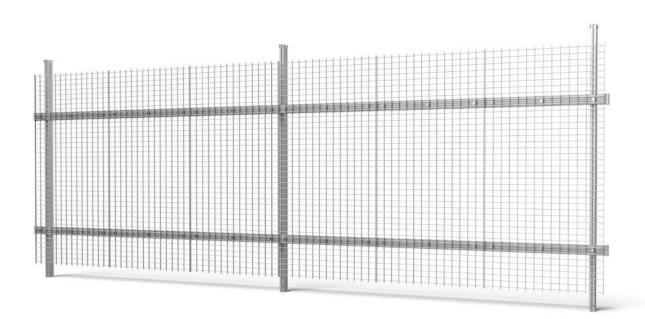
Kick strips are available for all railing lengths, as well as for railing corners. The kick strip is attached to the railing baluster using self-tapping screws.



## FENCING

Weland Fencing is a very robust and durable fence for enclosure and demarcation.





### FENCING

Our durable fencing features one of the strongest constructions on the market.

Fencing is suitable for use in all types of environment that need to be fenced in or demarcated in some way. Some common areas of use are, for example, between car parks and green areas. It is also suitable for enclosing sports facilities and in premises where you want to restrict access. Our fencing is particularly suited to tough environments such as ports and industrial areas where a more durable construction is required. All components are hot-dip galvanized.



## RAMPS

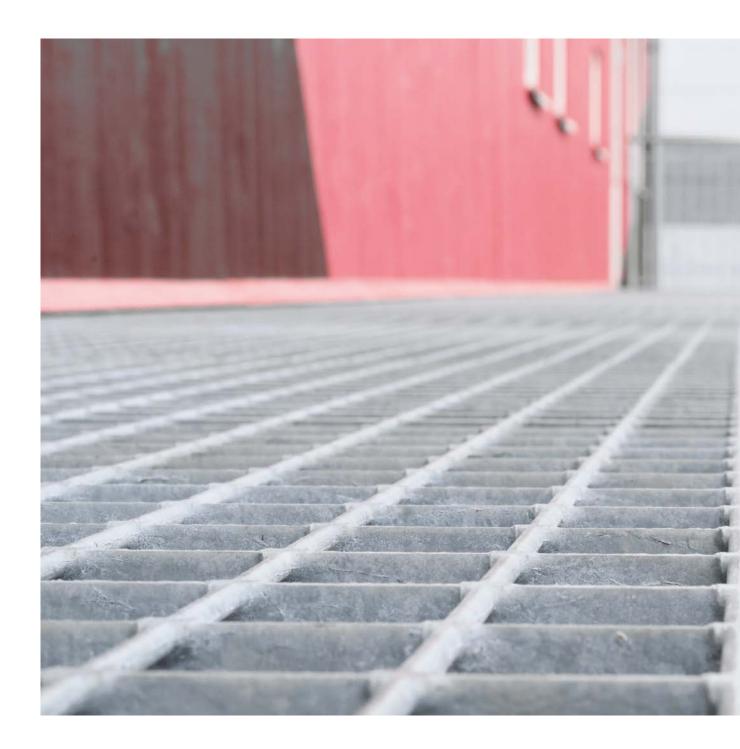
Weland offers safe, stable and, easily installed ramps of the highest quality. Our wheelchair ramps help to increase both safety and accessibility in public spaces. Our Steel walkway Flex also affords the same level of safety. By using standard omponents that are always in stock, we can offer delivery times that few others can match.

# STEEL WALKWAY FLEX

Our Steel walkway Flex is structured from standard components that are quickly and easily bolted together at the installation site without the need for welding. The walkway is width-adjustable from 600 to 1300 mm.

Because it uses standard components, we can deliver the walkway to you within a few days. Of course, the steel walkway can also be adapted to your requirements. In addition to the stocked walkway, we also manufacture welded walkways made of grating with associated railings to order. All in accordance with a modular system that guarantees an quick and easy installation.





### WALKWAY-LANDING

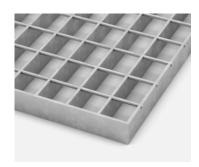
The Steel walkway Flex is made of grating, which is available in a number of different mesh widths. We can also offer a denser material such as plank type flooring. The walkway surface for our other steel walkways can be adapted according to your needs and requirements.

#### H3 GRATING Pressure welded grating with mesh width 34 x 37 mm.

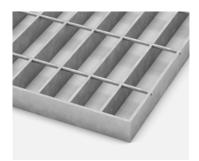
H6 GRATING Pressure welded grating with mesh width 34 x 75 mm.

#### N6 GRATING Pressure welded grating with mesh width 17 x 75 mm.



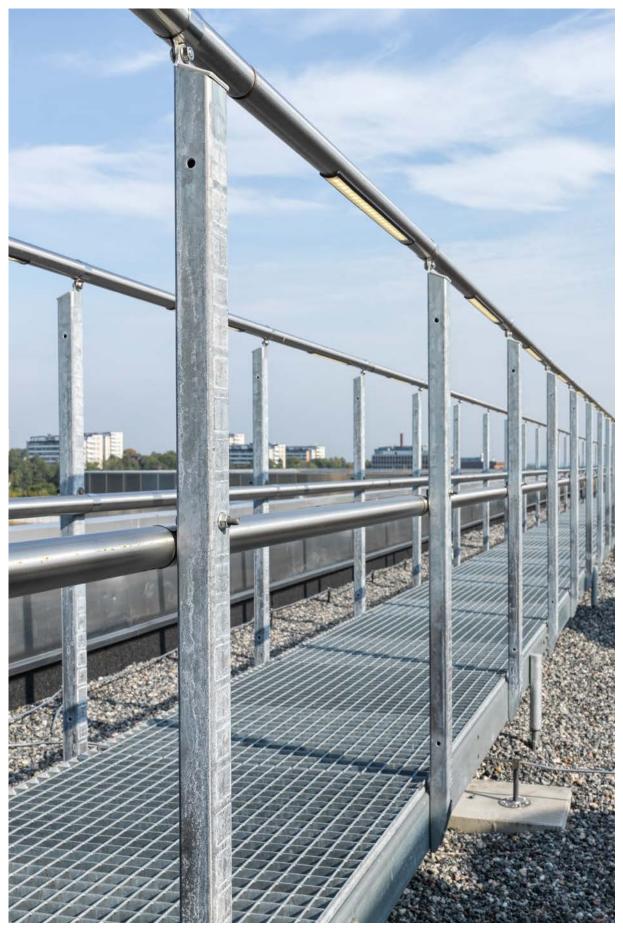


H3 GRATING

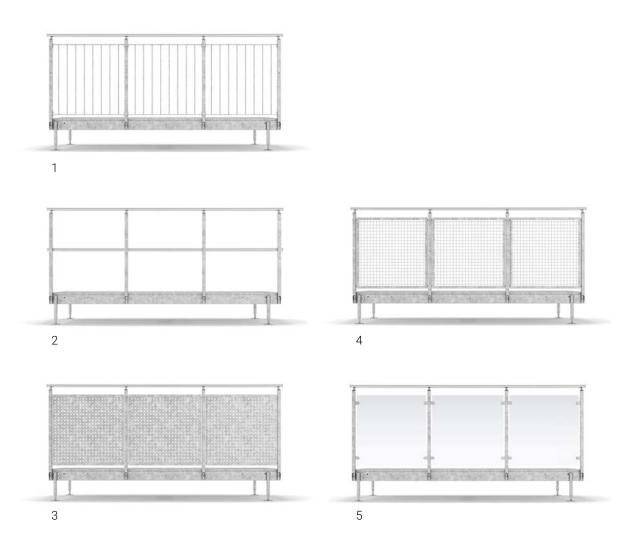


H6 GRATING

N6 GRATING



Railing intermediate rail equipped with optional lighting, see page 120



### RAILINGS

The Steel walkway railing is a sectional railing that is available in a number of different versions. Choose the option that best suits the environment in which the railing is to be located. Both handrails and intermediate rails are made from stainless steel. Round bars, sheet metal, woven wire mesh, and glass are all childproof alternatives. For more information about railings, see project planning on page 244.

### 1. ROUND BAR

A railing focusing on form and design.

#### 2. INTERMEDIATE RAIL

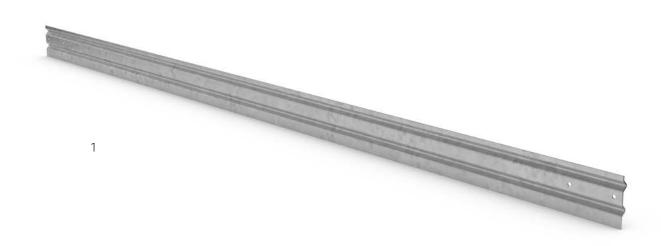
The railing is provided with an intermediate rail and is an industrial railing. Not counted as childproof.

#### 3. SHEET METAL

Railing in solid or perforated metal.

4. WOVEN WIRE MESH Railing in crenelated mesh plate.

5. GLASS Railing filled with glass for an extra high finish.



### ACCESSORIES AND ASSEMBLY

We have several different accessories for installing the steel walkway. Attachment can be made either to brackets and beams or using adjustable support legs. The maximum distance between supports for the Steel walkway Flex is 3 metres.

#### 1. KICK STRIP

A kick strip that prevents objects from falling down can be mounted on the bridge's walkway, either with or without a railing.

#### 2. SQUARE SUPPORT LEG

An adjustable square tube support leg is cut to the requested length in connection with installation.

#### 3. ROUND SUPPORT LEG

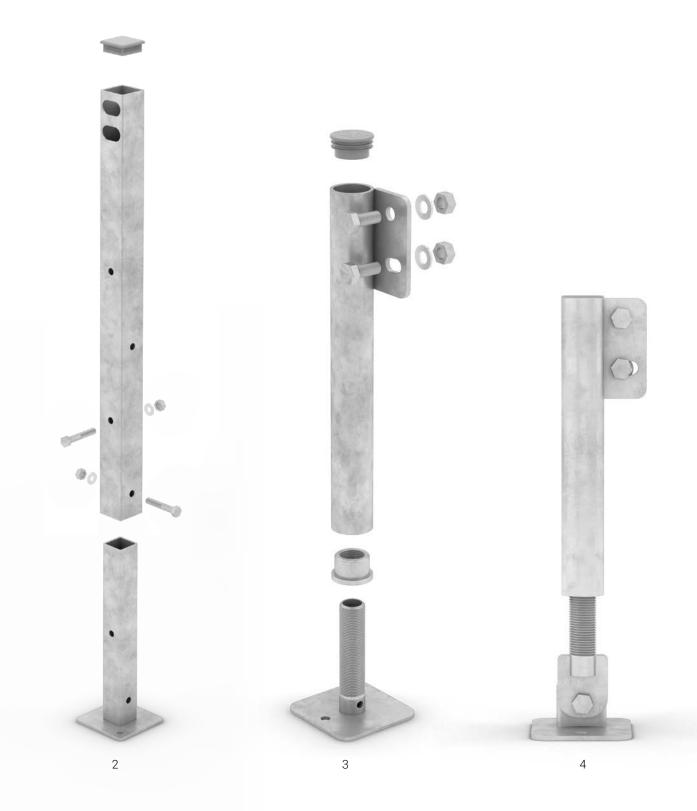
Support legs of tubes must be placed every three metres under the footbridge in order to ensure stability.

### 4. FOOTPLATE, JOINTED FOR SUPPORT LEG

The articulated footplate makes the support leg flexible and is ideally used on inclined ground or roof pitches. It replaces the fixed footplate that is included with the round support leg.

Watch the video about installing a steel walkway Flex.





### LIGHTING

To create a decorative and pleasing environment, our steel walkway Flex can be equipped with a lighting option. Lighting from the handrail can also act as a functional addition to light up unsafe environments.



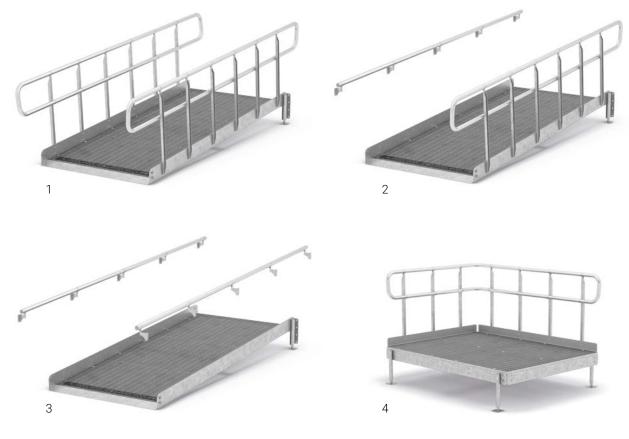




## WHEELCHAIR RAMPS

We offer stable, safe and easy-to-install wheelchair ramps. The ramps we hold in stock are all 1300 mm wide. Our ramps are hot-dip galvanized, making them very durable indeed.





EXAMPLE

1. Railing on two sides. 2. Railing on one side, banister on one side 3. Banister on two sides.

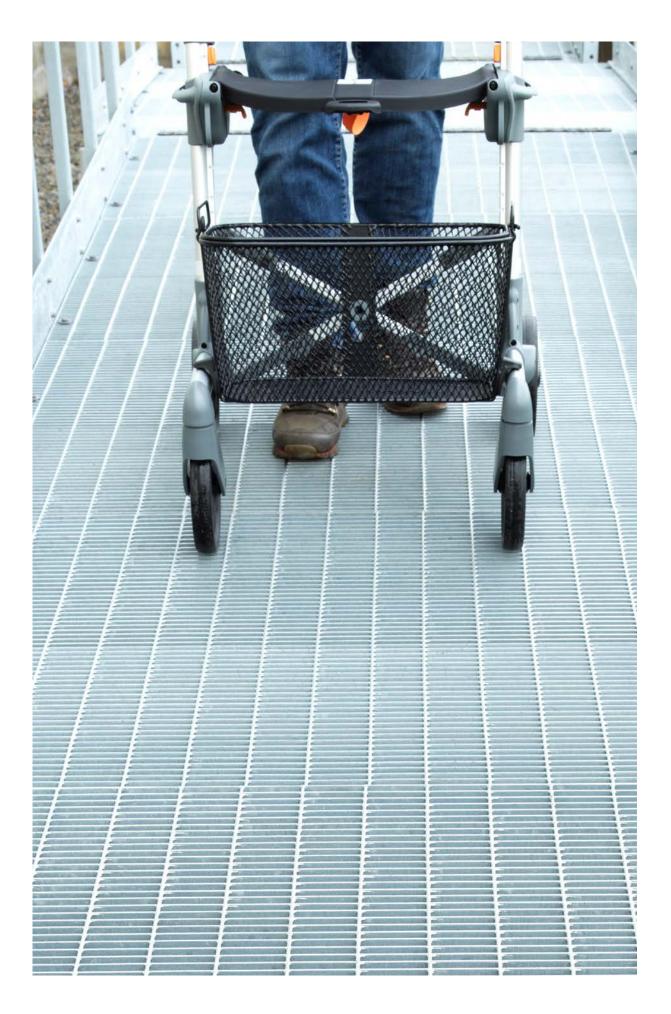
 $\ensuremath{\mathsf{4}}.$  Landing with railing on two sides (shown as railing with kick strip)

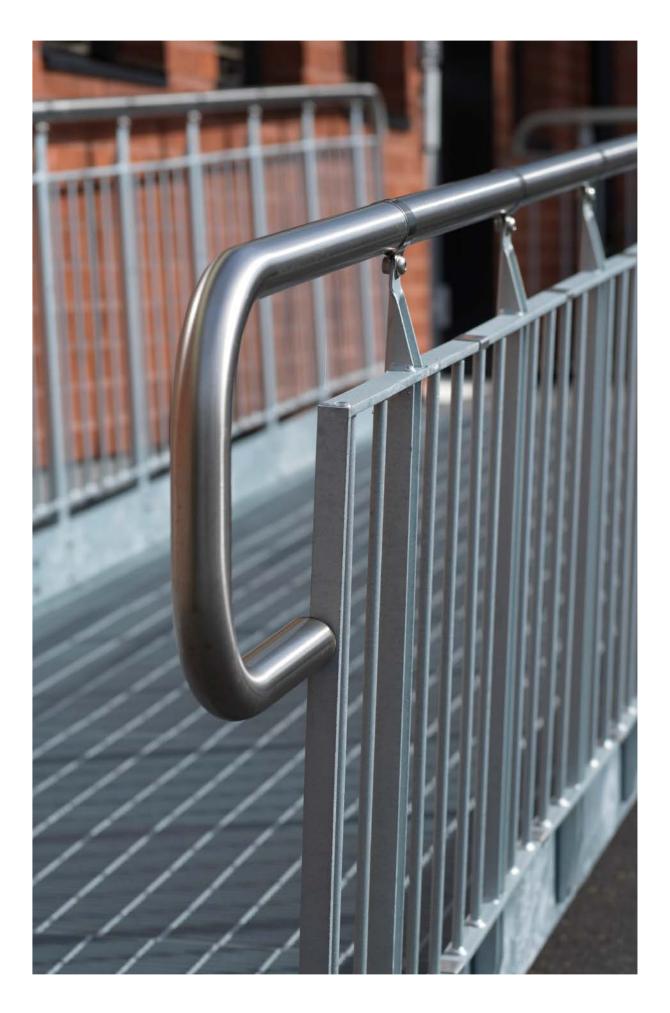
### RAMPS AND LANDINGS

Our wheelchair ramps made from grating are designed to create safe and secure passages between different levels. The connecting joint consists of sloping ramps with an adjustable inclination and is equipped with a kick strip and contrast marking.

In order to make it simple for customers, we stock ramps in a wide range of different lengths. The ramps can be equipped with a landing made of grating, which can either be used as a rest area, a turning level between two ramps, or as a descent level. In accordance with current regulations, intermediate landings have to be used when ramps are higher than 0.5 metres. Our landing are available in a couple of different sizes, creating opportunities for a wide variety of different combinations of ramp and landing. In order to give you even more options, we also offer a number of different railings.

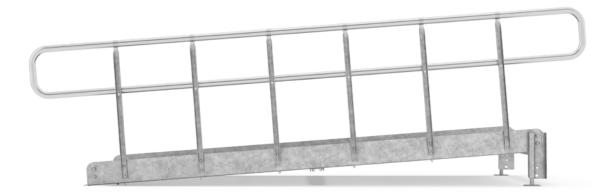
The ramps are designed and manufactured specifically according to your needs and requirements and, by having standard components always in stock, we can offer short delivery times.





### RAILINGS

Combine our railings and handrails the way you want them! We offer two different types of railing that we always keep in stock - standard or round bar (childproof). The handrail in the railing is made of industrial stainless steel in a brushed untreated design. If the ramp is to be placed along a wall, a handrail on the wall may be a suitable alternative. For other combinations, see project planning on page 244.



RAILING, STANDARD A stocked standard railing with baluster. Not childproof.



RAILING, ROUND BAR A childproof railing that is always in stock.



### ACCESSORIES RAILINGS

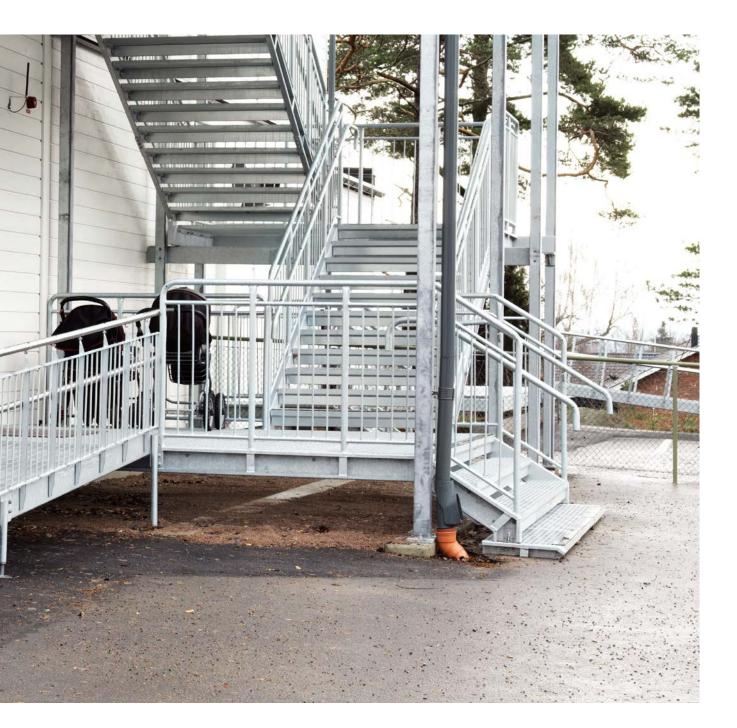
The choice of rail is dictated by the environment in which the ramp is to be located and whether it is to be used by children. To further increase safety in the ramp, we can equip it with several accessoris.

### BANISTER

If the wheelchair ramp is to be placed directly along a wall, attaching a handrail on the wall may be a suitable alternative.

#### EXTRA HANDRAIL

Round bar railings can be equipped with an extra guide that is placed under the regular one. A good way to further increase safety on the ramp. Extra handrail is included in Standard railing.







BANISTER

EXTRA HANDRAIL

### LIGHTING

To create a decorative and pleasing environment, our wheelchair ramps can be equipped with a lighting option. Lighting from the handrail can also act as a functional addition to light up unsafe environments.





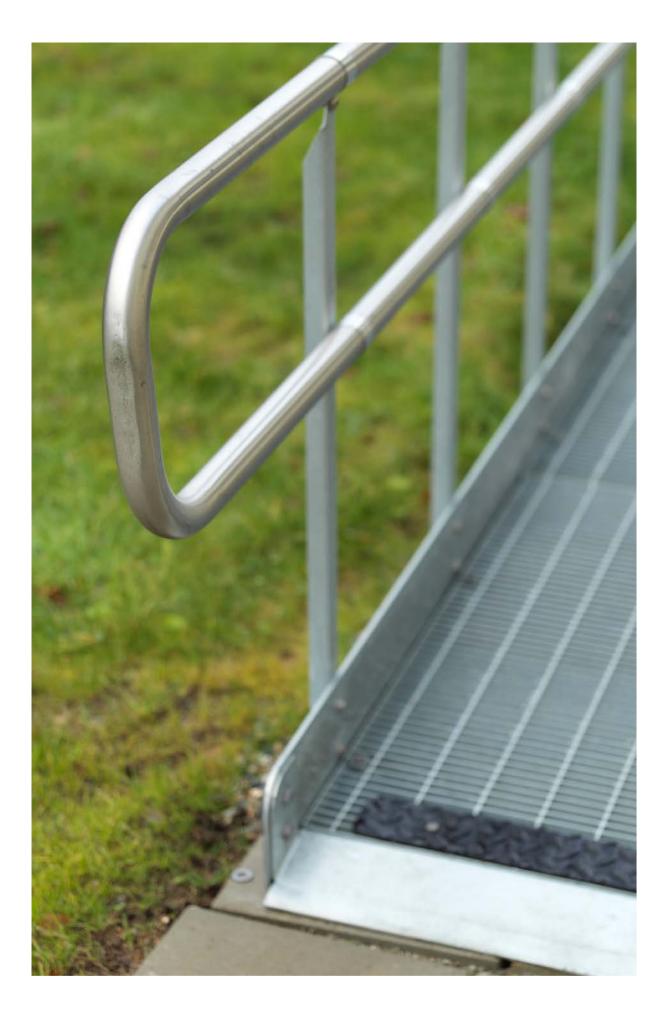


## RAMPS

Ŋ

Our grating ramps are based on a simple, robust design in hot-dip galvanized steel, which adds to the stability and long service life. If you need a resting or turning landing between two ramps, we keep these in stock for immediate delivery.





### RAMPS

In addition to our wheelchair ramps, we also offer a narrower type of ramp. It has a width of 900 mm and is stocked in the same lengths as the wheelchair-accessible one.

Ramp and landing are made of grating, providing a robust and non-slip walking surface. Suitable application for these ramps include goods transport and waste container handling, but in those environments where accessibility requirements demand extra width, our wheelchair ramp is the obvious choice. Stocked lengths are available from 1500 mm and upwards in intervals of 500 mm. Extended handrails and contrast markings are available as options.



## MEZZANINE

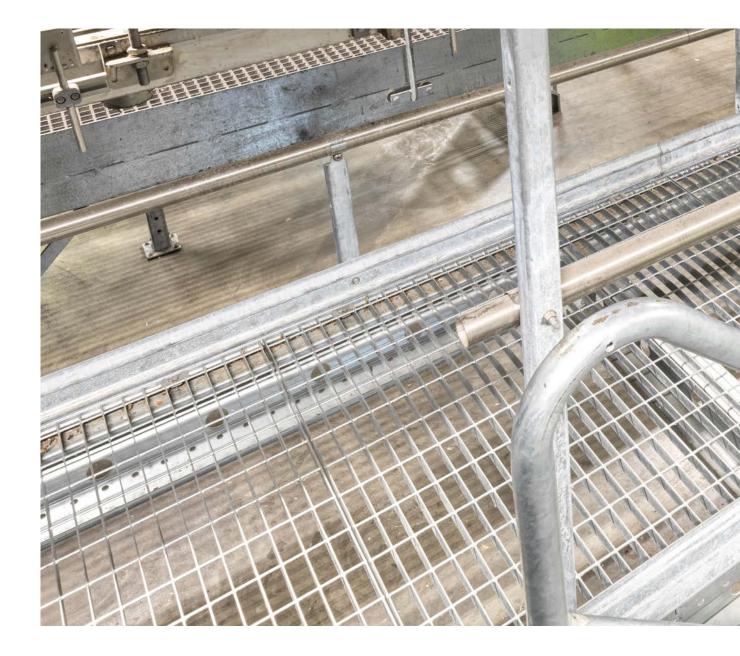
Our mezzanines are built as a cantilevered framework using our very own, in-house developed, lightweight Sigma beams. The construction is well thought out down to the smallest detail and the fittings and the pre-punched holes in the Sigma profiles make installation both quick and efficient. The entire construction is then bolted together in situ for simplicity.

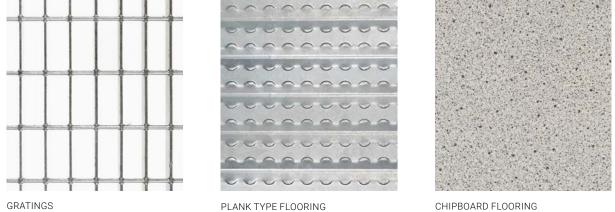
## MEZZANINE

With a Weland mezzanine, you can easily build an extra floor in order to utilise the entire volume of a premises. At the same time, you free up floor space in your premises that you can use in a more efficient way. To make it easy for you, we manufacture our mezzanines for both indoor and outdoor use so that you can also use the space available on the premises roof.

THE REAL PROPERTY NAMES







PLANK TYPE FLOORING

CHIPBOARD FLOORING



### FLOORING

The floor of the mezzanine can be manufactured in different materials and made in different ways, depending on the application and the safety requirements imposed. We have listed the most common options here.

#### GRATINGS

Our grating is available in a number of different designs, mesh widths and dimensions depending on your needs in respect of bearing capacity, permeability (objects, light, liquids, sprinkling), and anti-slip protection.

#### PLANK TYPE FLOORING

This is an option when you want a solid steel floor that you can also soundproof in or under if you need to do so. Other advantages are that it has good slip resistance and a low dead weight.

#### CHIPBOARD FLOORING

If you are looking for a floor that has a completely smooth top, the chipboard floor is a good alternative. The directly laminated surface on the chipboard floor also provides a durable and easy-to-clean floor.



### RAILINGS

Choose a railing that is adapted to your needs, the child safety requirements in forces, and the environment in which the mezzanine is to be located.

#### 1. ROUND BAR

A railing focusing on form and design. Childproof.

### 2. INTERMEDIATE RAIL

The railing is provided with an intermediate rail and is an industrial railing. Not regarded as childproof.

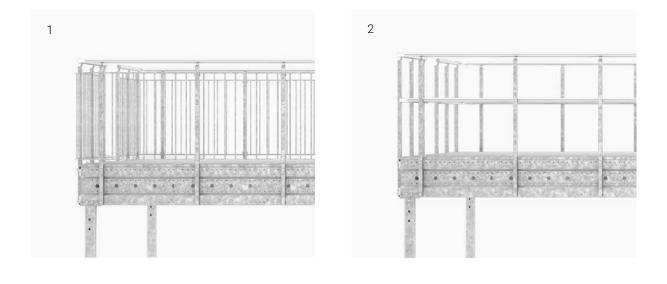
### 3. SHEET METAL

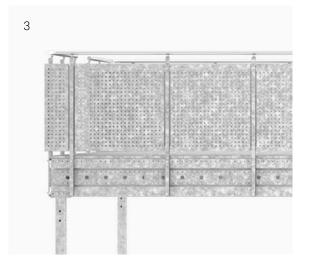
Railing in solid or perforated metal. Childproof.

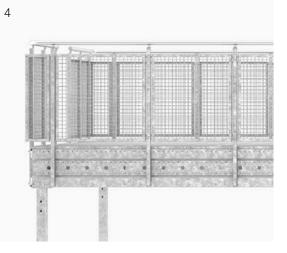
4. WOVEN WIRE MESH Railing in crenelated mesh plate. Childproof.

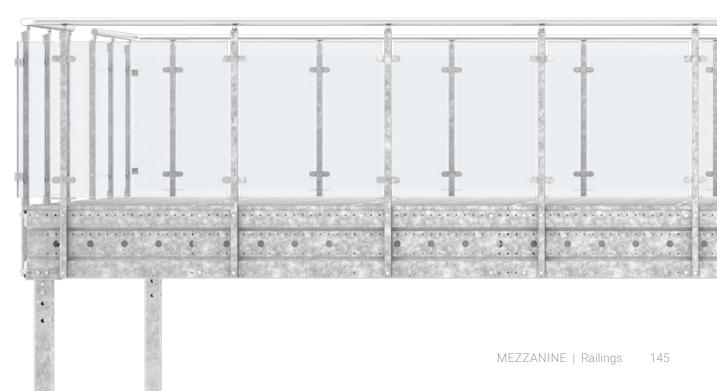
### 5. GLASS

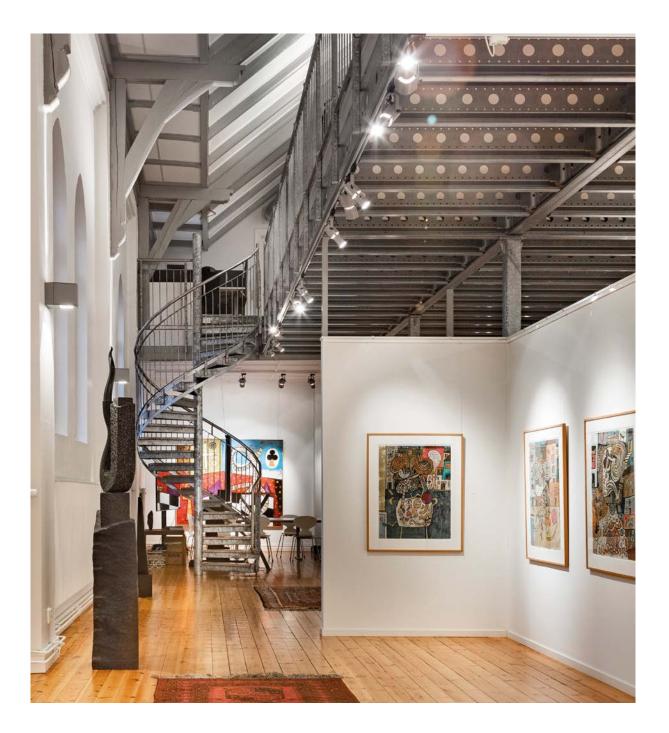
A childproof alternative where the railing if infilled with glass for that extra finish.











### ACCESSORIES

We are one of the biggest suppliers of steel spiral and straight flight staircases in Sweden and can offer a whole host of optional extras for your mezzanine. Our experience in the area guarantees that you get the best possible accessibility and level of safety on your mezzanine floor.

If you need to add a gate in order to further increase safety and flexibility, we can also provide the solution you need.





### SPIRAL STAIRCASES

We have a wide range of spiral staircases for both exterior and interior environments. With its flexible design and architectural image, the spiral staircase can either blend into the background or be a breathtaking eye-catcher.

### STRAIGHT FLIGHT STAIRCASES

Our straight flight staircases are designed for both evacuation and industry, as well as for offices, homes, entrances, public areas, and schools, etc.



### GATES

To increase flexibility during loading, we also offer automatically closing gates in many different designs. Of course, we can fabricate gates in a way that matches your requirements.



### TIP GATE

Weland's Tip Gate is a secure pallet gate that is closed in both open and closed position. The gate can be easily opened and closed by hand by one person. The tip gate is supplied as standard in a strong yellow colour, RAL 1003.



### SIGMA BEAMS

The Weland Sigma beam is a support beam with low weight and high strength. A suitable area of use is, for example, for mezzanine floors.

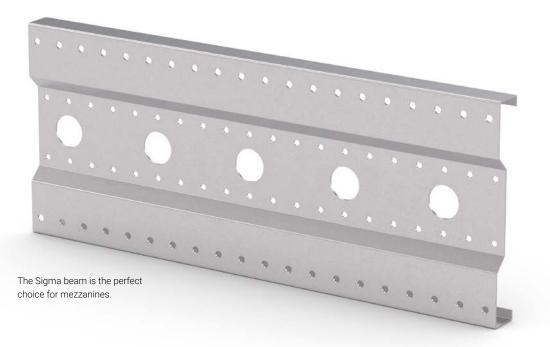
The Sigma beam is manufactured with a yield strength of 350 N/mm  $^2$  in Magnelis. You can choose between a number of different standard heights, thicknesses, and lengths. The beam can be used both indoors and outdoors without the need for any additional surface treatment.

The beams have punched holes with a separation of 50 mm, which match our assembly fittings and railing systems. This means that installation can be carried out quickly and easily, with no welding required. There are also large holes in the centre of the beam for routing electrical cables and tubes.

Another great advantage is that the Sigma beams are so light that you rarely need to enlist the help of anyone to do the heavy lifting. For example, our lightest model weighs less than 6 kg/m.

The Sigma beams can also be supplied separately in cases where a complete mezzanine is not required. We stock a large number of different dimensions to ensure fast delivery to you. Read more under project planning on page 244.







# STORAGE EQUIPMENT

A well-equipped warehouse increases efficiency and creates a safe and secure work environment for everyone who works there. At the same time, improved ergonomics help to minimise the risk of work-related injuries.

With Weland as your supplier, you get a committed partner with extensive experience and a high level of expertise in efficient storage equipment.

### PALLET RACKS

Rational and efficient material handling requires pallet racks that can be easily customised to your warehouse surfaces and your business. Through our quality-assured pallet racks, you get a flexible system that you can easily supplement with additional sections when you need extra storage.

### SUPPORT BEAM

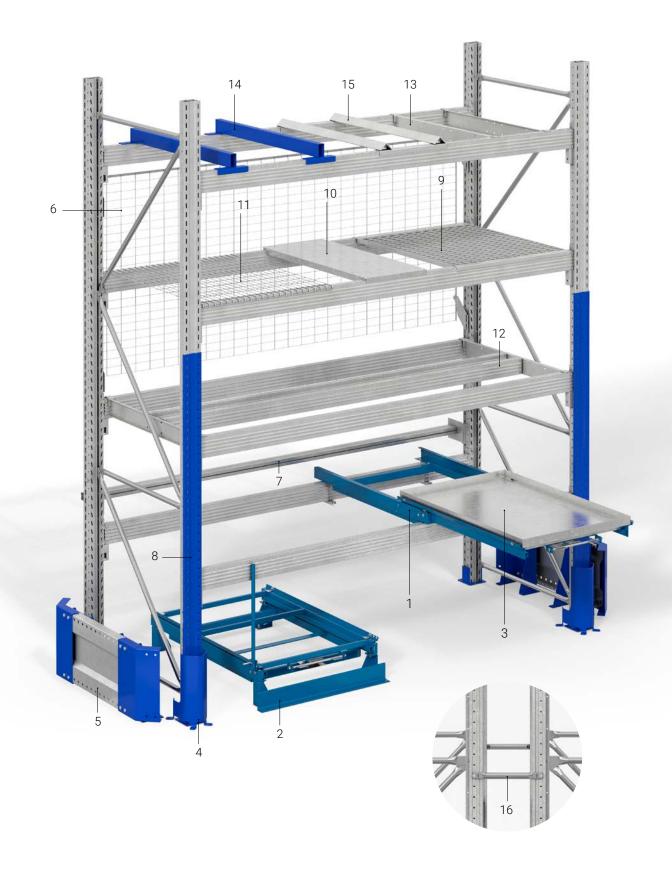
The beam is manufactured in three different standards and is available in five different heights.

Information about dimensions and load capacity can be found in the project planning section on page 244.

### END PANEL

Our pallet rack ends are manufactured in three different end depths as standard. The end height can be adapted to your premises and your specific storage needs.





### ACCESSORIES, PALLET RACKS

Our options make it easy for you to flexibly adapt the warehouse furnishing to your specific warehouse space.

#### 1. PULL-OUT UNIT STANDARD

Manufactured for both floor and carrier beam installation. Creates good ergonomics during direct picking from a pallet in a pallet rack.

### 2. PULL-OUT UNIT WITH FLOOR KIT

Pull-out unit supplemented with a floor kit containing four feet and handle.

### 3. SHEET METAL BOX

Sheet metal box suitable for pallet collar.

#### 4. POST PROTECTION, FLOOR 400

Mounted on the floor and provides effective protection against collisions with trucks. Other variants of post protection are also available.

### 5. END PANEL PROTECTION

End panel protection for both single and double pallet racks. Used for both external end panels and truck aisles to prevent injuries in the event of collisions.

### 6. COLLAPSE PROTECTION

Net grating for end panel and long side, which is mounted along the support beams to prevent goods from falling out of the pallet rack.

### 7. END PANEL PROTECTION

Installed on the rear edge of the pallet racks to prevent pallets from being pushed in too far.

### 8. POST REINFORCEMENT

If the posts need strengthening, we offer a post reinforcement. The section can be assembled afterwards with good result.

### 9. SHELVING, GRATING

Available in two load variants.

#### 10. SHELVING, SHEET METAL

This is placed on the support beams and provides a closed shelf, e.g. for goods that do not lie on a pallet.

### 11. SHELVING, NET

Acts as protection against falling objects and as a shelf for lighter goods without pallet. Width 880 mm. We also offer shelving in other widths.

#### 12. HALF-PALLET INSERT

Usually used for half-pallets but can also be used as pallet support for heavily loaded pallets.

### 13. LONG-SIDE INSERT

Placed between the support beams for use during long-side handling.

#### **14. FORK DISTANCE**

Acts as support for flat goods without pallets.

#### 15. BARREL STOP

Simplifies the handling of barrels and drums in the pallet rack.

#### 16. END PANEL SPACER

Used in double racking.

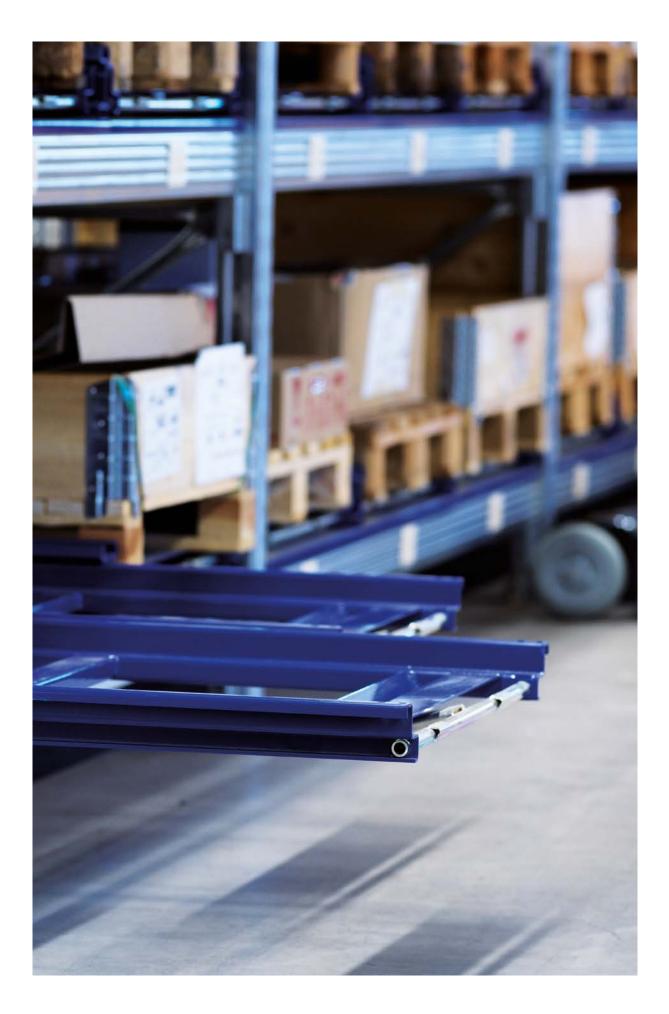


## PULL-OUT UNITS

Our pull-out units for pallet racks make warehouse management more efficient by facilitating the work of handling pick goods on pallets. Having easily accessible goods creates a more ergonomic workplace.



Our pull-out units are available in versions for loads of 700 kg and 1000 kg. This is a low-build design that is suitable for most pallet rack models. The beam model is intended for installation on the horizontal supporting beams in a pallet rack. In the floor version, the pullout unit is equipped with four support legs to enable handling with trucks. The raised handle of the floor model makes withdrawal easier and affords a comfortable working posture. The pull-out unit is released by a simple hand manoeuvre and is automatically locked in the lowest position. The locking device is easily operated and features crush protection. Withdrawal capacity 65-70 %. Supplied pre-assembled and can be easily placed under the carrier beam. Max. load: 700 kg or 1000 kg.





### PULL-OUT UNIT STANDARD

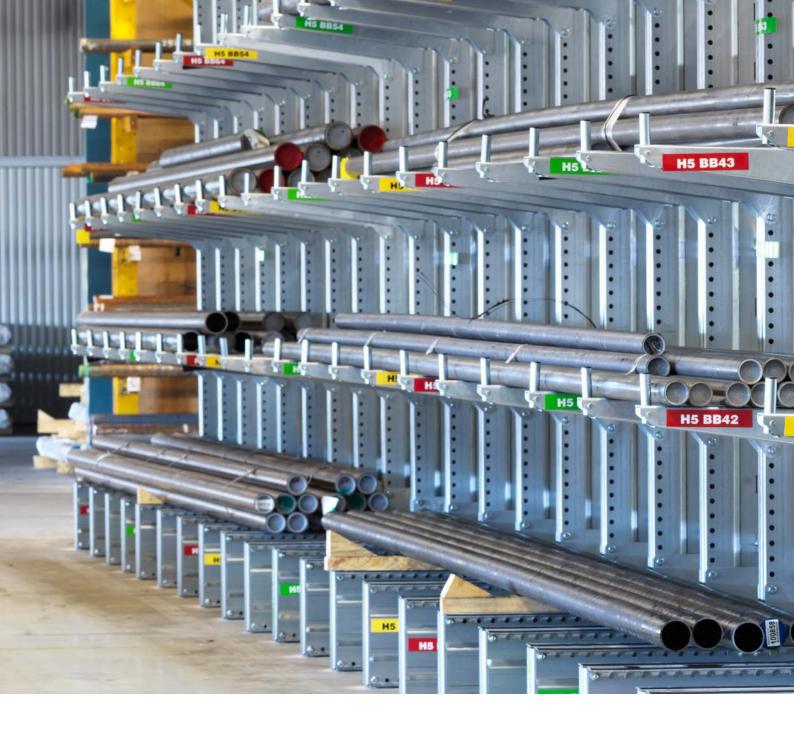
Pull-out unit for mounting on the horizontal support beams in the pallet rack.

### PULL-OUT UNIT WITH FLOOR KIT

In the floor version, the pull-out unit is supplemented with a floor kit containing four feet and handle.

### SHEET METAL BOX

Pull-out units can be ordered with metal box suitable for pallet collar.



## CANTILEVER RACKS

Our cantilever racks are designed so that they can be easily adapted to all types of storage space. Hot-dip galvanized as standard, cantilever racks are suitable for both indoor and outdoor use.

### SINGLE CANTILEVER RACK

Our single cantilever rack has support arms placed on one side of the column, which makes it a space-saving alternative. The total depth for the single cantilever rack varies between 700 - 2200 mm depending on arm length and load.

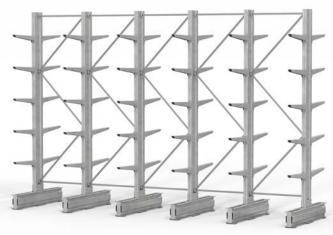
### DOUBLE CANTILEVER RACK

When there is a need for increased storage space, a double cantilever rack is used, i.e. support arms are placed on both sides of the column. The total depth for the double cantilever rack varies between 1200 - 4000 mm depending on arm length and load.

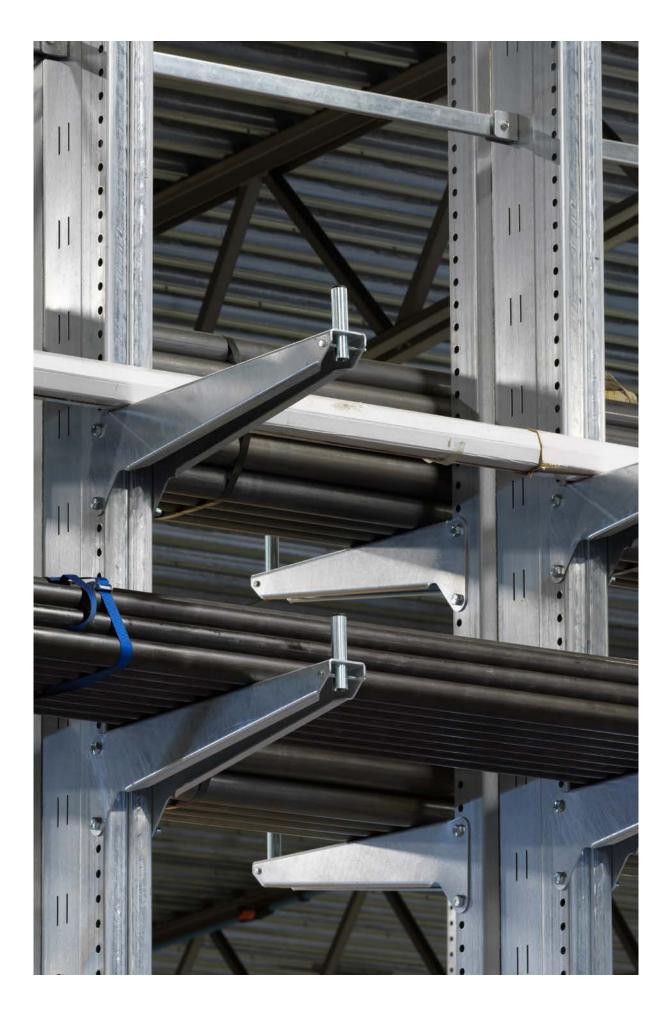


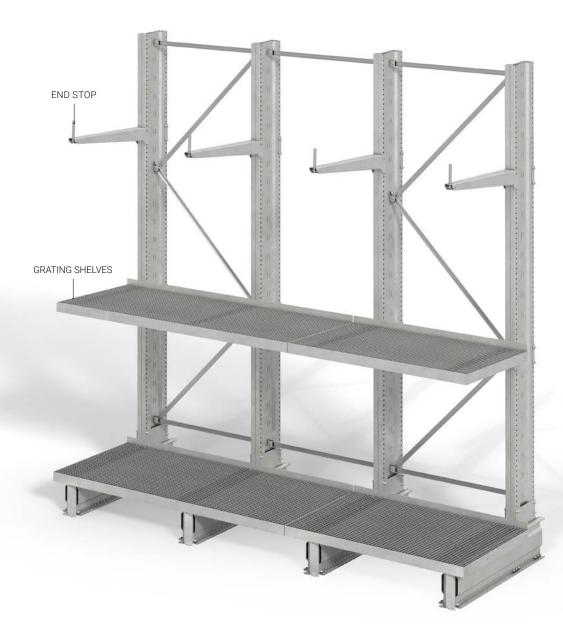


SINGLE CANTILEVER RACK



DOUBLE CANTILEVER RACK





### ACCESSORIES, CANTILEVER RACKS

Our options allow you to further expand your storage space and the safety of your warehouse.

### **GRATING SHELVES**

To further maximise storage space, grating shelves can be used on the support arms so goods of varying sizes can be placed along the entire cantilever rack.

### END STOP

To minimise the risk for a tube or similar object rolling off the cantilever rack, the cantilever rack's support arms and lower beams can be equipped with end stops.



### VERTICAL RACKS

The vertical rack provides very space-effective, practical, and easy to monitor storage of wood strips and thinner profiles and tubes in various materials.

Our flexible vertical racks can be assembled in a whole host of different combinations. They are 3500 mm high, made of hot-dip galvanized profiles and supplied complete with posts, struts, carrier beams, bluepainted strip dividers, and bolts and nuts.







## COLLISION PROTECTION

Our steel collision protection has primarily been developed to protect buildings, pallet racks and machines. It is a simple and effective way to prevent damage to structures, machines and pallet racks when, for example, a truck is hit.

The collision protection is fabricated with a base made from Sigma beams. The installation is easy because the entire protection consists of separate standard components that can be easily bolted together during assembly. Available in lengths of 2000, 4000, and 6000 mm. Height 400 mm.

The collision protection is anchored in the base or ground and is easily assembled. The products are in stock. The collision protection is supplied hot-dip galvanized. Corners, supports, and ends are supplied painted in standard colour blue RAL 5002.

### CORNER 90°

Corner joint 90° is used when you want to create a 90° corner for the collision protection.

### SUPPORT

Primarily used as a support to reinforce the Sigma beam on long sections. Also used on beam joints.

### END-PIECE

Primarily used as the end of the Sigma beam. Can also be used when you want to create a 45° corner for the collision protection.



### STEEL PALLETS

Our stackable steel pallets are suitable for both internal and external handling. They are designed and adapted for lorry platforms and can be stacked compactly to take up minimal space.

The pallet measures 1200 x 800 mm and can be handled using all types of fork lift truck. Maximum load is 1200 kg.

The rounded foot restraints on which the pallet stands, together with the socket tube, help make the steel pallets very stable when stacked. The fact that the steel pallet can be stacked facilitates warehousing as, for



Painted



Untreated

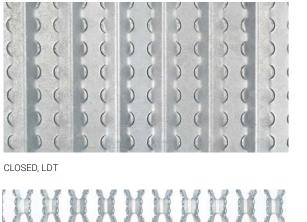
Hot-dip galvanized

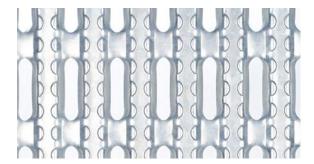
example, empty pallets can be stacked compactly and during shipping as empty space can be minimised. The steel pallets can be delivered in three different finishes, painted in the colour of your choice, untreated, and hot-dip galvanized. The standard height of the socket tube is 900 mm, but it can also be ordered in different heights.



# PLANK TYPE FLOORING, SLIT PLANK TYPE FLOORING & FIRE EXTINGUISH GRATING

Plank type flooring and slit plank type flooring are well suited for walkways, platforms, floor plans, and for all types of industrial environment, especially where the risk of slipping is high. Both are good alternatives when you want a slightly denser floor surface, and where, for example, grating is an all too open alternative in terms of, among other things, transparency. Our own fire extinguish gratings have unique characteristics and can extinguish an oil fire in three seconds.





HOLED, LDS



SLIT, LDH

PERFORATED, LDP

### PLANK TYPE FLOORING

Plank type flooring is used for all types of industrial flooring, mezzanine floor structures, and walkways. Plank type flooring can cross spans up to 2 metres, which allows the beam supporting structure to be placed wider apart and allows installation to go faster. Plank type flooring is available in three different widths and in different lengths up to 6000 mm. As options, there are a number of different parts that facilitate installation; see project planning on page 244.

### CLOSED PLANK, LDT

This plank type has an embossed pattern offering good anti-slip protection. Because the planks are closed, insulation can be installed in or under the planks.

### HOLED, LDH

In principle, it is a dense plank type flooring that is supplemented with punched holes to let through light, dirt, and liquid. Suitable when wheeled objects will be moved across the floor.

### SLIT, LDS

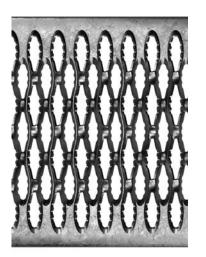
This variant, just like LDH, is a plank type with great permeability for dirt and liquids. The serrated top provides extremely good anti-slip protection.

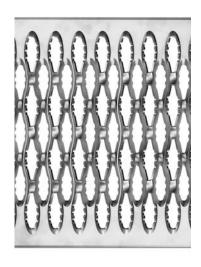
### PERFORATED, LDP

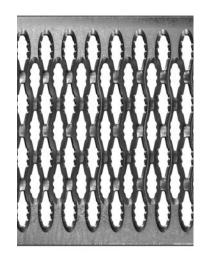
This plank type flooring is highly non-slip, but is not as permeable as LDS. The small openings minimise the risk of objects falling through.











STANDARD

STAINLESS STEEL

ALUMINIUM

## SLIT PLANK TYPE FLOORING

Slit plank type flooring is a good choice when it comes to things such as industrial floors, walkways, and stair treads. The serrated top provides 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 installed at a lower cost.

Slit plank type flooring is manufactured as "planks", which means that even longer planks are easy to handle during installation. In addition, we have ensured that each part never gets heavier than what a person is able to carry themselves. After laying, slit plank type flooring is fixed in position using fasteners.

#### STANDARD

Slit plank type flooring made from untreated or hot-dip galvanized sheet steel.

#### STAINLESS STEEL

Stainless steel slit plank type flooring.

### ALUMINIUM

Aluminium slit plank type flooring.



Watch a video showing how fire extinguish grating can put out an oil fire in three seconds.



## FIRE EXTINGUISH GRATINGS

Weland Fire Extinguish Grating is a grating with the ability to suffocate a fire and can extinguish an oil fire in three seconds. The grating has been specially developed for fire extinguishing pits, for example, in transformer substations.

Weland Fire Extinguish Grating is extremely corrosion resistant and is suitable for industrial areas with an aggressive climate. Other uses can be in the offshore and petrochemicals industries.

Thanks to the lightweight sections, the fire extinguish grating is easy to install and remove, for example, during repairs and maintenance. The flooring is nonslip and has a dense mesh, which means that small objects cannot fall through.

### GOOD TEST RESULTS

Tests carried out by the Danish Institute of Fire and Security Technology show an extinguishing time of

only three seconds, and that no damage or deformities are found on the product after a fire.

### FIRE EXTINGUISH GRATING, STANDARD

As standard, fire extinguishing gratings are manufactured in a profile width of 150 mm, but they can also be adapted to the dimensions of the pit. Angle bar seating profiles and support line with square tube supports legs are included.

A number of different components are available as accessories, simplifying operation and examination in the pit; see project planning on page 244.





# OTHER

We supplement our offering in our main segments with a large selection of products that are adapted for a number of other applications. Here you will find, among other things, outdoor furniture, ladders and anti-slip protection. We have compiled a list of these under the heading Other to make it easier for you to find them.

## LADDERS & ESCAPE PLATFORMS

We offer two different types of cat ladder, one of which is foldable. Both variants can be combined with our evacuation platforms. All products are held in stock for immediate delivery.

You can find more detailed information about our cat ladders on the website of our subsidiary Weland Stål AB – welandstal.se.





### CAT LADDER

Our cat ladders are approved in accordance with SS 831340 and are ideal for use in towers, silos, bridge pillars, chimneys, and other installations.

The ladders fit all types of walls and ceilings and satisfy the levels of safety, quality, and durability demanded by the market The rungs are profiled to provide increased anti-slip protection and are swaged on both the inside and outside. The ladder's stringers are in a roll-formed U-profile. Width: 400 mm. Length: 1500, 1800 or 2400 mm.

You can find more detailed information about our cat ladders on the website of our subsidiary Weland Stål AB – welandstal.se.





## FOLDING CAT LADDER

Fold-out cat ladders are primarily used for evacuation. A 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 necessary, the cable can be extended down to the bottom of the ladder, and can also be used for climbing up. The steps are supplied in modules that are surface treated with Magnelis. Other colours are vailable by order. Width 500 mm.

You can find more detailed information about our cat ladders on the website of our subsidiary Weland Stål AB – welandstal.se.









Escape platform with hanging brackets

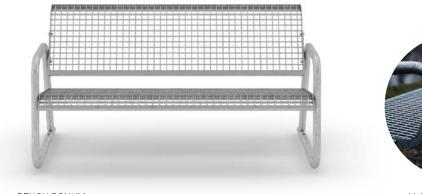
### ESCAPE PLATFORM

Our escape platform is modular and can easily be connected to a larger platform if necessary. The escape platform can be combined with our cat ladder.

The platform comprises a frame with modular dimensions. Our grating is placed in this frame. Railings in standard or childproof versions can be supplied with a kick strip. Dimensions other than standard are made to order. You can find more detailed information about our cat ladders on the website of our subsidiary Weland Stål AB – welandstal.se.



PICNIC FURNITURE BONUM DUO



BENCH BONUM

Lighting available as an option.

# OUTDOOR FURNITURE

Our Bonum outdoor furniture series is characterised by stable and seating-friendly furniture made from grating. It is particularly suitable for use in demanding public environments that are exposed to wildly varying weather during the year.

They are easy to assemble, have a long service life, and are completely maintenance-free. This makes them a good choice for environments such as streets, squares, golf courses, picnic areas, schools, restaurants, camp sites, and ski resorts. They are made of grating in hotdip galvanized steel, which means that they can withstand both weather and wind all year round. Bonum is available in two variants - as a bench and as break furniture - and is at home both inside and outside. The furniture can easily be assembled to a single unit and can be anchored to the ground. The bench can be supplemented with LED lighting that gives the seating area increased safety in, for example, subways or parks. Lighting is available as an option.







# EXPANDED METAL

Expanded metal is a product with almost limitless areas of application. Normally, expanded metal is supplied untreated in standard formats but can also be hot-dip galvanized or painted prior to delivery. For more information about dimensions, see project planning on page 244.

# ANTI-SLIP PROTECTION & CONTRAST MARKINGS

In order to increase safety and accessibility in various environments, we have developed products such as anti-slip protection for gratings, combined contrast marking, and anti-slip protection for ramps, staircases, etc. For more information about dimensions and other recommendations, see project planning on page 244.



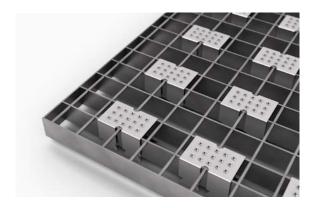
#### METAL ANTI-SLIP STRIP

Slippery staircases and surfaces can be supplemented with this anti-slip strip in sheet metal. The strip has punched holes for increased anti-slip protection. The strip can also be used as contrast marking on stair treads where this is lacking. The strip is screwed to the underlying surface.



#### CONTRAST MARKING, NON-SLIP

Contrast marking in black lacquered punched sheet metal. The profile is easy to fit to our staircases and steel ramps. Contrast marking is also available in other colours to order.



#### ANTI-SLIP PROTECTION FOR GRATING

Anti-slip protection in pressed stainless steel that can be pressed into place on the grate without any tools. The upper side has holes with upward pressed edges, providing very good anti-slip protection.



#### ANTI-SLIP PROTECTION, BLACK BRUSH

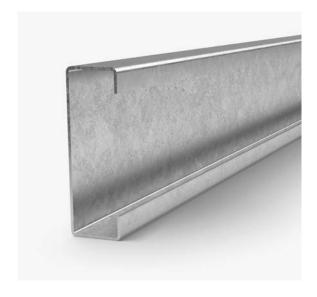
An anti-slip protection that is easy to attach to grating regardless of mesh width. Fits lead bearing bar dimensions 2 - 3 mm. Dimension of brush 23 x 7 mm.





# PROFILES

We keep several different types of profile in stock that can be used for a wide variety of applications. For more info about the profiles we always keep in stock, see project planning on page 244.



#### WUC PROFILE

Our in-house developed WUC profile is lightweight, very strong, and is perfect for use on our straight flight staircases.



WALL MOUNT Wall mounts can be used as mounting lugs for WUC profiles.





FERRULE

Ferrule is a hot rolled profile with embedment ties welded on.

ANGLE BAR Bent angle bar with holes ø 14 mm, c/c 400 mm.



# METAL LABELLING

If you need marking tags, we can offer both our own tag embossing press as well as ready to use marking tags in large or small series.

#### TAG EMBOSSING PRESS

Flexible, easy-to-operate, computer-controlled tag embossing press. Produces die sunk marking tags on various metal bands. 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 to be typed in either manually via the keyboard, loaded via a USB memory stick, or by connecting the machine to a network.

#### SINGLE-ROW TAGS IN STAINLESS STEEL

The tag is attached using plastic or stainless ties. Number series can be produced and delivered on tape strips.

#### TWO-ROW TAGS IN 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 galvanization, sand-blasting, and varnishing.



single-row tags in stainless steel



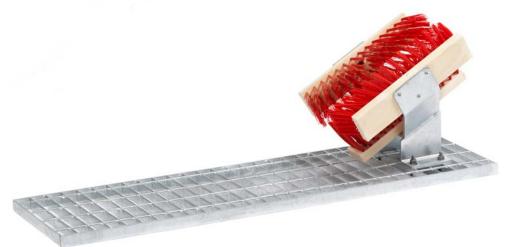
Weland die sunk marking tags can be made of hot-dip galvanized steel metal or stainless steel. Manufactured in single-row or two-row versions.



# FOOT SCRAPER

A robust foot scraper for when you need to make it easier to clean dirt from shoes. Suitable for use in sports facilities, golf clubs, stables etc. The foot scraper features three brushes that are mounted on grating.







# RELIABLE PRODUCTION SINCE 1947

ALC: NO



# SHEET METAL WORKING

We offer production capacity on a subcontracting basis and this, through collaboration between the Weland companies, makes us a complete and very strong business partner. We also have very extensive stock of materials, with at least 6000 tonnes of sheet metal in stock, in a wide range of material grades and thicknesses. This means that we can offer delivery times that few others can match.

# CUTTING

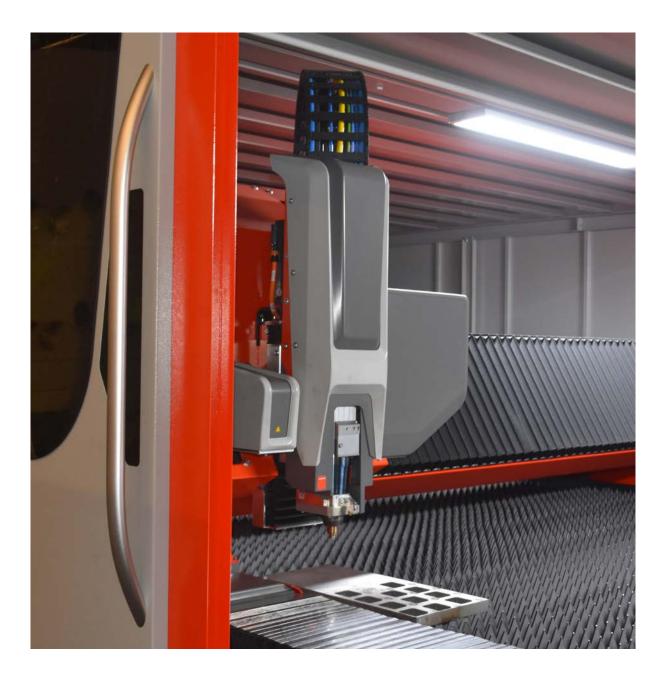
3

0

We use several different types of cutting method in our production process. We help you with cutting both sheet metal and tubes. In our modern machine park, we have the resources required to perform most metalworking processes with precision, skill, and the highest quality.

0





### LASER CUTTING

We have a modern machine park for sheet metal processing, and on our production line we have some 30 laser cutting machines that operate in shifts.

In total, we have the capacity to cut more than 160 tonnes of sheet metal per working day. We are constantly working to streamline our machine park, and most of our machines are equipped with 10kW fibre lasers, making production faster and more sustainable. Come to us, and make your ideas reality. We have good capacity and are at your disposal.

#### CAPACITY

Max. material length: 6000 mm Max. material width: 2500 mm Max. thickness: Carbon steel 25 mm, stainless steel 10 mm, aluminium 5 mm



Watch a video about sheet metal processing.





TENON CUTTING

PROTOTYPE PRODUCTION



CUTTING SURFACES & MATERIALS

#### **TENON CUTTING**

Even while parts are being laser cut, they can be prepared with tenons, mitres, notches, and holes in the material. This gives a perfect fit prior to welding without the need for expensive jigs. The tenoning facilitates the assembly and joining of the parts. You get a perfectly assembled product.

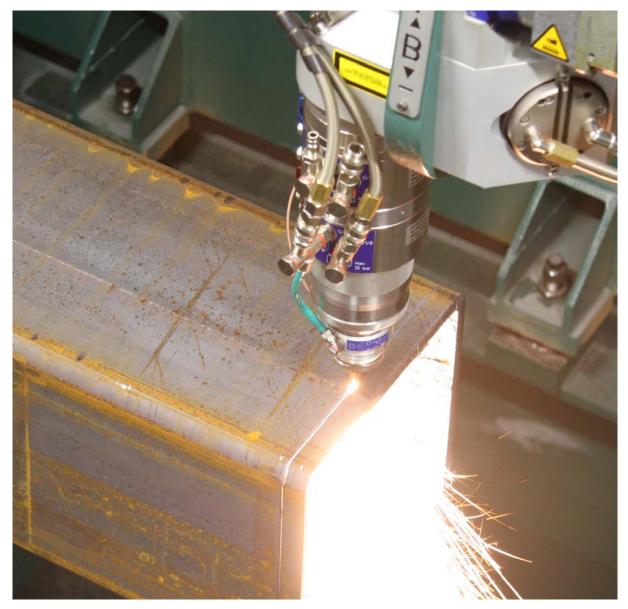
#### PROTOTYPE PRODUCTION

Laser cutting is an excellent way to fabricate prototypes. It is a very rational method of production as no special tooling needs to be produced. We are at the vanguard of developments in this area and have invested a lot of resources in digitising our production, Industry 4.0. Our machines are integrated in and connected to our CAD/CAM and ERP systems to ensure high productivity and good availability.

#### CUT SURFACES & MATERIALS

The cut surfaces are completely perpendicular in laser cutting. In addition, cutting surfaces are so uniform that there is, as a rule, no need for grinding.

Our machinery is constantly being updated, and our most recent machines for laser cutting can handle sheet metal sizes of up to  $6000 \times 2500$  mm. Large format sheet metal is available in stock.



FIXED CUTTING HEAD



MOVABLE CUTTING HEAD



JUMBO TUBE LASER CUTTING

### TUBE LASER CUTTING

We have many years' experience and knowledge of tube laser cutting. In our production facility, there are about 20 machines that can satisfy different customer needs when it comes to processes such as threading and joint preparation.

Most of our machines are run with fibre lasers, which results in a more sustainable production. In our continuously expanding fleet of machines, we have the possibility to cut everything from small tube dimensions up to tubes that are 508 mm in diameter. When parts are being laser cut, they can be prepared with pins and holes in the material, producing a perfect fit prior to welding.

#### FIXED CUTTING HEAD

Laser cutting of tubes with fixed cutting head is the traditional method for laser cutting tubes. The cutting head is fixed and always directed towards the centre of the tube. Section surfaces in HF HRS sections are perpendicular to the even surfaces. Cutting of indentations and cutting products is done with great precision and speed. This is a superior production method for both small and large batches.

#### MOVABLE CUTTING HEAD

Cutting with a movable cutting head enables the production of components where the use of laser cutting has not been possible before. Joint preparation for welding can be cut without finishing. Countersinks can be cut at the same time as holes are made. We also have tube laser machines for threading in machine. Tube joints "edge-to-edge" with curved surfaces are cut with great precision, which means that the surfaces fit perfectly against each other. Angled connections and tubes in different dimensions can also be produced. We have a large capacity with automatic production of materials, even for thick dimensions.

#### JUMBO TUBE LASER CUTTING

In order to handle heavy duty and larger profiles, we have equipped our machine park with two Adige Jumbo tube laser cutters. The machines have the capacity to cut tube up to Ø 508 mm. This opens up entirely new production opportunities in the heavy duty segment, for example, the steel construction industry. 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.

- Max. material length for cutting: 18000 mm
- Max. dimension: ø 508 mm or 400 x 400 mm
- Min. dimension: ø 10 mm or 10 x 10 mm
- Max. thickness: 16 mm
- Max. weight: 3600 kg or 200 kg/m
- Threading: M3 M12



### WATERJET CUTTING

Waterjet cutting is one of the alternatives, when laser cutting is not possible. We have many machines available, and can cut most material and dimensions.

Our machines are equipped with six cutting heads that cut simultaneously, which contributes to a more efficient production. With a large stock of sheet metal, we can deliver with short lead times.

The method is gentle to the material, since it is a cold cutting method. There are no structural changes in the edge zone due to heat effects. This also means that all types of material can be cut, including wood, glass, natural stone, ceramic, rubber, sheet metal, and even other non-porous materials.

- Max. material length: 6000 mm
- Max. material width: 4000 mm
- Max. thickness: 100 mm

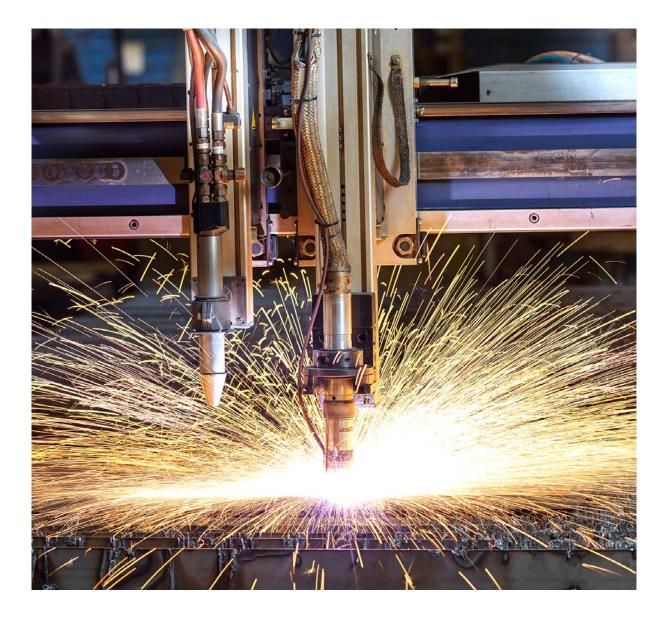


### GAS CUTTING

For cutting very heavy duty plate sizes, gas cutting is a good alternative. The machine can handle thicknesses up to 200 mm.

This is where we cut the really heavy-duty sheet sizes with precision and impressive speed. Four cutting heads and double table for setting up sheet metal provide a very large capacity. The alternative to gas cutting is plasma cutting, and the choice of which method to use is determined by thickness and requisite tolerances.

- Max. material length: 12000 mm
- Max. material width: 2500 mm
- Max. thickness: 200 mm



### PLASMA CUTTING

Plasma cutting is a good alternative for cutting medium duty plate dimensions. The machine can handle thicknesses up to 50 mm.

The machine cuts with high precision and impressive speed. A dual cutting head and double table for setting up sheet metal affords a very large capacity. The alternative to plasma cutting is gas cutting, and the choice between the two fabrication methods is determined by thickness and requisite tolerances.

- Max. material length: 12000 mm
- Max. material width: 2500 mm
- Max. thickness: 50 mm



### SLITTING

Strip steel is slit from coils into narrower strips. We can also help with cutting to length and levelling.

We have an extensive stock of hot-rolled sheet metal in various grades and thicknesses. Our equipment for splitting coils can handle steel strip with thicknesses up to 6 mm. We can split narrow strip with a minimum width of 18 mm. The largest width we can machine is 1500 mm.

In connection with slitting, we can also level and clip the steel strip. This applies for strip of all sizes with lengths up to 6 metres.

- Max. material width: 1500 mm
- Max. thickness: 6 mm

# PUNCHING

É.

.///

We can carry out punching of both sheet metal and tubes. Backed by the most modern machine park in Sweden, we support you from concept to finished product. We can work with most CAD formats and can quickly start production from a complete set of supporting documentation.

ŧ.

DIN MASKIN

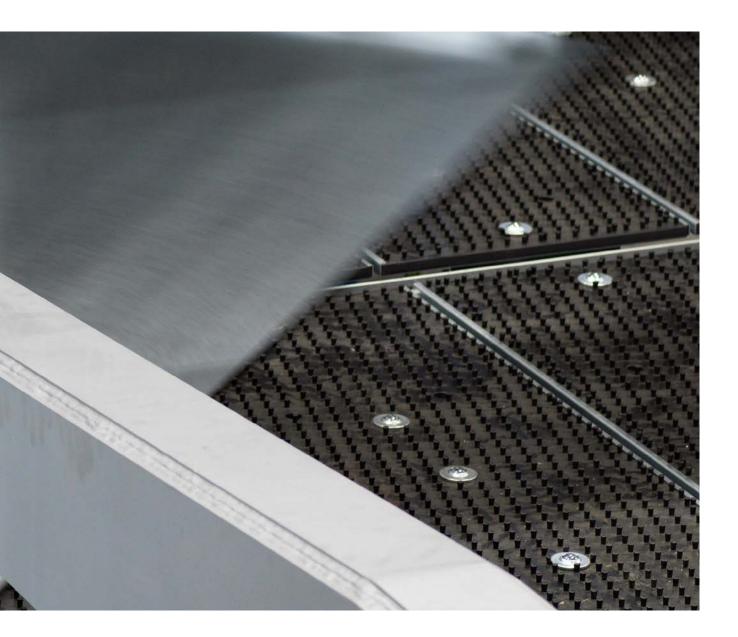


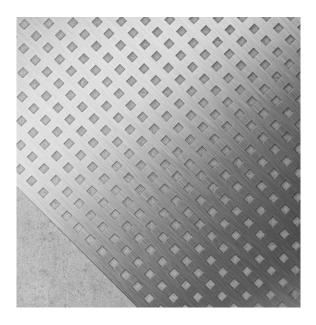


### PUNCHING

Our modern machine lines enable us to offer punching of sheet metal and tubes in both small and large volumes. We support you all the way from concept to finished product.

Punching affords a high level of precision and flexibility, and is a very efficient method for thin sheet metal working. We have four machine lines for punching, each with unique characteristics to satisfy the shifting needs of the market. The production lines are equipped with punch heads, angle shears, and automatic folding machines. All lines have a high level of automation and handle materials from coils or, alternatively, initial sheet metal to finished component. On the same line, we can punch, cut, shape, fold and stack parts, giving us huge flexibility with short set-up times and high precision. Panel bending affords significant time benefits compared to edge pressing. This makes punching a multi-faceted and cost-efficient method for sheet metal working.





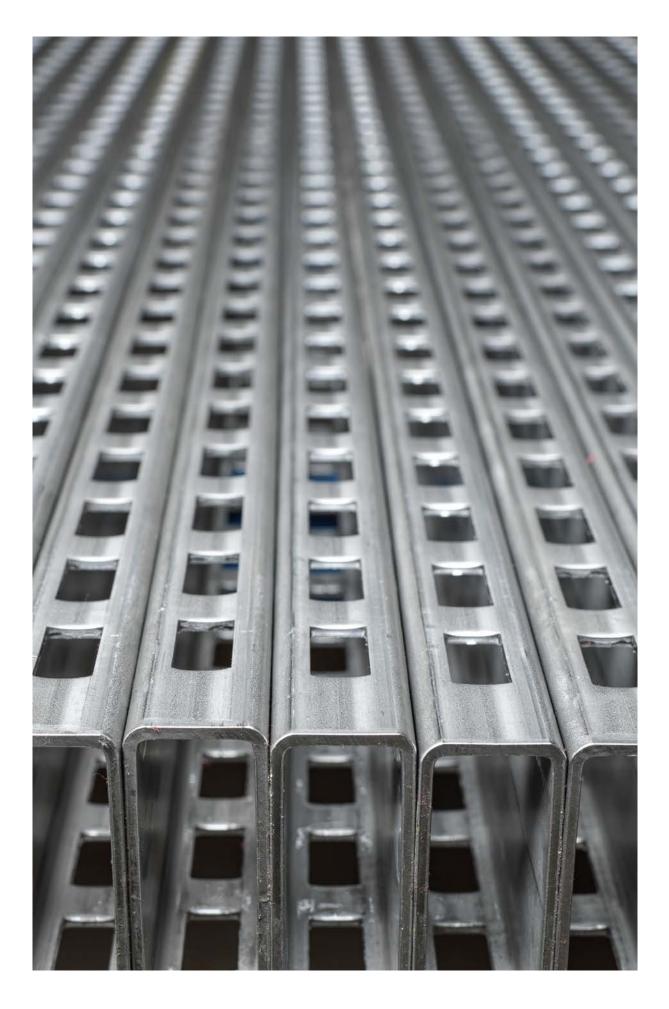
#### CAPACITY

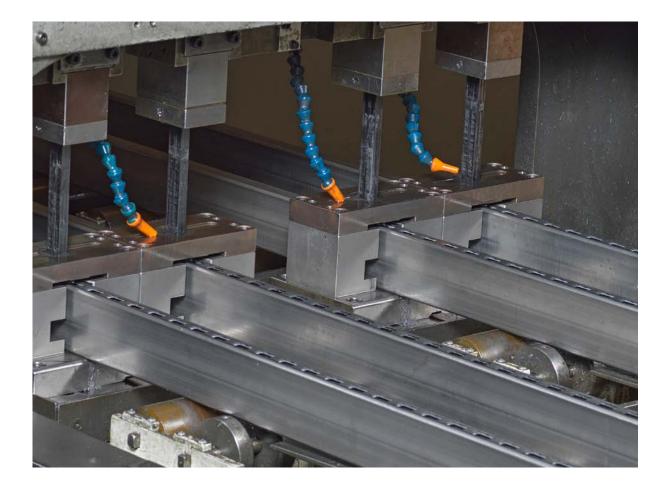
#### PUNCHING

- Max. material length: 4300 mm
- Max. material width: 1500 mm
- Thickness: 0.5 8.0 mm

#### BENDING

- Max. length (X): 3990 mm
- Max. width (Y): 1524 mm
- Min. length (X): 285 mm
- Min. width (Y): 190 mm
- Max. diagonal dimension (D): 4000 mm
- Thickness: 0.5 4.0 mm





### PERFORATION LINE

We offer perforation of tubes in a whole host of tube dimensions and hole patterns. We can also produce special tools and customised solutions for things such as store interiors.

Our production facility features a perforation line where we perforate holes in square tubes. The efficient perforation machine can handle a number of different dimensions and perforates holes in several tubes at a time, which is a quick and rational method that enables us to off short lead times and a high level of quality. Our hi-tech expertise, in-house production facilities, and flexibility makes us a leading supplier of perforated tubes.

Perforation of tubes is suitable for many areas of application and solutions. One common area of application is for perforating products that are used, for example, in store interiors. Weland has a large number of standard tools in a whole host of different tube dimensions and hole sizes/patterns for perforating tubes, but also fabricates new custom tools to satisfy new hole pattern or tube size requirements. This means that we can produce unique customised solutions for the erforation of tubes.

#### CAPACITY

- Max. rectangular tube: 110 x 30 x 3 mm
- Max. square tube: 80 x 80 x 3 mm
- Max. tube length: 3500 mm
- Min. tube length: 800 mm
- Max. tube weight: 30 kg
- Cutting power: 15 tonnes per punch



# MACHINING

We offer several different types of sheet metal working – finishing, cutting machining, bending, and welding. We have both the equipment and expertise to carry out all forms of sheet metal working, no matter whether the project is big or small. With a combination of high level of expertise and modern production technology at our disposal, we offer flexible and cost-efficient machining of sheet metal and tube constructions.







TUMBLING

DEBURRING



LEVELLING

### FINISHING

We offer tumbling, deburring, levelling, and blasting of sheet metal components. Thanks to our experience and expertise, we can determine which method is best suited to your particular business.

#### TUMBLING

Tumbling is especially suitable for deburring small details. The components are tumbled to remove burrs and sharp edges. This method is most often used where components are to be surface treated.

#### DEBURRING

Components can be deburred to remove burrs and sharp edges. This is important in order to obtain good adhesion for future surface treatments, e.g. varnishing, etc. This method simultaneously machines both the upper and lower sides.

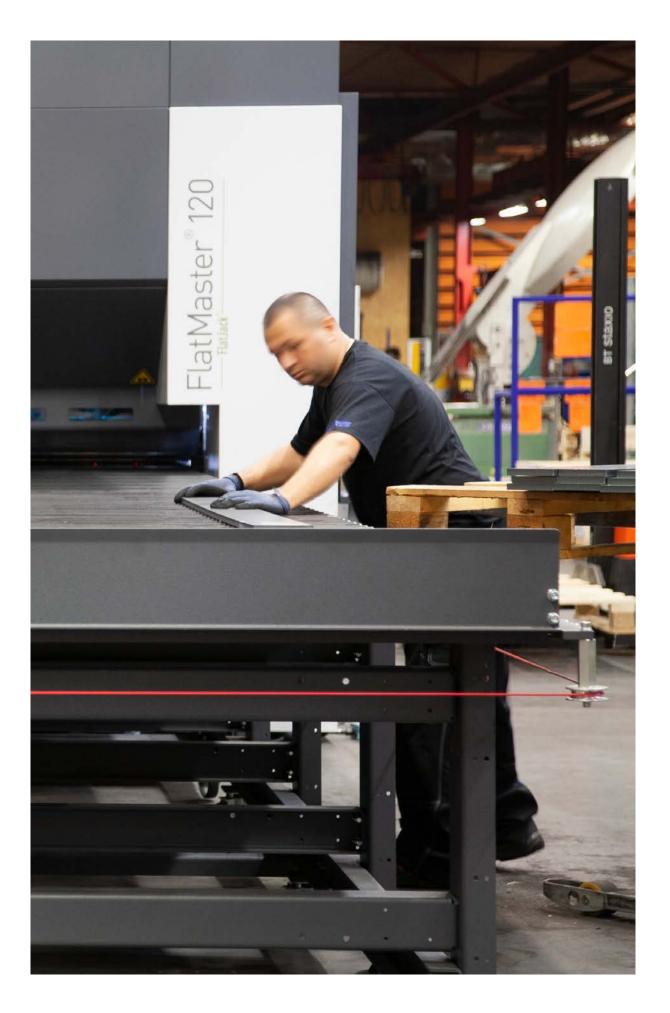
#### LEVELLING

We have two levelling machines, an HRC levelling machine and an ARKU FlatMaster 120 200, which levels sheet metal components in thicknesses up to 35 mm and widths up to 2000 mm to a very high degree

of precision. The levelling machines consist of a umber of rollers that, through CNC control, automatically regulate roller pressure and feed in order 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.

#### LEVELLING CAPACITY

- Detail thickness: 0.8 35 mm
- Detail width max.: 2000 mm
- Flatness tolerance: +/- 1 mm/m







### CUTTING MACHINING

Using our cutting processing equipment, we carry out tasks such as milling, drilling, reaming, and high precision threading.

#### CUTTING MACHINING

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. Horizontal machining with rotating table makes it possible to machine from three sides in a single set-up. We have some 20 Mazak brand machines for cutting machining, including an HCN 5000 with PalleTech. All of our machines have unique characteristics to satisfy the ever-changing needs of the market.

Thanks to our horizontal multi-operation machine, we can handle cutting machining for heavy duty and more complex assignments. The machine is equipped with 120 different tools that enable it to carry out many different types of operation in a single process. It has a maximum machining range of  $1.7 \times 1.4 \times 1.5$  metres.

#### ROBOT CELL

Our three flexible machining cells afford the opportunity to make rapid changeovers. 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 an efficient 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 changeovers. The cell consists of a horizontal multi-operation machine. The robot cell contains long conveyor belts that makes buffering for unmanned operation a possibility. In the cell, it is possible to unload finished components at three pallet locations.

#### ROBOT CELL CAPACITY

- Max. length: 8000 mm
- Max. width: 1300 mm
- Max. height: 2600 mm



### BENDING

Bending involves sheet metal being bent into the specified shape using an edge press. Edge pressing is a very important element of the sheet metal working process to ensure that we can deliver a complete sheet metal product.

We have extensive experience of the bending and edge pressing of sheet metal and supply components that are specifically adapted to your needs and requirements. We can combine edge pressing of components with other types of sheet metal processing to achieve the desired result.

#### MODERN MACHINES

As a company, we are at the vanguard of developments in respect of bending. Our modern machines can handle most materials and dimensions. A wide range of standard tools afford us the opportunity to quickly start production of a new project at a low cost. If you require a particular form or shape, we will produce new tools based on your exact requirements. We are more than happy to assist you with your sheet metal bending needs.

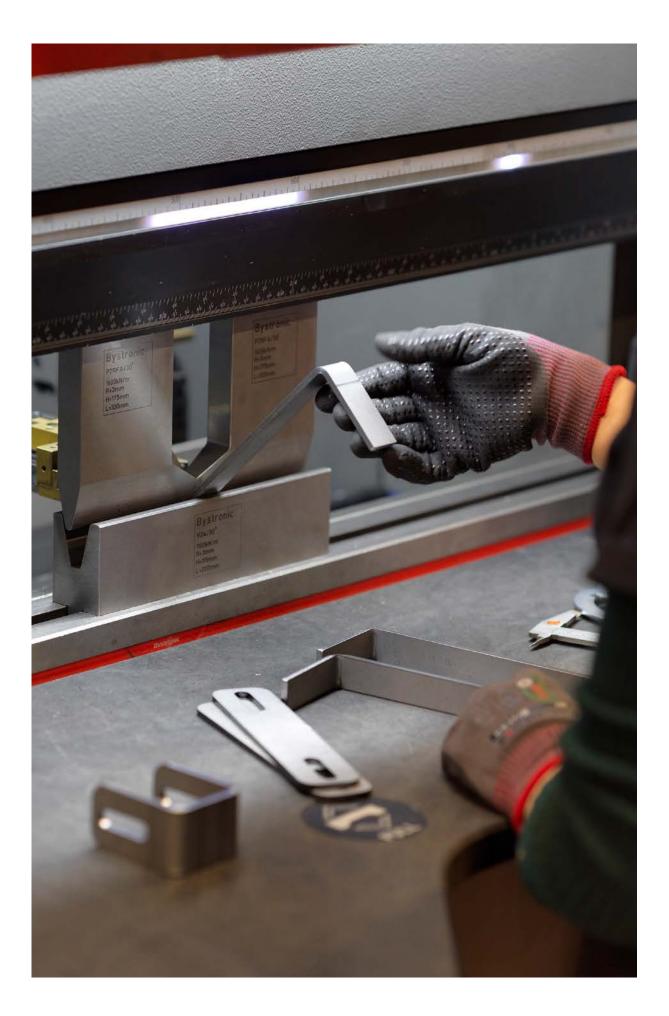
#### EFFICIENT EDGE PRESSES

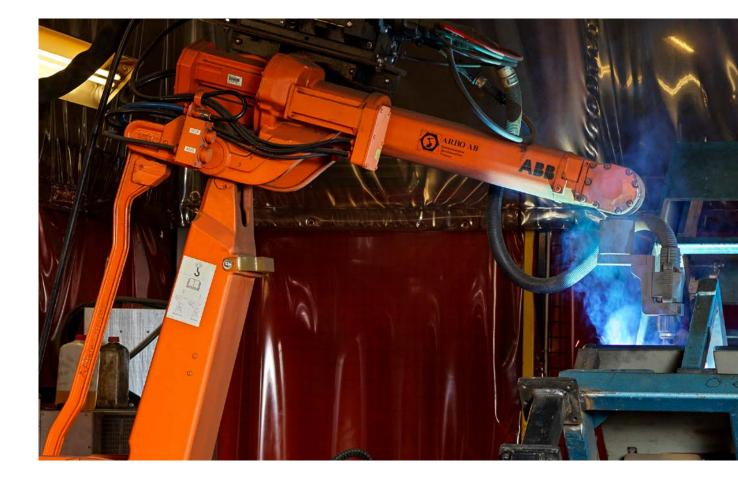
We have 10 or so edge press machines of different sizes and bending is CNC-controlled. Edge pressing is performed as a finishing step for one of our cutting processes. Our edge presses have a capacity of 40 to 800 tonnes.

Our 800-tonne capacity edge press allows us to take on work very few companies can do. The press force of a whopping 800 tonnes and maximum working length of 6200 mm inspire respect. Add to this a sophisticated CNC control unit, and we have a unique resource at Weland. Our newest edge press has a press power 320 tonnes and maximum working length of 4100 mm.

#### CAPACITY

- Max. pressing force: 800 tonnes
- Max. bend length: 6200 mm
- Max. tool space: 735 mm
- Max. stroke: 565 mm
- Angle measurement





### WELDING

We are certified within both robot welding and manual welding, and able to offer cost-effective, high speed, and precise sheet metal working thanks to our modern machine park.

Our extensive experience of mixed constructions makes us skilled in the art of adapting welding to your specific criteria, no matter whether it concerns mechanical or manual welding. We help you with welded components in both smaller series and larger volumes.

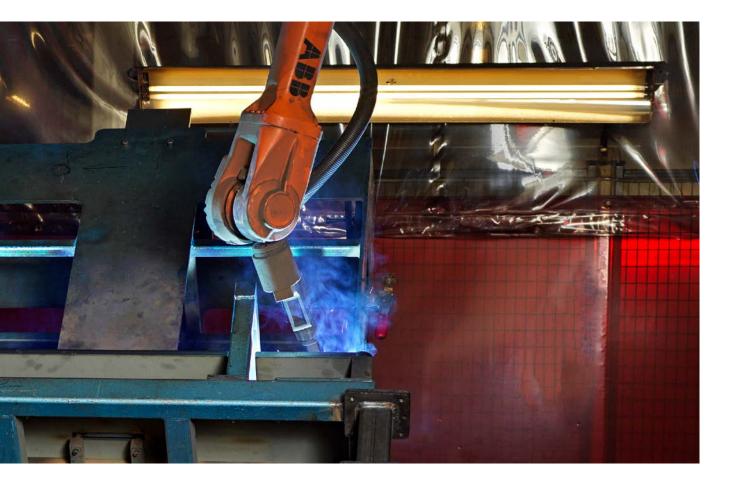
With us, you can get help with all your welding needs, all the way from concept to finished product. Our employees have extensive experience of different types of welding work. If you order finished components that are, for example, laser cut, bent, tumbled and welded by us, you are making use of our full potential. You obtain high-quality parts with full control of the delivery, because all of the manufacturing is performed under one roof. This makes us a turnkey partner and contract manufacturer.

#### MANUAL WELDING

For parts that are manufactured in small series, manual welding is the best alternative. We are certified in ccordance with EN ISO 3834-3 and carry out welding on our own premises, with welders certified in accordance with SS-EN 287-1.

#### ROBOT WELDING

Robot welding is particularly well suited for series production and components that are to be fabricated in large volumes. We have robot welding, robot cells with high-performance robots available as well as some ten robots in various size ranges.

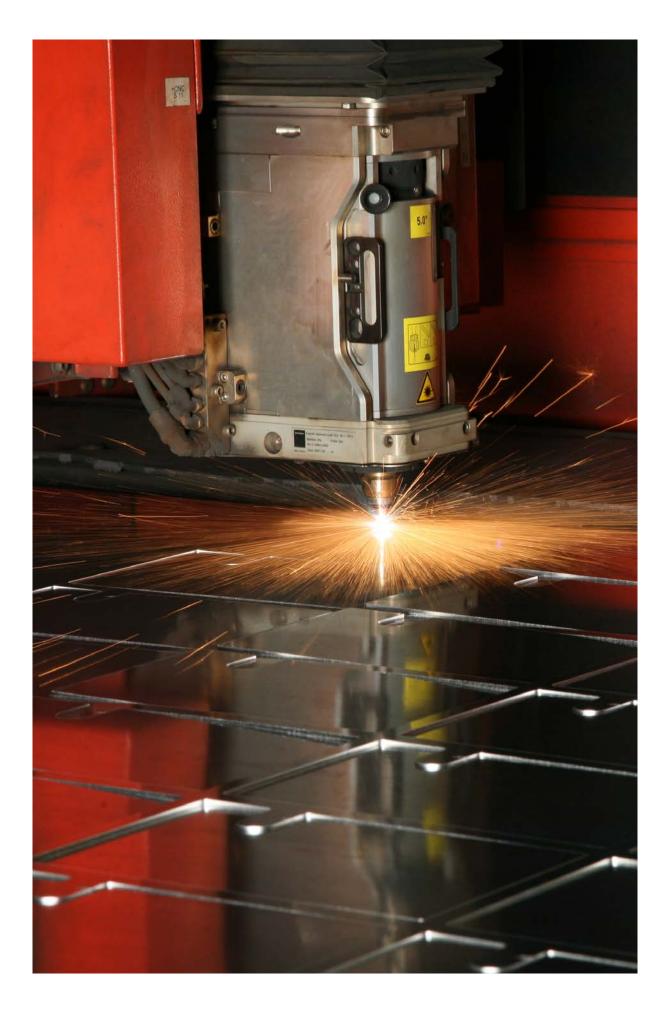


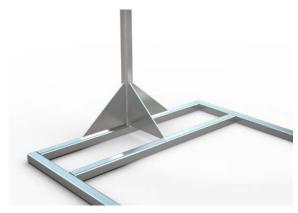


# OTHER

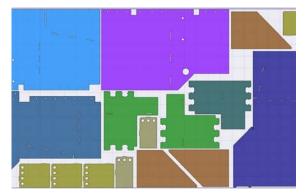
Do you need further help with your sheet metal project, in addition to cutting, punching and processing? We will be happy to help you with everything from construction and drawings to control measurement, surface treatment, and final delivery of your sheet metal components. With a large stock of sheet metal and tubes in a wide variety of materials and dimensions, we can satisfy our customers' requirements for quality and offer fast deliveries. We apply various types of surface treatment on products, such as varnishing, hot-dip galvanization, and pickling. We can also offer other types of surface treatment in collaboration with local partners.







TENONING



MINIMISATION OF WASTAGE



All programming of the laser machines is done at our drawing office.

### DESIGN

All our laser machines are programmed in our drawing office, where our staff have many years of programming experience.

The drawing office works using the latest CAD equipment, with SolidWorks being our principal tool. We help you produce drawings or will work based on drawings you have already created. Our team has programming running through their veins, enabling us to program an average of fifty new components per day, 365 days a year. The drawing office is also where we make adjustments to our in-house production, prepare material for components, and calculate cutting times.

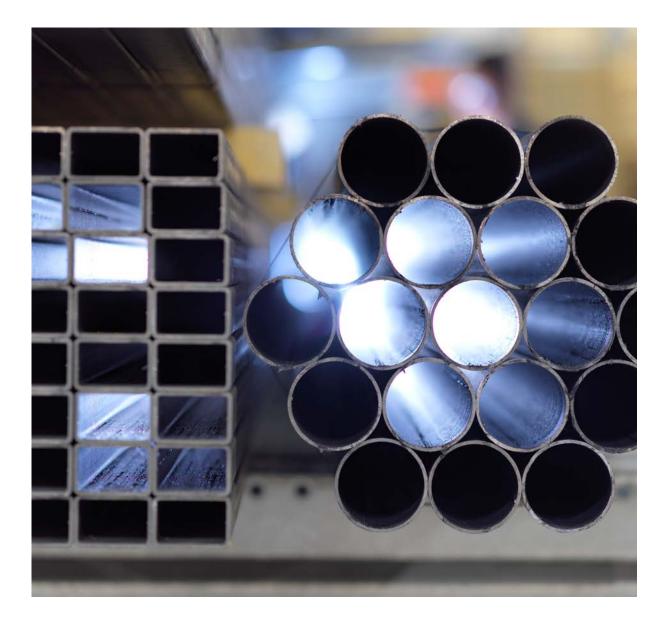
#### TENONING

Even while parts are being laser cut, they can be prepared with tenons, mitres, notches, and holes in the material. This gives a perfect fit prior to welding without the need for expensive jigs. Tenoning facilitates assembly and joining of parts. You get a perfectly assembled product.

#### MINIMISING WASTAGE

We work hard to get the most out of each piece of sheet metal, or, to put it another way, to have as little wastage/scrap as possible. Our goal is always to be at the cutting edge of new technology. This also applies to our software. We have an advanced system for monitoring/reporting the consumption of materials. In this system, it is easy for us to follow the exact progress of a cutting plan, to see which parts are being cut. All material reporting is done automatically, which means that all of our material balances are always up-to-date and we can easily monitor how much waste is generated.

All stages of the production chain are subject to careful control and we work in accordance with the ISO 9001 quality management system. We are also environmentally certified in accordance with ISO 14001.



### SHEET METAL & TUBE STOCK

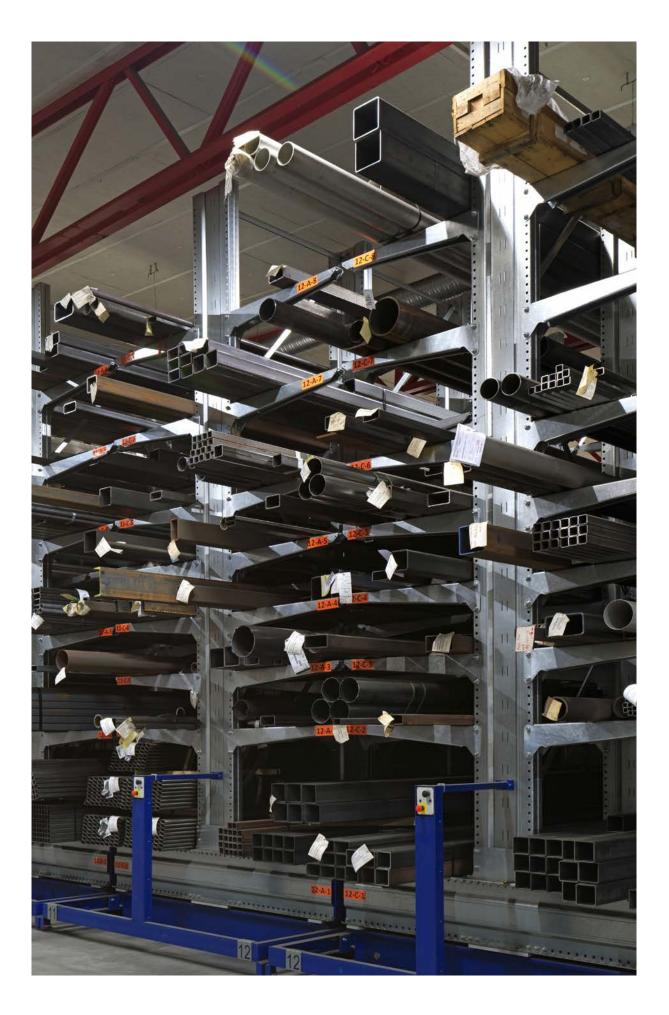
We have an extensive stock of sheet metal and tubes in many different material grades and dimensions.

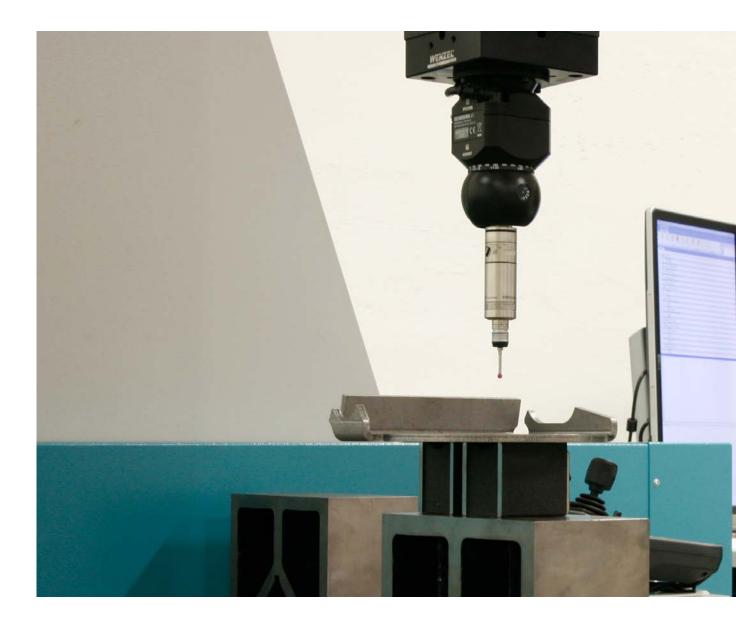
To enable us to meet our customers' demands for quality and prompt delivery, a very extensive stock of sheet metal is required. We always have at least 6,000 tonnes of sheet metal in stock, in most grades and thicknesses. For example, cold-rolled sheet metal from 0.5 to 3.0 mm, hot-rolled pickled sheet metal S355 MCD-S700 MCD from 3 - 20 mm and stainless steel 1.4301 and acid-proof 1.4404 from 1 to 15 mm. In addition, we also have large stocks of high strength thick plate, type S690QL and S890QL. Apart from the

above, there are many other grades of sheet metal and dimensions available.

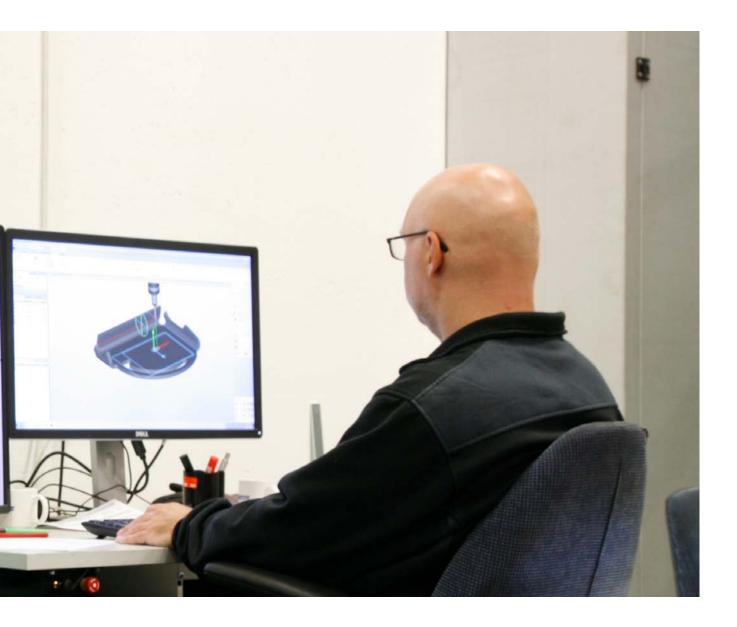
#### TUBES AND HF HRS BAR

We also have an extensive stock of tube 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.











### CONTROL MEASUREMENT

We place great focus on quality in our production process. For that reason, we also employ top class check measurement.

Our quality control department has measuring equipment of the absolute highest class at its disposal. In our measurement room, we have, among other equipment, CMM measuring equipment of impressive dimensions. The solid measurement table is a full 5 x 2 metres and weighs 19 tonnes. We can measure components in sizes of up to  $4 \times 1.5$  metre, with a precision of  $3.5 \,\mu\text{m} + L/300$ .

Apart from the CMM equipment, we also have various types of measurement arm for simpler measurements.



VARNISHING



HOT-DIP GALVANIZING

### SURFACE TREATMENT

We carry out surface treatment of our products in our in-house surface treatment facilities. We work with surface treatments such as priming, final varnishing, blasting, and hot-dip galvanizing.

Because we control the process and have extensive experience of surface treatment methodologies, we can guarantee a high level of quality. It also means that we can offer our customers a finished product that exactly matches their requirements.

Powder coating is done at Weland AB, whilst subsidiary Weland Welded Components AB carries out wet varnishing. Subsidiary Zinken Weland AB handles hotdip galvanizing of steel. Which is the best option depends on how and where the product is to be used.

#### VARNISHING

In order to satisfy our customers' varying needs and requirements, we offer our products in both primed and fully painted versions. Surface treatment work is carried out in modern and efficient varnishing facilities. Because we have access to large premises, we can work on bulky objects measuring up to 10 x 10 metres for both blasting and varnishing. You can choose any shade you want from the entire RAL scale.

Powder coating produces a very good finish and is particularly suited for products that are to be used indoors. Wet varnishing is, in many ways, a sustainable alternative that is suitable for use with products that require a durable surface treatment but cannot be hot dip galvanized.

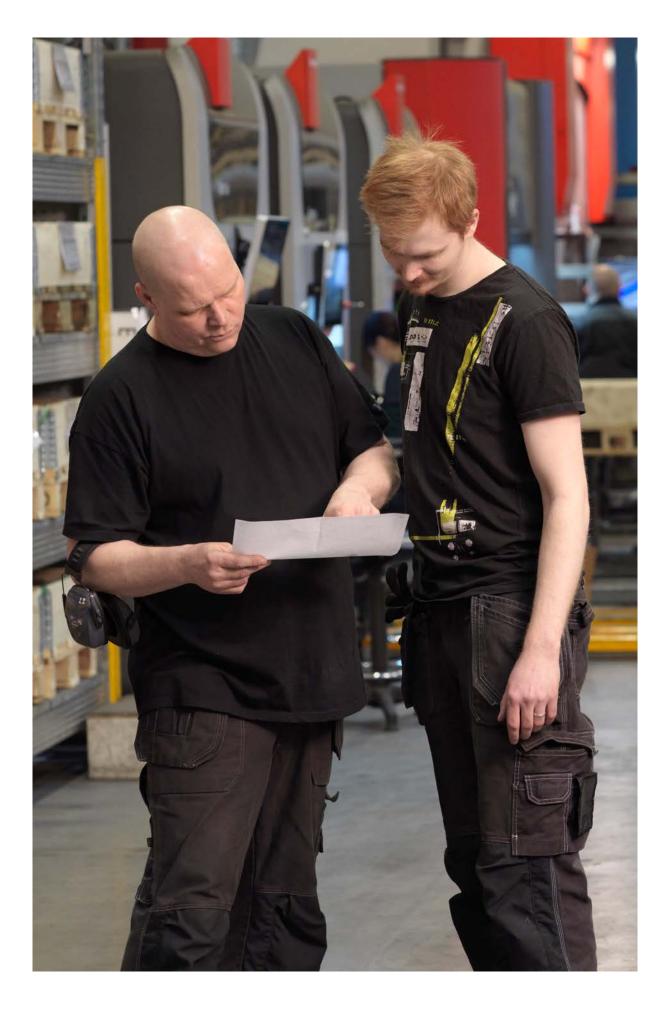
For wet varnishing, Weland Welded Components AB works with Polane paint. It is a sustainable alternative as it uses less paint. It also means that the paint dries quickly. Wet varnishing using Polane is the perfect choice for products that are to be used outdoors but which, for various reasons, cannot be hot-dip galvanized. For example, it could be a large loader.

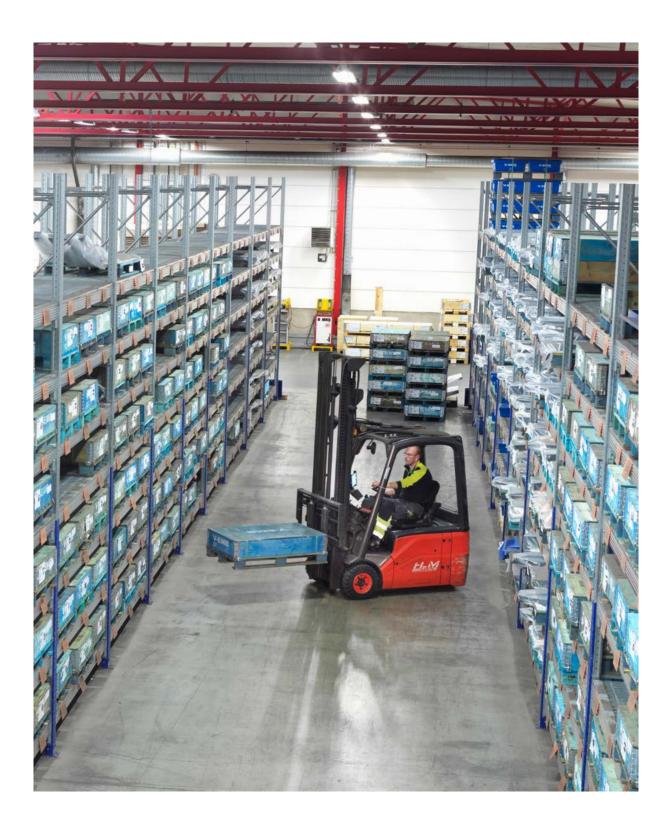
#### HOT DIP GALVANIZATION

Hot dip galvanization affords the best level of rust protection and is therefore particularly good for steel products that are to be used outdoors. We can also paint a product that has a hot dip galvanized bottom so that it blends into a specific environment.

Products that are hot dip galvanized are dipped into a zinc bath containing molten zinc. 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. Zinken Weland AB, which is the company responsible for carrying out this work, has a modern hot-dip galvanization facility located in Ulricehamn.







### STOCK

For larger customers, or for products in large series, we can stock products on our customers' behalf in an very rational manner in our automatic warehouse. Orders are then placed by call-off in close cooperation with the customer.





# PROJECT PLANNING

In the project planning section of the product manual, you will find all you need for the execution of a successful project. Each product is shown along with detailed information, a components list, details of things to bear in mind, and much, much more.

You are always welcome to contact us if you have any further questions or queries and we'll help you with both guidance and advice.

### CONTENTS, PLANNING

#### STAIRCASES

Spiral staircases	.246
Straight flight staircases	.258
Special staircases	.268
Stair treads	.272
Landings	.284

#### GRATINGS

Grating	290
Pedistrian grating	304
Vehicle traffic	326
Entrance grating	334
Large mesh grating	342
Frames	346
Fixings	352

#### RAILINGS

Sectional railing	.360
Universal railing	.366
Fencing	.372

#### RAMPS

Steel Walkway Flex	376
Wheelchair ramps	382
Ramps	392

#### MEZZANINE

Mezzanine	398
Sigma beam	400

#### STORAGE EQUIPMENT

Pallet rack	404
Collision protection	406

#### PLANK TYPE FLOORING, SLIT PLANK TYPE FLOORING & FIRE EXTINGUISH GRATING

Plank type flooring408
Slit plank type flooring414
Fire extinguish grating420

#### OTHER

Expanded metal
Anti-slip protection & Contrast
markings428
Profiles



### You can find this and much more on weland.com

#### Procedure tool

Our procedure tool allows you to quickly and easily create descriptive texts for those slightly smaller projects. If your project is a little more complex, contact our sales team for assistance.

#### **BIM Objects**

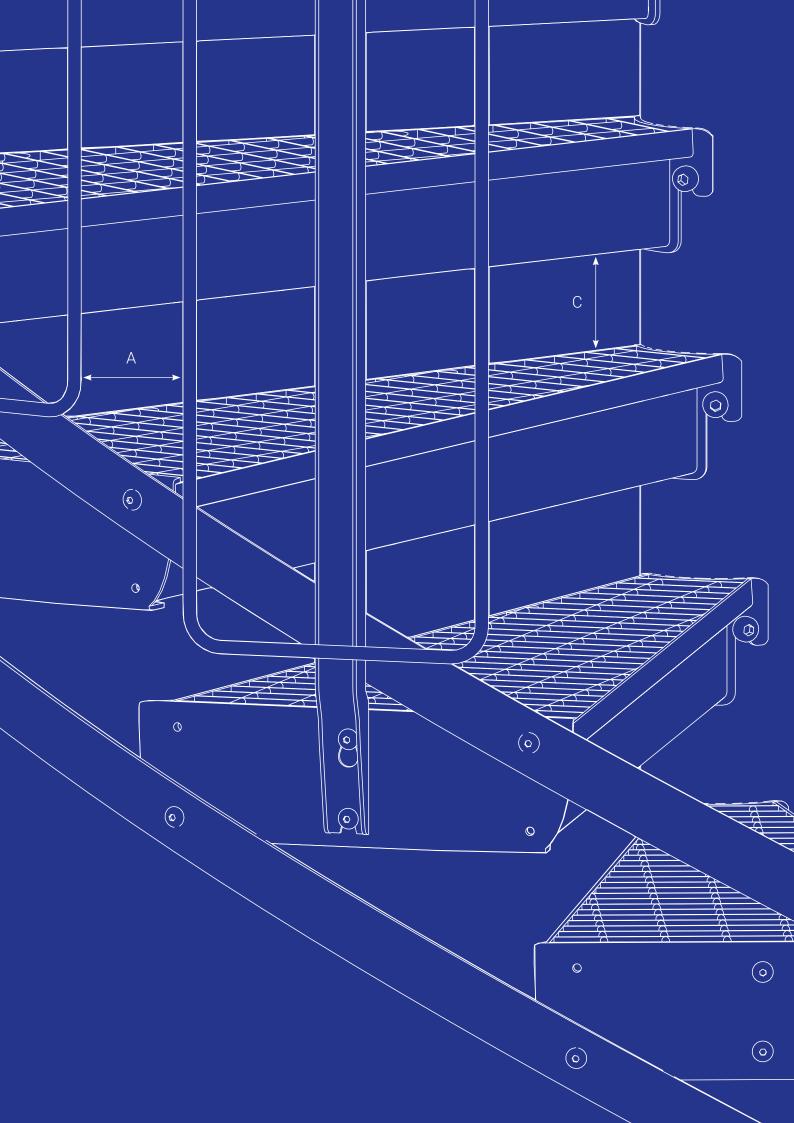
BIM enables you to create a direct link between key influencers in the construction industry and the products that are relevant to the building process. A fully digitalised solution that visualises and documents the steps from concept to final product.

# Documentation as STEP files, installation films and certificates

There is a lot of material to download from our website. Browse, download, or order our catalogues, installation films, software, CAD/STEP files, certificates, or other resources.

#### Part of Byggvarubedömning, SundaHus, Basta, and EPD

We work sustainably and shall be a player that, together with others, reduces the impact we have on the environment. That is why we work hard and with a long term vision to be part of the environmental work underway in the industries in which we operate.



# SPIRAL STAIRCASES

Weland spiral staircases consist of four main components – railings, handrails, stair treads, and landings. All components are available in many different versions to suit your particular environment. Most of our components are standardised and kept in stock for immediate delivery. We also fabricate custom spiral staircases to order.

## FACTORS TO BEAR IN MIND WHEN PLANNING YOUR PROJECT

- What will the staircase be used for?
- Where will the staircase be located?
- What type of railing is being considered? Are there child safety requirements?
- What type of landing and stair tread is being considered?
- What is the radius of the staircase?
- What type of surface treatment is required?
- What extra equipment does the spiral staircase need? E.g. protective cage, gate, etc.

#### FACTORS TO CONSIDER BEFORE ORDERING

- Show where any walls, doors, and windows are located.
- · Check any child safety requirements.
- Specify dimensions of any arch openings.

With many years' experience, we are happy to help you with guidance and advice during your planning process. On ordering, each spiral staircase is drawn up specially and the drawing is sent to the customer for approval prior to manufacturing.

Contact us for further information.



### **DESIGN AND DIMENSIONS**

#### **RAILING INFILL**

In this entry, we show the design and dimensions of our various different railing types. All our railings, except Standard and Indermediate rail, are childproof with a maximum opening of 100 mm.

#### 1. Standard

One U-baluster per step, attached to the outside of the stair tread end. Primarily suitable for industrial purposes or premises and areas where children will not be present.

#### 2. Hoop

A simpler form of childproof railing with a hoop welded to a U-baluster.

#### 3. Round Bar

A railing focusing on form and design. The railing fill consists of a hand rail and under rail made from  $25 \times 8$  mm flat bar. Round bar ø 11 mm.

#### 4. Intermediate Rail

Railing that can be provided with one to four sheet steel Indermediate rails 50 x 3 mm. A Intermediate rail is best used on high industrial staircases.

#### 5. Sheet Metal

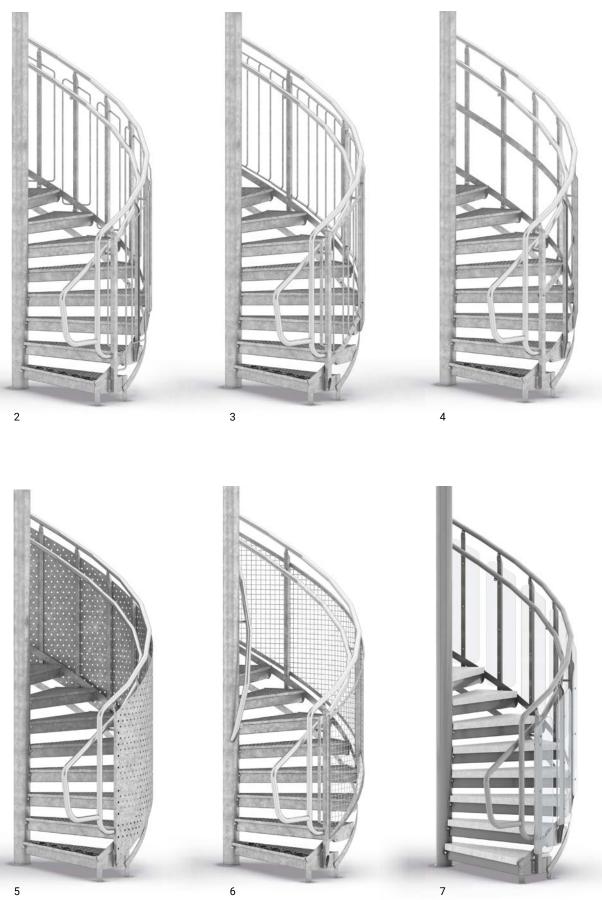
Railing in solid or perforated metal. We offer a range of different configurations of perforated sheet metal as standard. Our most popular patterns are shown on our website. Other versions are also available upon request.

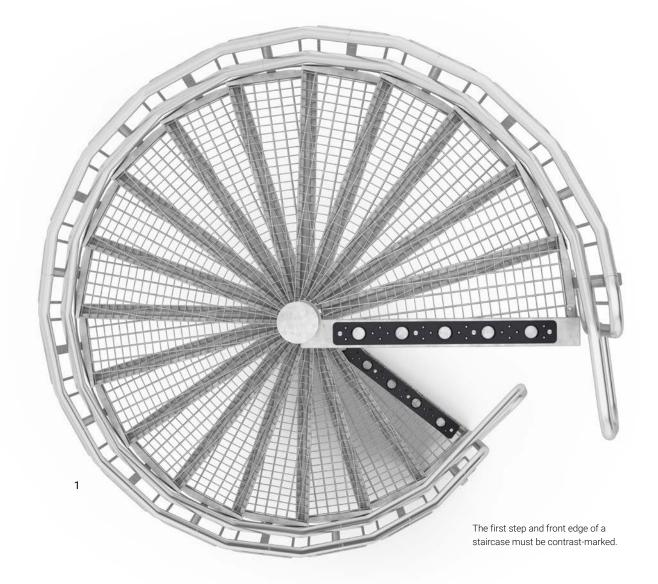
#### 6. Woven wire mesh

Woven wire mesh with standard 40 x 40 mm apertues. 30 x 30 mm apertues is also available.

#### 7. Glass

Railing with 8 mm tempered laminated glass in cassettes for an extra high finish.







#### STAIR TREADS

Supplementary information about our various different step types.

#### 1. Grating

Step made from grating with mesh width 33 x 50 mm. Supplied in hot-dip galvanized version. In instances where a narrower mesh width is required, we recommend  $17 \times 75$  mm.

#### 2. Tear plate

Step made from tear-patterned grating, tear plate, supplied in hot-dip galvanized version.

#### 3. Perforated plate grip

Hot-dip galvanized perforated plate stair tread – a good alternative to grating if you are looking for a more solid step surface. Hole pattern  $\emptyset$  10 mm with triangular division 30 mm. Half of the holes are collared in order to achieve the best scraping effect.

#### 4. Grey concrete

Grey concrete stair tread. Thickness 50 mm. Supplied with a fine brushed tread surface, other side smooth cast. Coarse brushed step surface for outdoor staircases. The concrete rests on a sub-frame made from sheet metal profiles.

#### 5. Terrazzo concrete

Terrazzo concrete stair tread. Thickness 40 mm. The concrete rests on a sub-frame made from sheet metal profiles. This step type is not suitable for outdoor use. Standard colours: 1-2811, 1-240, and 1-130.

#### 6. Sheet metal for tiles floor

Stair tread designed as a sheet metal box to allow the laying of tiles. The standard depth of the sheet metal box is 27 mm.

#### 7. Sheet metal for carpet

Stair treads that are to be covered with carpet are supplied with a metal step that has been adapted for carpet. For carpets that cannot be folded over the front edge of the step, nosing should be used.

#### 8. Ash

Stair tread made from ash with solid laminated wood, 30 mm. Supplied varnished as standard.

#### 9. Birch

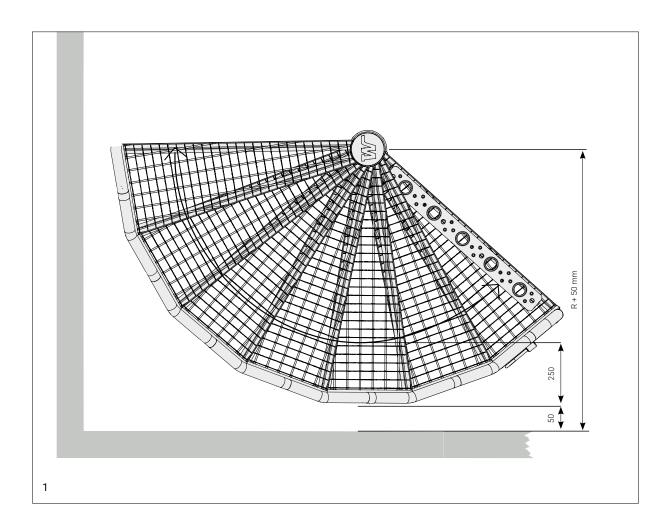
Stair tread made from birch with solid laminated wood, 30 mm. Supplied varnished as standard.

#### 10. Beech

Stair tread made from beech with solid laminated wood, 30 mm. Supplied varnished as standard.

#### 11. Oak

Stair tread made from oak with solid laminated wood, 30 mm. Supplied varnished as standard.



#### 1. DISTANCE TO WALL AND TREAD DEPTH

The external radius of the spiral staircase must be at least 50 mm away from walls. The tread depth is calculated along an imaginary path 250 mm from the radius.

#### 2. RAILING HEIGHT

The height of the railing is 1100 mm at the front edge of the step. Extra handrails are placed at a suitable height inside the balusters, e.g. 900 mm. The railing height of the landing is 1100 mm as standard.

#### 3. 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.

#### 4. HANDRAILS

As standard, handrails are made of stainless steel tube, Ø 42 mm. In the case of wood handrails, the handrail is Ø 50 mm as standard.

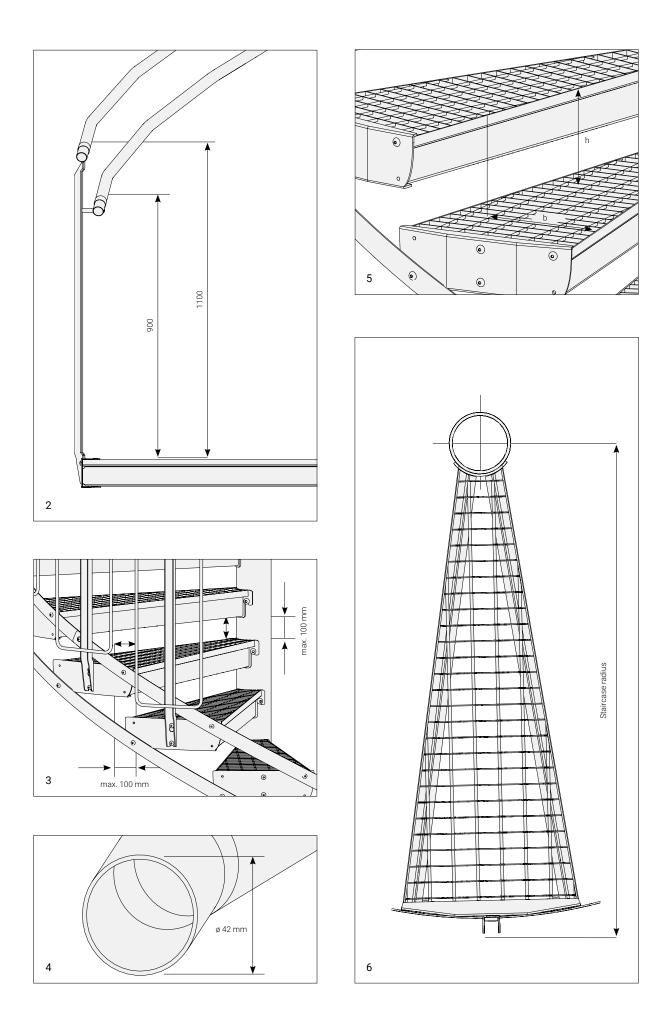
#### 5. RISE

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

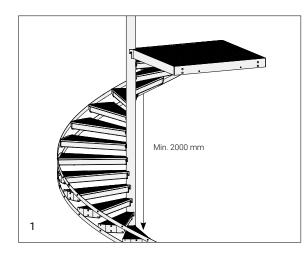
Depending on the radius, rises are between 160 and 220 mm. The lower the rise you choose, the deeper the step needs to be. The normal rise is about 170 to 180 mm. The formula for the rise is  $2 \times h + w = 600-630$  mm.

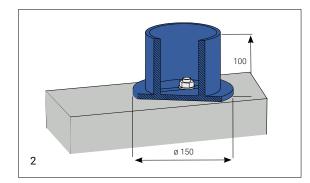
#### 6. STAIRCASE RADIUS

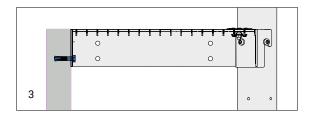
The staircase radius is the dimension from the staircase's centre to the outer edge of the handrail. Weland manufactures spiral staircases with a radius of 600 to 1500 mm. Within this range, standard radii fall on whole deimetres.



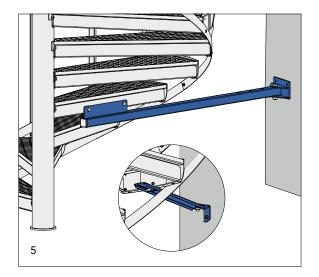
# STAIRCASE SOLUTION AND FUNCTION











#### 1. 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.

# 2. ATTACHMENT OF BASE PLATE

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

# 3. ATTACHMENT OF LANDINGS

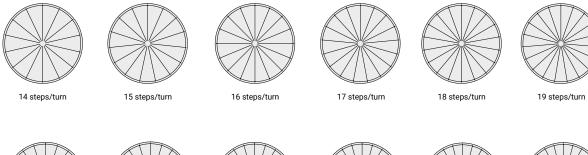
Use suitable type of screw taking into consideration the materials at the attachment points.

## 4. RIGHT OR LEFT TURN

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

# 5. 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.





Radius

steps/

turn





21 steps/turn



Radius

Tread

walkway

steps/turn depth in

23 steps/turn



24 steps/turn



25 steps/turn

# NUMBER OF STEPS PER TURN

Tread

depth in

walkway

The step template helps you plan the staircase solution and to determine the number of steps per turn. The tables below describe the dimensions in mm.

Suitable

riser

26 step	s/turn

Suitable

riser





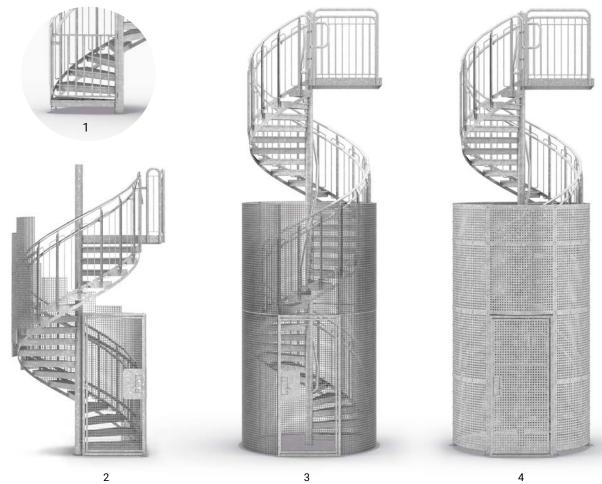
27 steps/turn

28 steps/turn

Radius steps/turn	Tread depth in walkway	Suitable riser
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

		,
600/14*	157	220 - 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
300/20	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
1000/16	294	165 - 185
1000/17	277	165 - 185
1000/18*	262	165 - 185





# LOAD AND SAFETY

#### 1. GATE

To increase the safety of the spiral staircase, a gate can be fitted at the start and finish of 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.

# 2. QUARTER-CIRCLE PROTECTIVE CAGE

The cage is manufactured as standard from grating, height 2250 mm. The door frame screws to the staircase's central tube and fastens to the ground foundation. 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.

# 3. FULL-CIRCLE PROTECTIVE CAGE

Made as standard from grating in heights of 2245 and 4000 mm, although other heights are available upon request. The external radius of the cage is 110 mm larger than the radius of the staircase, and it is delivered in sections for bolting together, where the requisite bolting materials are enclosed. The cage is placed on the foundation. The door is equipped as standard with an ASSA 565 deadlock, but may also be equipped with an ASSA 410 hook bolt, an ASSA 722 with emergency evacuation fitting, and an ASSA 732 with an emergency evacuation fitting. Door push on both sides. The cage door is opened with a key from the outside and knob from the inside.

# 4. PROTECTIVE CAGE, STAIR ENCLOSURE

Protective cages in grating can also be made higher than the standard height and follow the full height of the staircase. The external radius of the cage is 130 mm larger than the radius of the staircase. The door is equipped as standard with an ASSA 565 deadlock, but may also be equipped with an ASSA 410 hook bolt, an ASSA 722 with emergency evacuation fitting, and an ASSA 732 with an emergency evacuation fitting. Door push on both sides. Door push on both sides. The cage door is opened with a key from the outside and knob from the inside. Another suitable material for stair cladding is perforated sheet metal, which is available in a variety of standard patterns. Custom designs are also available.

#### 5. LIGHTING

In cases where the Lighting option is relevant, the spiral staircase handrail can be equipped with a Hydra LD lighting fixture. The 85 mm long diode strips are mounted at each railing riser. Bottom strip with attachments are mounted in the handrail. Fitting with cable is connected and buttoned to the underside of the fitting attachment during installation. A standard delivery includes a 10 lpm 2.5 mm<sup>2</sup> cable from converter to diode in the railing.

## 6. LOAD, TREAD

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

## 7. LOAD, RAILING

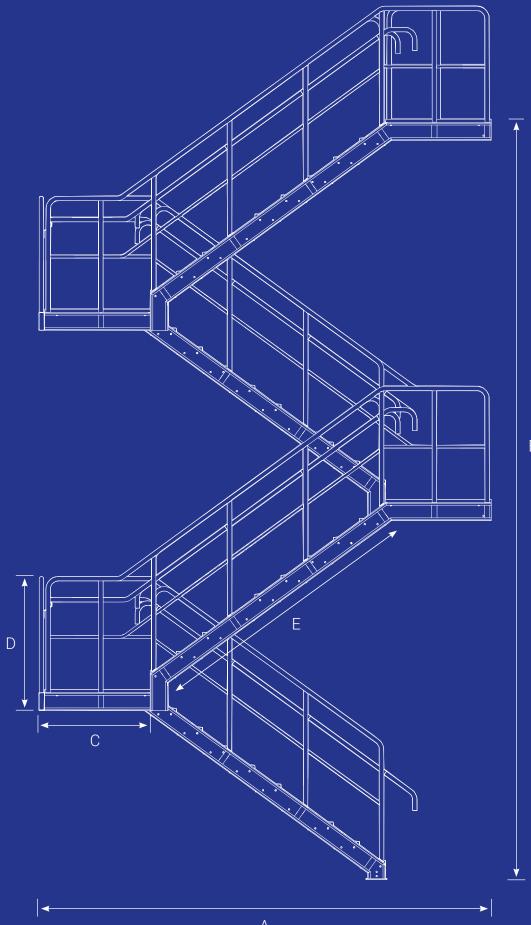
The railing is dimensioned to withstand a load of 1.0 kN/m.

#### 8. CONTRAST MARKING

The first stair tread of each flight, as well as the front edge of landings, should be provided with contrast marking. The design differs depending on the type of stair tread.

#### 9. FIRE CLASS R30

We also offer spiral staircases with Fire Technical Class R30. Specific dimensioning requirements should be stated in the request for quote document.



В





# STRAIGHT FLIGHT STAIRCASES

Weland straight flight staircases consist of four main components – stringers, railings, stair treads, and landings. All components are available in many different versions to suit your particular environment. We manufacture custom staircases to order and many standardised products are kept in stock to ensure fast delivery.

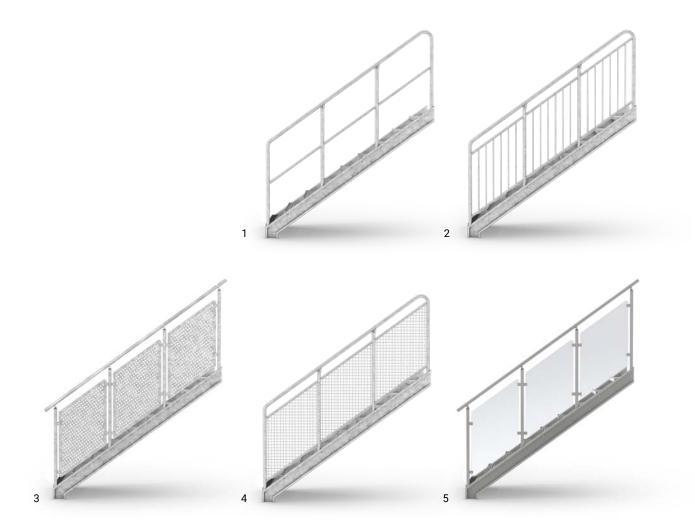
# FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- What will the staircase be used for?
- Where will the staircase be located?
- What type of railing is being considered? Are there child safety requirements?
- What type of material is being considered for steps and landings?
- What step length is needed? Are there evacuation requirements?
- · What type of surface treatment is required?
- Are options required? E.g. arch railings, protective cage, or gate.

# FACTORS TO CONSIDER BEFORE ORDERING

- Show where any walls, doors, and windows are located.
- · Check any child safety requirements.
- Specify dimensions of any arch openings. With many years' experience, we are happy to help you with guidance and advice during your planning process. On ordering, each straight flight staircase is drawn up specially and the drawing is sent to the customer for approval prior to fabrication.

Contact us for further information.



# **DESIGN AND DIMENSIONS**

#### **RAILING INFILL**

In this entry, we show the design and dimensions of our various different railing types. All our railings, except Indermediate rail, are childproof with a maximum opening of 100 mm.

## 1. Intermediate Rail

Handrail and balusters in tube Ø 42 mm, a intermediate rail in tube Ø 28 mm - standard on industrial staircases.

#### 2. Round Bar

A railing focusing on form and design. The railing infill consists of a handrail and sub-rail made from tube  $\emptyset$  28 mm. Round bar  $\emptyset$  11 mm. Max opening 100 mm.

#### 3. Sheet Metal

Railing in solid or perforated metal. We offer a range of different configurations of perforated sheet metal as standard. Our most popular patterns are shown on weland.com. Other versions are also available upon request.

#### 4. Woven wire mesh

Railing in woven wire mesh with standard mesh  $40 \times 40$  mm. We also offer a mesh size of  $30 \times 30$  mm as an alternative.

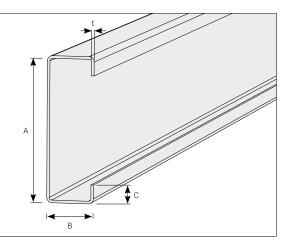
#### 5. Glass

Railing filled with glass for an extra finish. Laminated safety glass 8 mm (4 + 4), incl. film. Fine ground edge all round. Clamping brackets for handrail posts.



# DIMENSIONS, STRINGER PROFILE WUC

The WUC profile is manufactured from 3, 4 or 5 mm sheet steel in the heights of 120, 170 and 200 mm. For other load cases, contact our sales team. Values for WUC profile according to table. We also manufacture staircases with alternative types of stringer such as UPE profiles or flat bars.



Designation	A (mm)	B (mm)	C (mm)	t (mm)	Deflection resistance Wy in cm <sup>3</sup>
WUC 120/3	120	55	22	3	28.1
WUC 170/3	170	55	25	3	46.1
WUC 170/4	170	55	25	4	59.0
WUC 170/5	170	55	25	5	70.6
WUC 200/5	200	55	25	5	89.3

## STAIR TREADS

Supplementary information about our various different step options.

#### 1. Grating

Step made from grating with mesh width 33 x 75 mm. Supplied in hot-dip galvanized version. In instances where a narrower mesh width is required, we recommend  $17 \times 75$  mm.

## 2. Tear plate

Step made from tear-patterned grating, durbar plate, supplied in hot-dip galvanized version.

#### 3. Plank type flooring TLDT

TLDT stair treads are made from solid plank type flooring. The top has an embossed pattern offering good anti-slip protection. Hot-dip galvanized version.

#### 4. Plank type flooring TLDH

TLDH stair treads are made from holed plank type flooring. The top has an embossed pattern offering good anti-slip protection. In principle, the same as solid plank type flooring but supplemented with punched oval holes  $15 \times 69$  mm. Hot-dip galvanized version.

#### 5. Plank type flooring TLDS

TLDS stair treads are made from slit plank type flooring. The step surface affords extremely good anti-slip protection. Hot-dip galvanized version.

#### 6. Plank type flooring TLDP

TLDP stair treads are made from perforated plank type flooring. The step surface affords very good anti-slip protection. The planks have smaller openings (holes Ø 10 mm and 4 mm drainage holes). This provides greater protection against objects falling through the openings. Hot-dip galvanized version.

#### 7. Grey concrete

Grey concrete stair tread. Thickness 50 mm. Supplied with a fine brushed tread surface, other side smooth cast. Coarse brushed step surface for outdoor staircases. The concrete rests on a sub-frame made from sheet metal profiles.

#### 8. Terrazzo concrete

Terrazzo concrete stair tread. Thickness 50 mm. The concrete rests on a sub-frame made from sheet metal profiles. Our standard colours are UBAB 31:01, 31:02 and 31:03, but other colours may be offered as options.

#### 9. Sheet metal for floor tiles

Stair tread designed as a sheet metal box to allow the laying of tiles. The standard depth of the sheet metal box is 27 mm.

#### 10. Sheet metal for carpet

Stair treads that are to be covered with carpet are supplied with a metal step that has been adapted for carpet. For carpets that cannot be folded over the front edge of the step, nosing should be used.

#### 11. Ash

Stair tread made from ash with solid laminated wood, 30 mm. Supplied varnished as standard.

#### 12. Birch

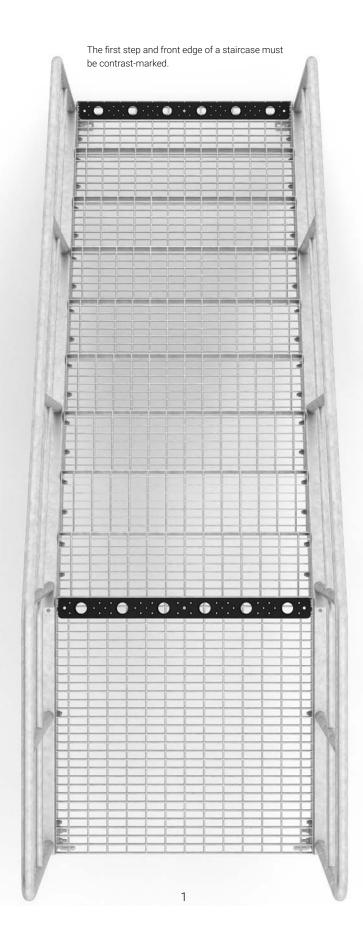
Stair tread made from birch with solid laminated wood, 30 mm. Supplied varnished as standard.

#### 13. Beech

Stair tread made from beech with solid laminated wood, 30 mm. Supplied varnished as standard.

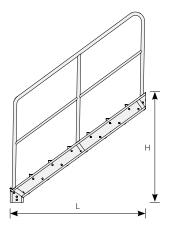
#### 14. Oak

Stair tread made from oak with solid laminated wood, 30 mm. Supplied varnished as standard.





# STAIRCASE SOLUTION AND FUNCTION



# **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- 45 degrees; however, the available space is frequently limited making it impossible to achieve the ideal gradient. From the table, you can read off the suitable rise and tread width for a given staircase incline.

#### Example

Projection (L) = 3500 mm. Step height (H) = 2500 mm. L/H = 3500/2500 = 1.4, which gives the staircase angle  $35^{\circ}$ 

Stair- case angle	Suitable riser	Suitable tread width	Related* projection/ step height
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°	175	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.

## 1. LANDINGS

Weland offers various types of standard landings. The landings are available in several versions and materials. Any design of landing and turning landing can be made to order. The landing can also be extended to make a platform/balcony.

#### Landing/turning landing 90°

Variant of turning or intermediate landing.

#### Landing/turning landing 180°

Variant of turning or intermediate landing.

#### Landing, step-off straight forwards

Variant of square landing, where the staircase runs straight up to a door or floor joists.

#### Landing, step-off to the side

Variant of square landing, where the staircase runs at the side up to a door or floor joists.

## Landing, step-off with widened landing

Variant of square landing, where the staircase runs up to a platform.

# 2. SINGLE FLIGHT STAIRCASE

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. Single flight staircases can be produced in several different versions. Below, there are three different examples.

#### Step height down

Top tread one rise below existing step-off level.

#### Step height in level

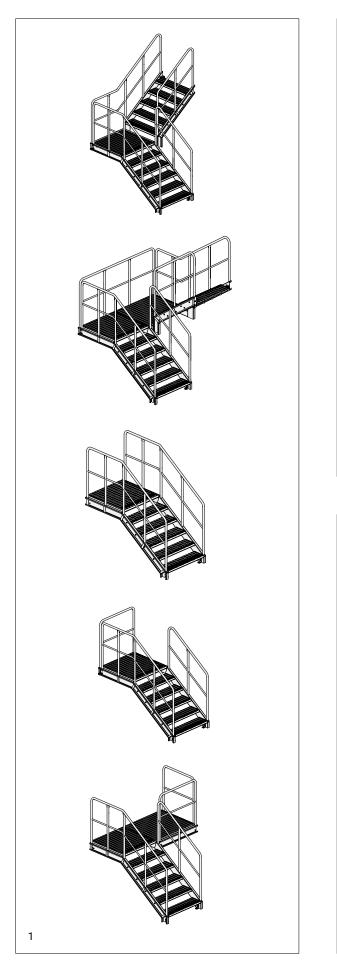
Top tread at the same level as existing step-off level.

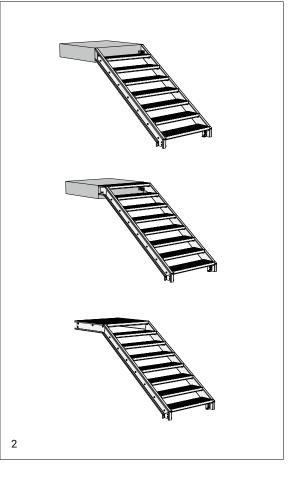
#### With landing

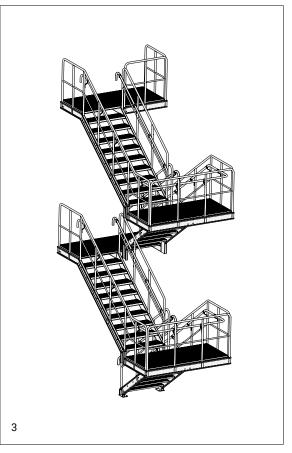
Staircase with landing at the top.

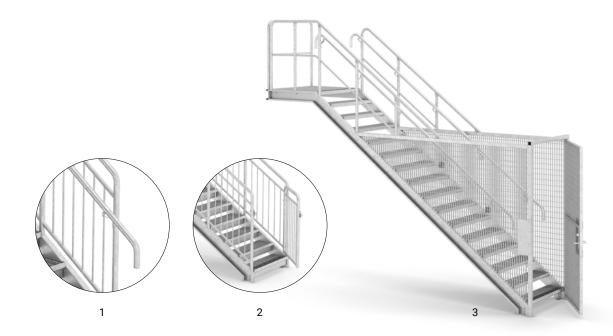
# 3. MULTI-FLIGHT STAIRCASE

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









# SAFETY AND ATTACHMENT

#### 1. EXTRA HANDRAIL, EXTENDED

Our straight flight staircases can be equipped with an extra handrail. The handrail can be extended by 300 mm at the beginning and end of the stairs and placed under a normal handrail. The extra handrail helps to increase the safety of the staircase.

#### 2. GATE

By fitting a gate at the beginning or end of the staircase, you increase the safety of the stairs. The gate's hinges and lock fittings are installed on the railing. The lock is spring loaded and is so firm that it cannot be opened by small children.

#### 3. PROTECTIVE CAGE, STRAIGHT

By supplementing the straight flight staircase with a protective cage at the bottom, unauthorised persons are prevented from ascending the staircase. The protective cage is made from grating as standard. The door is equipped with an ASSA 565 latch bolt lock. Door push on both sides. The cage door is opened by a key from the outside and knob from the inside. The requisite bolts are included. We also manufacture customised protective cages.

#### 4. CONTRAST MARKING

The first stair tread of each flight, as well as the front edge of landings, can be provided with contrast marking. The design differs depending on the type of stair tread.

### 5. FIRE CLASS R30

We also offer straight flight staircases with Fire Technical Class R30. Specific dimensioning requirements should be stated in the request for quote document.

#### 6. 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.

#### 7. LIGHTING

Create a decorative environment and equip your straight flight staircase with lighting. The lighting in the extra handrail also creates a safer environment and is a functional complement. The design is patent protected.

#### 8. ATTACHMENT & BRACING

Straight flight staircases have different fixing and bracing alternatives depending on the size of the staircase. For small staircases, attachment angles are usually sufficient, while larger staircases may need both supporting beams and brackets. We help you with the right attachments and bracing.

## **Fixing angles**

Angle brackets for staircase and landing stringers.

#### Support legs

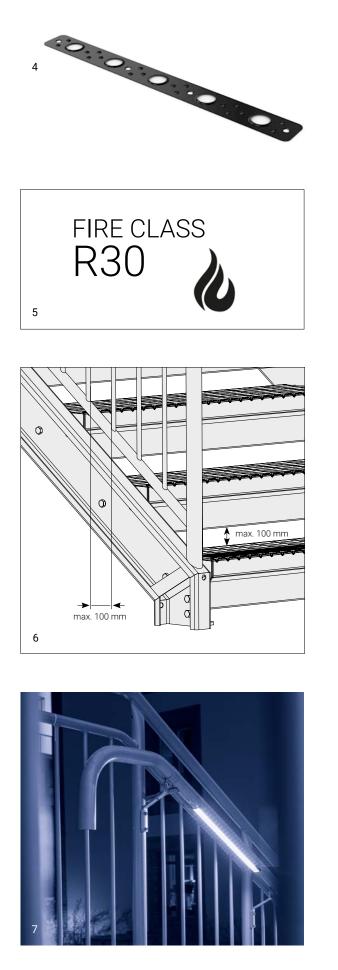
Support leg and angle bracket under landing stringers.

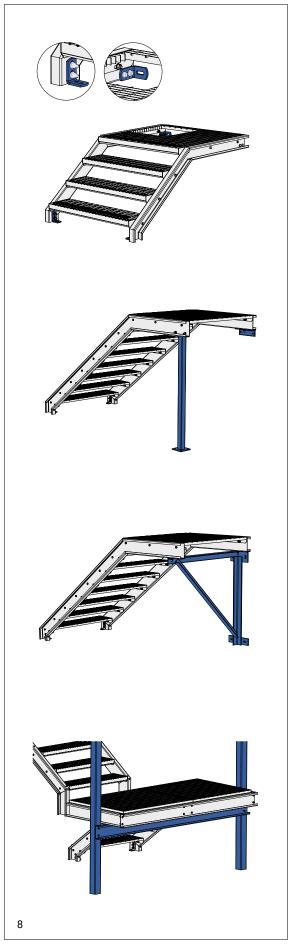
#### Bracket

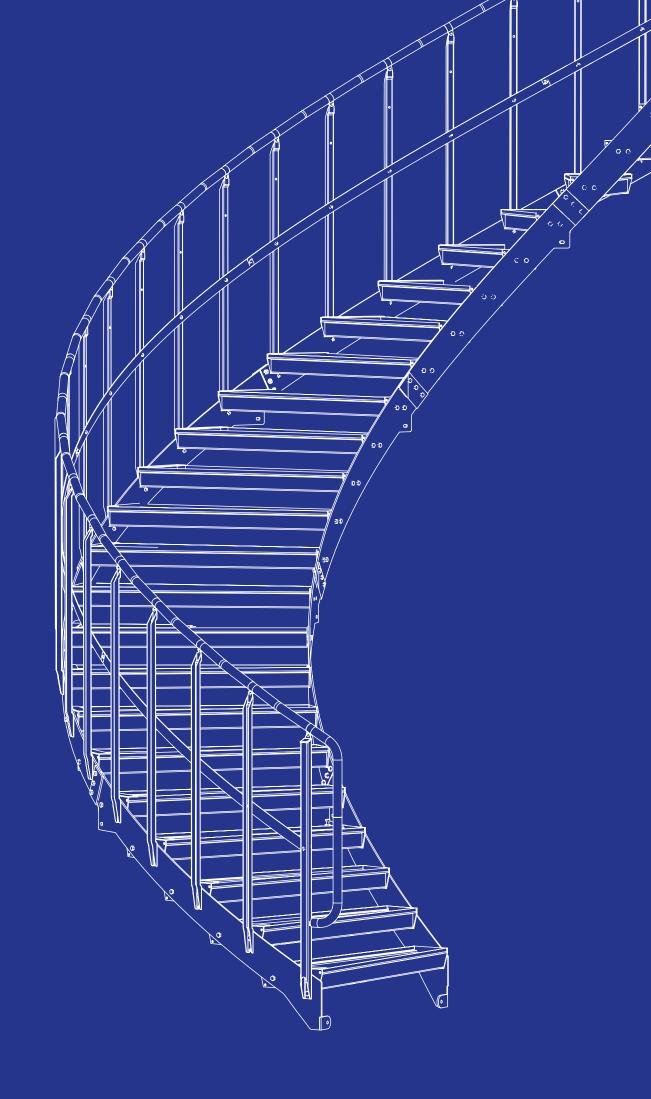
Bracket under landing stringers.

#### Support beam

Support beam and support leg under landing.







# SPECIAL STAIRCASES

We customise special staircases according to our customers' requirements. A custom staircase may be required if, for example, the location in which the staircase is to be placed has special criteria that need to be taken into account. Our experience and high level of expertise ensure that you get a staircase that satisfies your specific requirements.



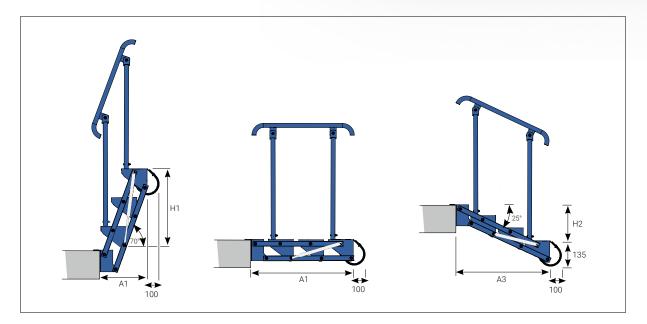
With a great focus placed on form and design, customised staircases are tailor-made based on the customer's wishes.



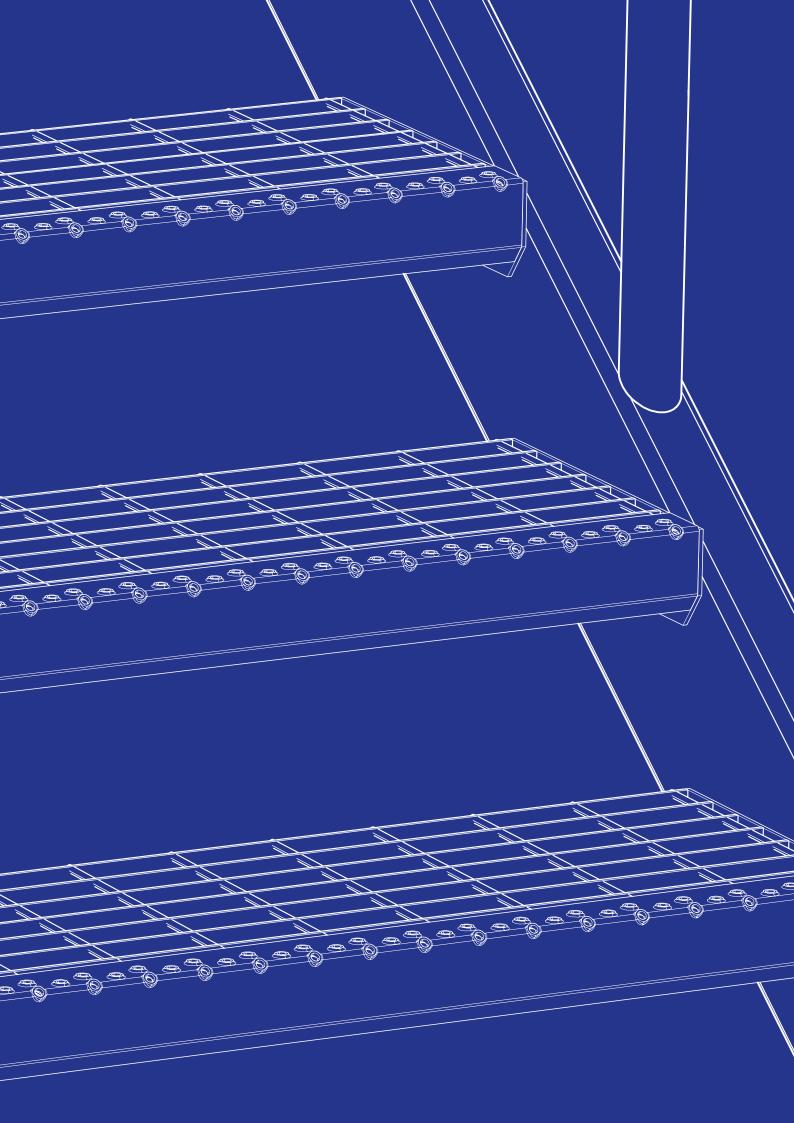


# FOLDING STAIRCASE

Folding staircases are mainly used in industrial environments and where it is not possible to use a fixed construction due to varying level differences, such as down to hatches on tankers. The folding staircase, which is articulated, consists of a number of grating stair treads with parallel stringers, rubber clad support bellows, railings on both sides, as well as the attachments. Two dampers on the side, makes the staircase easy to handle. It is supplied assembled as 3, 4, 5 or 6 steps and is in stock for fast delivery.



Number of stair treads	Part no.	A1 size (mm)	A2 size (mm)	A3-size (mm)	H1 size (mm)	H2 size (mm)	Maximum width
3	181310101	373	830	756	637	289	825
4	181410101	455	1070	974	862	391	825
5	181510101	537	1310	1191	1088	492	825
6	181610101	619	1550	1409	1314	594	825



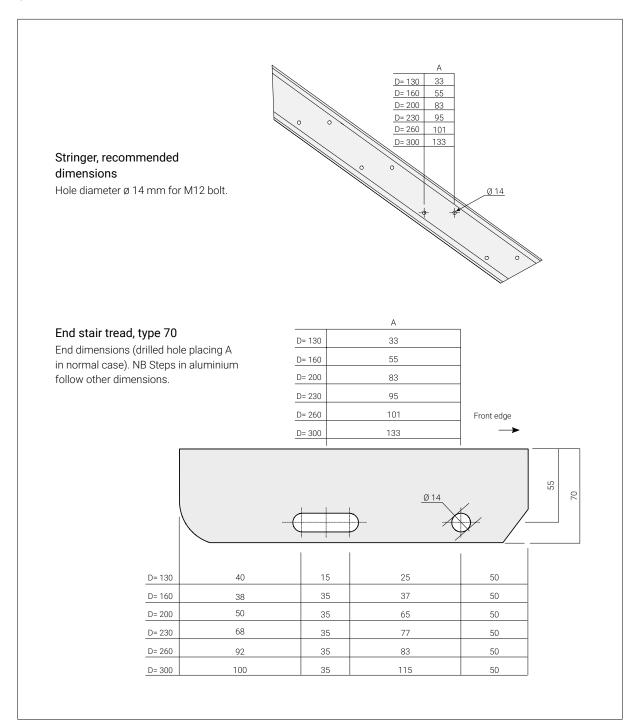
# STAIR TREADS

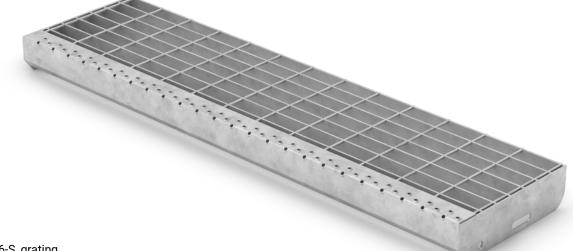
We make stair treads from grating in several different mesh width openings and materials. TH6-S with a mesh size of  $34 \times 75$  mm is our most common step type and is always in stock to ensure fast delivery. If a denser mesh size is required, our TN6-S step, which has a mesh size of 17 x 75 mm, is usually used.

We also offer stair treads in plank type flooring and slit plank type flooring. Please contact us for more information about different mesh widths and alternative versions.

# STAIR TREAD, TH6-S, GRATING

We manufacture stair treads from grating in several different mesh width openings and materials. TH6-S is our most common step type, and is always kept in stock to ensure fast delivery. Finish: Hot-dip galvanized.





# TH6-S, grating

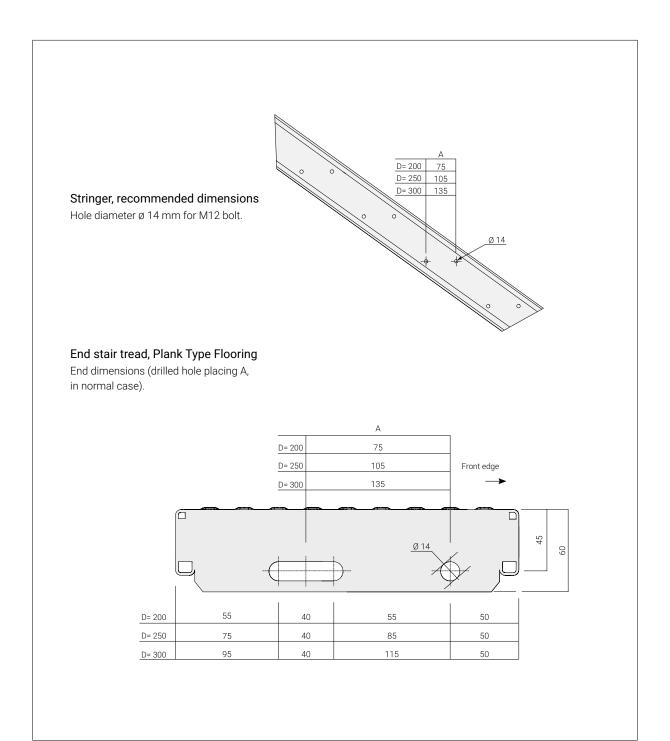
TH6-S, is manufactured from pressure welding grating with a mesh width opening c/c 34 x 75 mm. The stair tread is manufactured from the same type of grating but has a safety front edge that clearly marks the front edge and, in addition, provides increased anti-slip protection.

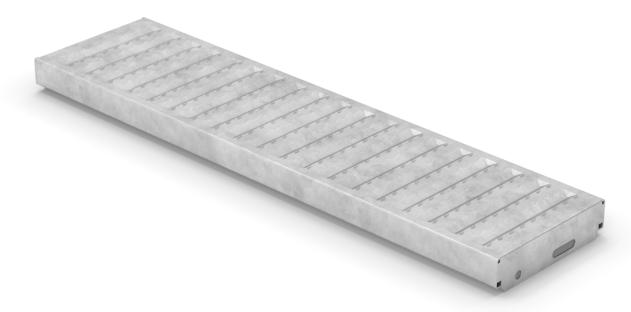
Format L x D (mm)	Part no.	Stock
400 x 130	143304131	х
400 x 160	143304161	Х
500 x 130	143305131	х
500 x 160	143305161	Х
500 x 200	143305201	х
600 x 130	143306131	х
600 x 160	143306161	х
600 x 200	143306201	х
600 x 230	143306231	х
600 x 260	143306261	х
700 x 130	143307131	х
700 x 160	143307161	Х
700 x 200	143307201	Х
700 x 230	143307231	Х
700 x 260	143307261	х
800 x 130	143308131	Х
800 x 160	143308161	Х
800 x 200	143308201	Х
800 x 230	143308231	х
800 x 260	143308261	х
800 x 300	143308301	х
900 x 200	143309201	х

Format L x D (mm)	Part no.	Stock
900 x 230	143309231	х
900 x 260	143309261	х
900 x 300	143309301	х
1000 x 200	143310201	х
1000 x 230	143310231	х
1000 x 260	143310261	х
1000 x 300	143310301	х
1100 x 230	143311231	х
1100 x 260	143311261	х
1100 x 300	143311301	х
1200 x 230	143312231	х
1200 x 260	143312261	х
1200 x 300	143312301	х
1300 x 260	143313261	х
1300 x 300	143313301	х
1400 x 260	143314261	х
1400 x 300	143314301	х
1500 x 260	143315261	х
1500 x 300	143315301	х
1600 x 300	143316301	х
1800 x 300	143318301	Х

# STAIR TREADS, PLANK TYPE FLOORING

Stair treads are manufactured in a number of different tread depths and lengths.



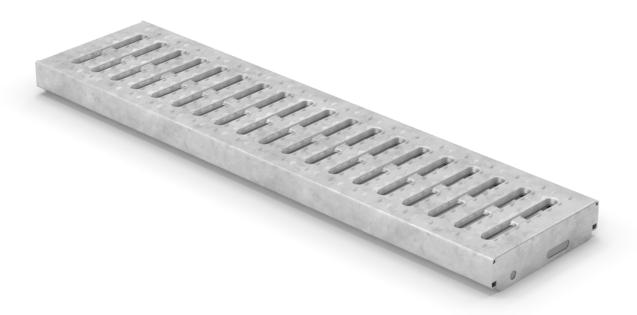


# Stair tread, plank type flooring TLDT

Stair tread TLDT is manufactured from solid plank type flooring. The top has an embossed pattern offering good anti-slip protection.

00 x 200 2503000 X 100	mat L x D (mm)
00 x 250 2503160 110	$10 \times 200$
	00 / 200
00 x 300 2505450 110	00 x 250
00 x 200 2503020 X 110	00 x 300
00 x 250 2503180 120	00 x 200
00 x 300 2505460 X 120	00 x 250
00 x 200 2503040 X 120	00 x 300
00 x 250 2503200 X 130	00 x 200
00 x 300 2505480 X 130	00 x 250
00 x 200 2503060 X 130	00 x 300
00 x 250 2503220 X 140	00 x 200
00 x 300 2505490 X 140	00 x 250
00 x 200 2503080 X 140	00 x 300
00 x 250 2503240 X 150	00 x 200
00 x 300 2505500 X 150	00 x 250
000 x 200 2503100 150	00 x 300
2503260 X	

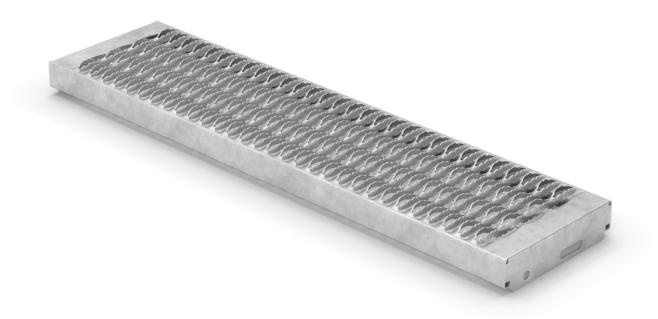
Format L x D (mm)	Part no.	Stock
1000 x 300	2505510	Х
1100 x 200	2503120	Х
1100 x 250	2503280	Х
1100 x 300	2505520	Х
1200 x 200	2503140	Х
1200 x 250	2503300	
1200 x 300	2505530	Х
1300 x 200	2503145	
1300 x 250	2503320	
1300 x 300	2505540	
1400 x 200	2503150	
1400 x 250	2503340	
1400 x 300	2505550	
1500 x 200	2503155	
1500 x 250	2503360	
1500 x 300	2505560	



# Stair tread, plank type flooring TLDH

Stair tread TLDT is manufactured from holed plank type flooring. The top has an embossed pattern offering good anti-slip protection.

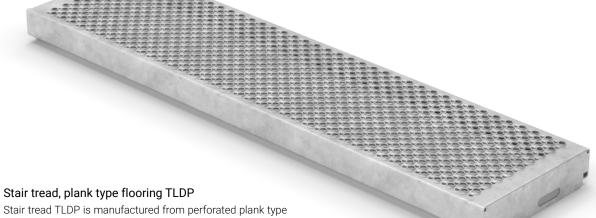
Format L x D (mm)	Part no.	Stock	Format L x D (mm)	Part no.
500 x 200	2503010		1000 x 300	2505710
500 x 250	2503170		1100 x 200	2503130
500 x 300	2505660		1100 x 250	2503290
600 x 200	2503030		1100 x 300	2505720
600 x 250	2503190		1200 x 200	2503142
700 x 200	2503050		1200 x 250	2503310
700 x 250	2503210		1200 x 300	2505730
700 x 300	2505680	Х	1300 x 200	2503147
800 x 200	2503070		1300 x 250	2503330
800 x 250	2503230		1300 x 300	2505740
800 x 300	2505690		1400 x 200	2503152
900 x 200	2503090		1400 x 250	2503350
900 x 250	2503250		1400 x 300	2505750
900 x 300	2505700		1500 x 200	2503157
1000 x 200	2503110		1500 x 250	2503370
1000 x 250	2505710		1500 x 300	2505760



# Stair tread, plank type flooring TLDS

Stair tread TLDS is manufactured from slit plank type flooring. The step surface affords extremely good anti-slip protection.

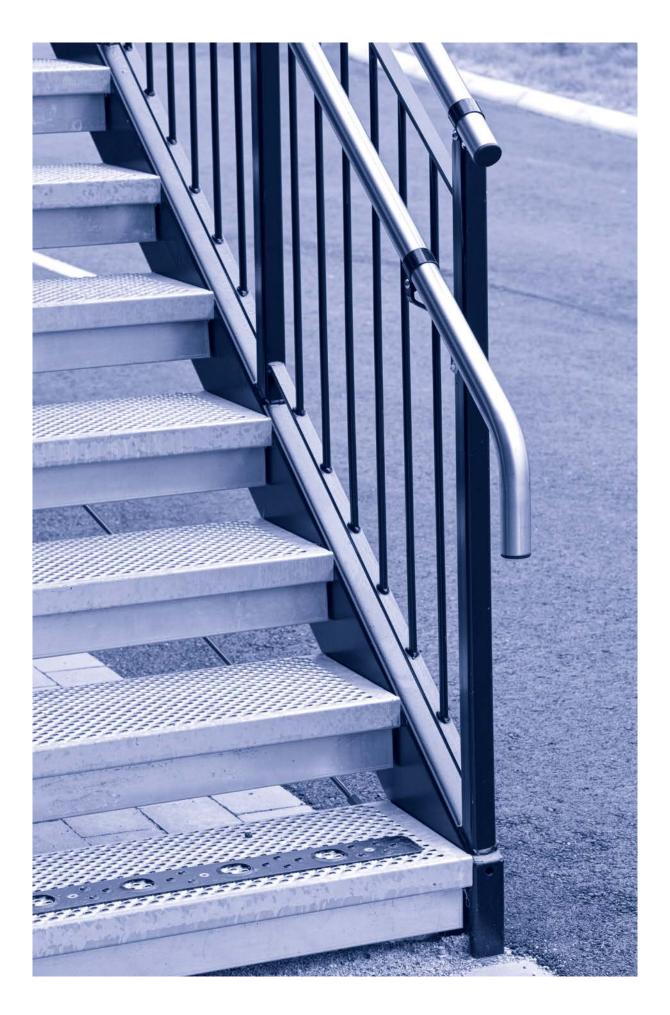
Format L x D (mm)	Part no.	Stock	Format L x D (mm)	Part no.	Stock
500 x 200	2506000		1000 x 300	2506350	
500 x 250	2506200		1100 x 200	2506060	Х
500 x 300	2506310		1100 x 250	2506260	
600 x 200	2506010		1100 x 300	2506360	
600 x 250	2506210		1200 x 200	2506070	Х
600 x 300	2506315		1200 x 250	2506270	
700 x 200	2506020		1200 x 300	2506370	
700 x 250	2506220		1300 x 200	2506080	
700 x 300	2506320		1300 x 250	2506280	
800 x 200	2506030		1300 x 300	2506380	
800 x 250	2506230		1400 x 200	2506090	
800 x 300	2506330		1400 x 250	2506290	
900 x 200	2506040		1400 x 300	2506390	
900 x 250	2506240		1500 x 200	2506100	
900 x 300	2506340		1500 x 250	2506300	
1000 x 200	2506050		1500 x 300	2506395	
1000 x 250	2506250				



flooring. The unique top side provides very good anti-slip protection.

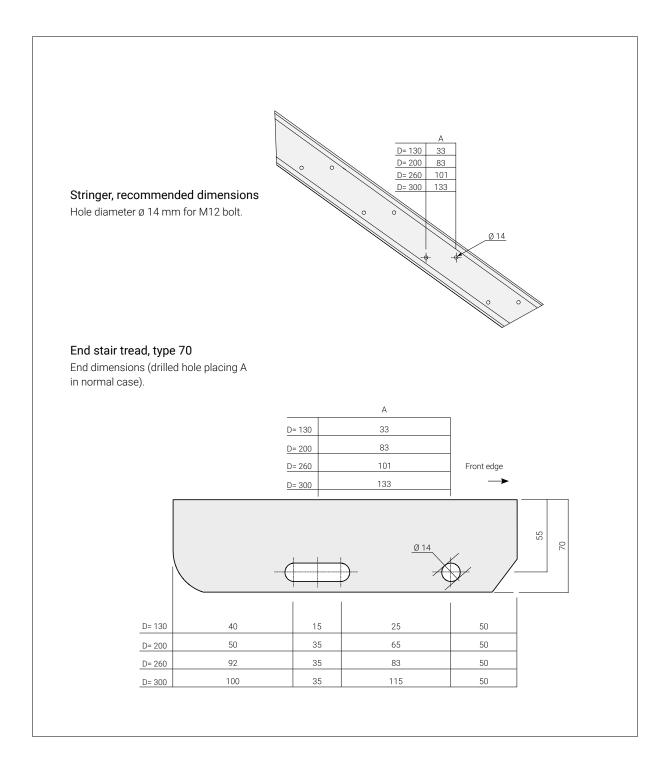
The planks have smaller openings (holes ø 10 mm and 4 mm drainage holes). This provides greater protection against objects falling through the openings.

Format L x D (mm)	Part no.	Stock	Format L x D (mm)	Part no.	Stock
500 x 200	2506400	Х	1000 x 300	2506810	Х
500 x 250	2506600		1100 x 200	2506460	Х
500 x 300	2506750		1100 x 250	2506660	Х
600 x 200	2506410	Х	1100 x 300	2506820	Х
600 x 250	2506610		1200 x 200	2506470	Х
700 x 200	2506420	Х	1200 x 250	2506670	
700 x 250	2506620	Х	1200 x 300	2506830	Х
700 x 300	2506770		1300 x 200	2506480	
800 x 200	2506430	Х	1300 x 250	2506680	
800 x 250	2506630	Х	1300 x 300	2506840	
800 x 300	2506790	Х	1400 x 200	2506490	
900 x 200	2506440	Х	1400 x 250	2506690	
900 x 250	2506640	Х	1400 x 300	2506850	
900 x 300	2506800	Х	1500 x 200	2506500	
1000 x 200	2506450		1500 x 250	2506700	
1000 x 250	2506650	Х	1500 x 300	2506860	



# STAIR TREAD, SLIT PLANK TYPE FLOORING

Stair treads are manufactured in a number of different tread depths and lengths.





flooring. The serrated top provides extremely good anti-slip protection.

Format LxD (mm)	Part no.	Stock	Format LxD (mm)	Format LxD (mm) Part no.
501 x 130	TSD05131	Х	996 x 260	996 x 260 TSD10261
606 x 200	TSD06201	Х	996 x 300	996 x 300 TSD10301
696 x 200	TSD07201	Х	1101 x 260	1101 x 260 TSD11261
696 x 260	TSD07261	Х	1101 x 300	1101 x 300 TSD11301
801 x 200	TSD08201	Х	1206 x 260	1206 x 260 TSD12261
801 x 260	TSD08261	Х	1206 x 300	1206 x 300 TSD12301
906 x 260	TSD09261	Х	1296 x 260	1296 x 260 TSD13261
906 x300	TSD09301	Х	1401 x 260	1401 x 260 TSD14261

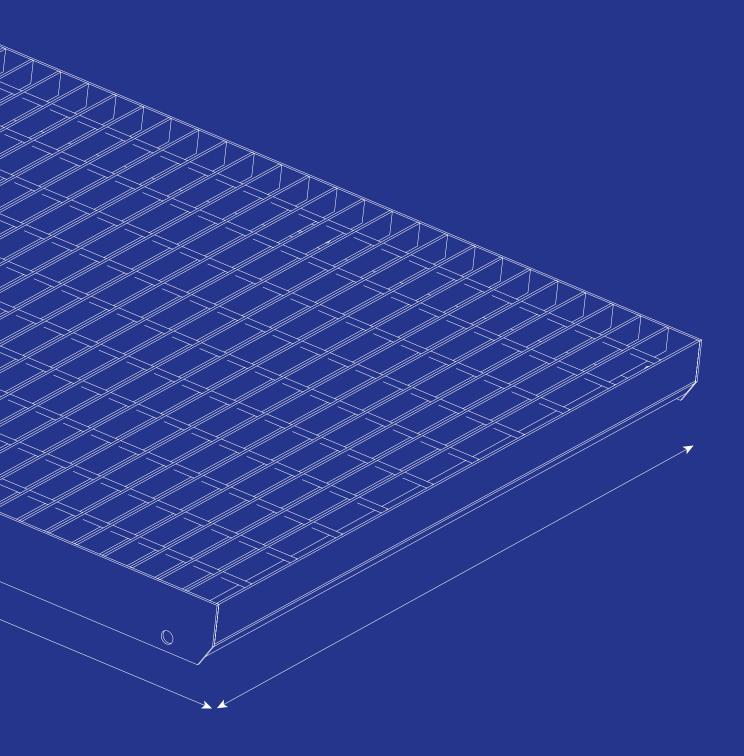
# LOOSE RISER BARS

Loose, stock riser bars for straight flight staircases. The riser bars are bolted to the tread to satisfy child safety requirements between the treads. Compatible with all our hot-dip galvanized steps. The riser bars are available in the lengths as shown in the table.

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



Steps mounted on TH6-S grating stair treads

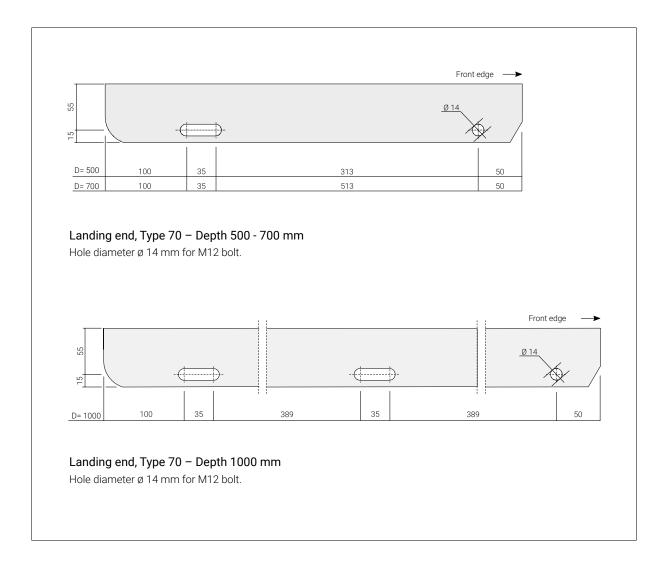


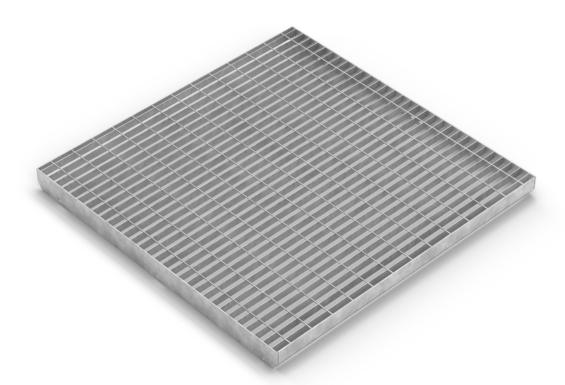
# LANDINGS

Weland manufactures landings from grating in several different mesh width openings and materials. We also offer landings of slit plank type flooring. Please contact us for more information about different mesh widths and alternative versions.

# LANDINGS, TH6 GRATING

TH6 is available with standard depths 500, 700 and 1000 mm in a hot-dip galvanized version.





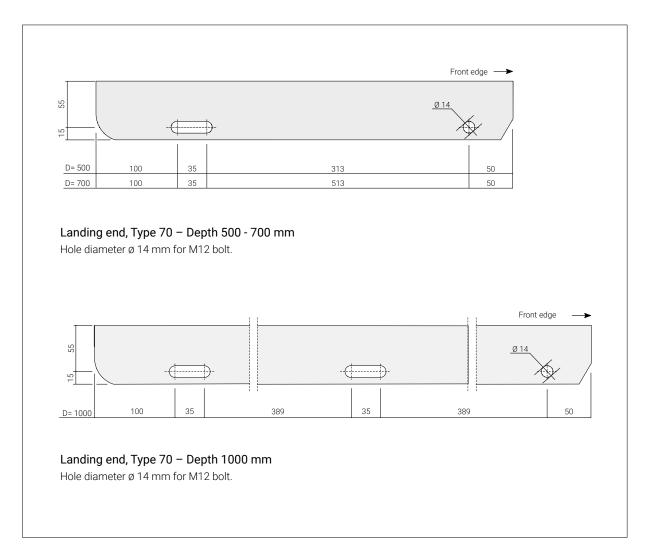
# Landings, TH6 Grating

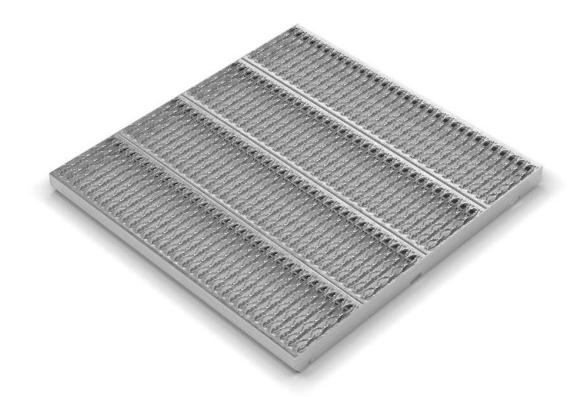
TH6 is manufactured from grating with a mesh width opening c/c  $34\,x\,75$  mm.

Format L x D (mm)	Part no.	Stock
500 x 500	148805051	Х
500 x 700	148805071	Х
500 x 1000	148805101	Х
600 × 500	148806051	Х
600 x 700	148806071	Х
600 x 1000	148806101	Х
700 x 500	148807051	Х
700 x 700	148807071	Х
700 x 1000	148807101	Х
800 x 500	148808051	Х
800 x 700	148808071	Х
800 x 1000	148808101	Х
900 x 500	148809051	Х
900 x 700	148809071	Х
900 x 1000	148809101	Х
1000 x 500	148810051	Х
1000 x 700	148810071	Х
1000 x 1000	148810101	Х

# LANDINGS, TSD SLIT PLANK TYPE FLOORING

The slit plank type flooring is available with standard depths 500, 700 and 1,000 mm in a hot-dip galvanized version.

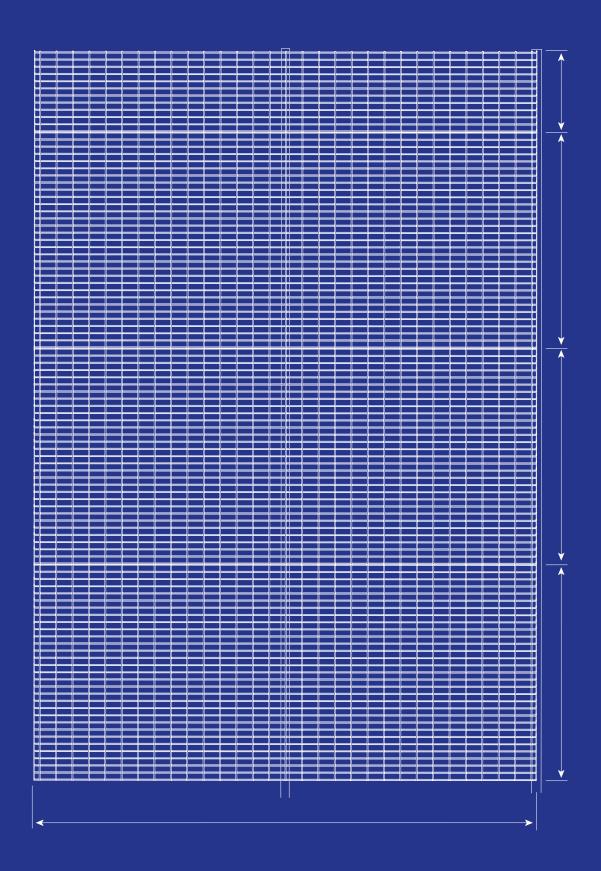




#### Landings, TSD slit plank type flooring

TSD is manufactured from slit plank type flooring. The serrated top provides very good anti-slip protection and lets through dirt, oil and other spillages.

Format L x D (mm)	Part no.	Stock	Format L x D (mm)	Part no.	Stock
501 x 500	TSD05051		996 x 500	TSD10051	Х
501 x 700	TSD05071		996 x 700	TSD10071	Х
501 x 1000	TSD05101		996 x 1000	TSD10101	Х
606 x 500	TSD06051		1101 x 500	TSD11051	
606 x 700	TSD06071		1101 x 700	TSD11071	
606 x 1000	TSD06101		1101 x 1000	TSD11101	
696 x 500	TSD07051		1206 x 500	TSD12051	Х
696 x 700	TSD07071		1206 x 700	TSD12071	Х
696 x 1000	TSD07101		1206 x 1000	TSD12101	Х
801 x 500	TSD08051	Х	1296 x 500	TSD13051	
801 x 700	TSD8071	Х	1296 x 700	TSD13071	
801 x1000	TSD08101	Х	1296 x 1000	TSD13101	
906 x 500	TSD09051		1401 x 500	TSD14051	
906 x 700	TSD09071		1401 x 700	TSD14071	
906 x 1000	TSD09101		1401 x 1000	TSD14101	



# GRATING

Our entrance gratings are produced in a range of designs to meet your specific requirements. We have a large selection of grating always in stock, helping ensure fast deliveries. We also manufacture custom made-to-order gratings. We have put together some information that you may find useful when requesting quotes and placing orders. If you have any questions, visit our website – weland.com – or contact our sales team.

# FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- What will the grating need to be dimensioned for? Pedestrian traffic or vehicle traffic?
- Which mesh size is best suited for the application in question?
- Will the grating be installed in an environment requiring extra anti-slip protection?
- Is the grating available directly from stock?
- Will you need kerb angle frames for the grating?

## FACTORS TO CONSIDER BEFORE ORDERING

- Check whether the grating is available from stock.
- To be absolutely sure of placing the load bearing bar correctly (the grating's bearing structure), avoid gratings with square dimensions.
- Will the grating need to be anchored? Don't forget to order fixings.
- Do you want to simplify installation? We can mark your grating, simply specify you want this done when ordering.

We will be delighted to help you with guidance and advice during your planning process. Contact us and we will get back to you with a special drawing for approval if necessary.

### TERMINOLOGY

Gratings are manufactured in many different versions for the most varied of applications. We have compiled explanation for the various technical terms that are usually used when we name gratings and their component parts.

#### 1. GRATING, PRESSURE WELDED

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. 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. Edging bars are welded perpendicularly to the bearing bars on the grating.

Grating is made either from hot-dip galvanized steel or stainless steel.

#### 2. GRATING, TYPE A

Type A type grating consists of flat steel bars that are 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. The grating is manufactured in steel, stainless steel or aluminium.

We have a large range of entrance gratings, made from Type A grating.

#### 3. CROSS BAR

Bars that connect the load bearing bars at right angles. Cross bar made from grating consists of a round bar. Cross bar made from Type A grating is made from flat bar.

#### 4. LOAD BEARING BAR

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

#### 5. EDGE BAR

Edge bar is welded so that there is no open grating mesh at the ends of the grating.

#### 6. SERRATED VERSION

In the serrated version of a projection welded grating, the cross bar has the serrations.

#### 7. MESH WIDTH

c/c dimension between the load bearing and cross bars. The c/c measurement between load bearing bars is given first in the specified mesh widths.

### 8. GRATING LENGTH / LOAD BEARING BAR DIMENSIONS

Grating length = load bearing bar length. The direction of the load bearing bars is marked on the drawing. In the dimension specification, the load bearing bar size is given first, e.g. 810 x 1000 mm. This dimension is described as the span in e.g. load tables.

#### 9. GRATING HEIGHT

Grating height = bearing bar height

#### GRATING WIDTH (cross bar dimension)

Grating width = cross bar length. When stating dimensions, the grating width is shown as the second dimension, e.g. 810  $\times$  1000 mm.

#### **11. COINCIDENT CROSS BARS**

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

#### 12. HIGH EDGE BAR (kick strip)

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

#### 13. DEEP EDGE BAR

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

#### **14. HOLE DIMENSIONS**

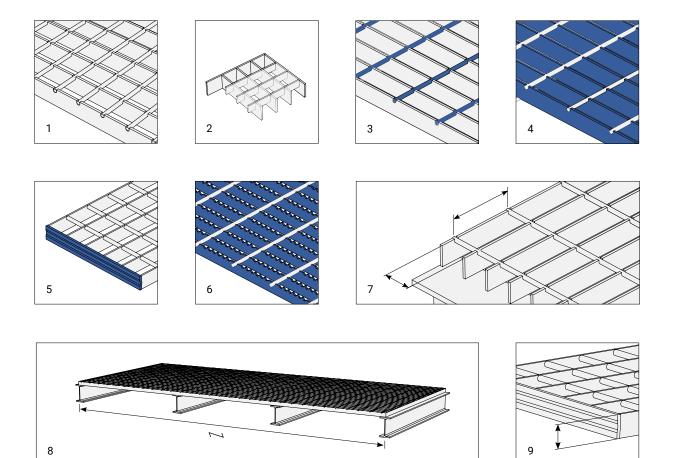
The "rigid" dimensions of the opening in which the grating will lie.

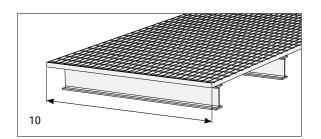
#### **15. FREESPAN**

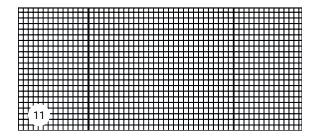
The open space the grating has to cover. The distance between the inner edges of the layers. Can also be described as span.

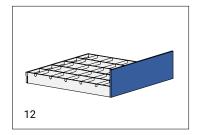
#### 16. STORAGE WIDTH

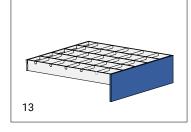
The width of the grid floor support should be as wide as the grid floor is high. Ie. for a grid floor that has a height of 50 mm, we recommend a storage width of 50 mm.

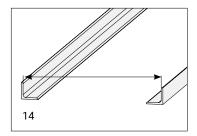


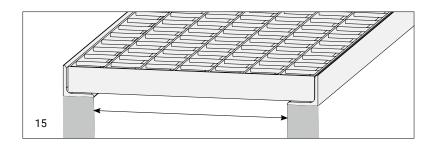


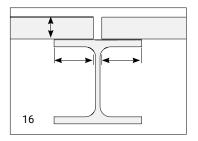




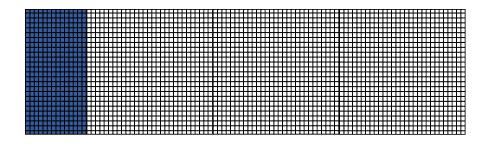






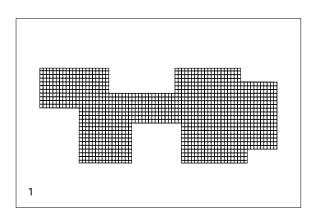


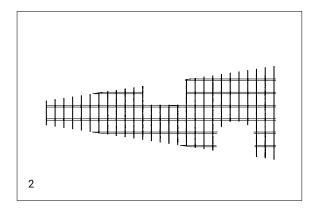
#### Cont. Terminology



#### 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.





#### RECESS

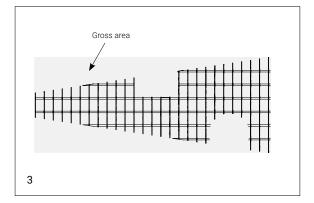
In custom grating, a number of different forms of processing are carried out, examples of which are shown below.

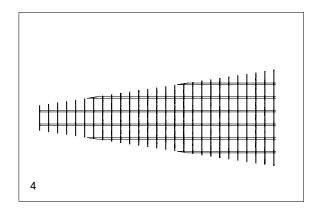
#### 1. Straight cutting

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

#### 2. Figure cutting

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





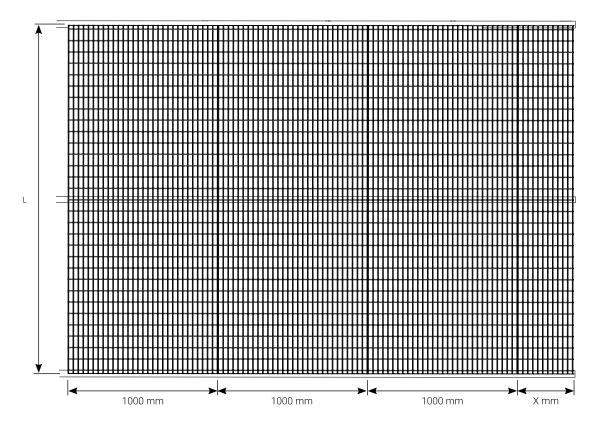
#### 3. Gross area

Pressure welded grating: The area that is obtained when the area is calculated based on our standard widths of 500 and 1000 mm. Grating, Type A: The grating's dimension are reckoned up to the nearest ten centimetres.

#### 4. Net area

The grating's net area including any recess.

### **DIMENSIONS AND DESIGN**



#### GEOMETRY

The grating is made up of the following components: load bearing bar, cross bar, and edge bar.

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) in order to obtain the most economical alternative.

If the grating is to be laid across several supports, it is best to choose grating in larger sizes.

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



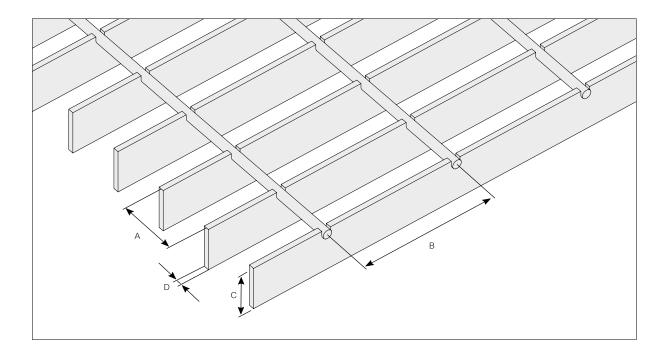


#### FIXING

For fixing gratings, we off a number of different fixings. Complete clamps consisting of top section, bottom section, bolt and nut or, alternatively, top section and fixing screw. For gratings trafficked by heavy vehicles, we also offer mounting lugs welded to the bottom of the grating's mesh.

#### METAL LABELING

Each grating can be provided with a substantial identification tab with clear characters that refer to the layout drawing, which makes the assembly work easier. Frequently used for slightly larger projects.



#### MESH WIDTHS

We have a wide range of different mesh widths for grating. The first dimension is always c/c load bearing bar and the second dimension is always c/c cross bar. Load bearing bar thickness (D) and load bearing bar height (C) can be made in several different dimensions.

#### Pressure welded grating

Designation	Mesh width c/c A x B (mm)
B9	12 x 100
N4	17 x 50
N6	17 x 75
N9	16 x 100
D4	22 x 50
D6	22 x 75
F4	25 x 50
H3	33 x 37
H3	34 x 37
H4	33 x 50
H4	34 x 50
H6	33 x 75
Н9	33 x 100
J9	41 x 100
16	66 x 75
14	68 x 50
19	100 x 100

#### Serrated grating

Designation	Mesh width c/c A x B (mm)
N9-T	16 x 100
H4-T	33 x 50
F4-T	25 x 50
H9-T	33 x 100
J9-T	41 x 100
HN9-T	35 x 100
JN9-T	41 x 100

#### Grating, type A

Designation	Mesh width c/c A x B (mm)
A22x22	22 x 22
A33x11	33 x 11



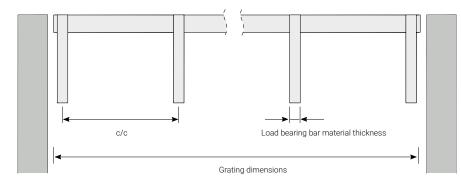
### CONSTRUCTION DIMENSIONS WITH WHOLE MESH WIDTHS

The following table shows construction dimensions for whole mesh widths. The designations below, such as H, F, D, etc. refer

to the previous entry where the complete designation of the gratings is described. H refers to e.g. H3, H6, etc. The full width of the grating is shown at the top of the table. Most pressure welded gratings are 1000 mm wide. The line below indicates the next even mesh width for the grating type in question.

H applies also for	H applies also for	F	D	N	Ν	В	I4 20/2	J	JN9-T	HN9-T
SS.* c/c 33 (mm)	SS.* c/c 34 (mm)	c/c 25 (mm)	c/c 22 (mm)	c/c 16 (mm)	c/c 17 (mm)	c/c 12 (mm)	c/c 68 (mm)	c/c 41 (mm)	c/c 41 (mm)	c/c 35 (mm)
1000	1000	1000	1000	1000	1000	700	969	1000	1000	1000
966	962	973	972	982	983	685	898	957	955	961
933	927	949	950	966	965	672	830	914	915	926
900	893	923	928	949	949	659	761	872	874	890
867	858	898	906	933	931	646	692	830	832	855
834	825	873	884	916	914	633	624	788	791	820
801	790	849	862	900	897	620	554	745	750	785
768	756	825	840	883	880	608	487	700	709	750
734	722	799	818	867	862	596	420	662	668	714
700	687	774	797	850	845	584	350	621	626	679
668	653	750	775	834	827	571	282	580	585	644
635	618	725	753	817	811	559	213	540	544	608
602	584	700	731	801	793	547	143	500	503	573
568	551	674	709	784	776	535	75	456	462	538
534	516	650	687	768	759	522		416	421	503
500	485	625	665	751	742	511		375	380	467
469	451	600	643	734	724	500		334	338	432
436	417	575	621	718	707	485		293	297	397
403	383	550	599	700	690	473		252	256	362
370	348	526	577	683	673	460		211	215	326
337	314	500	555	665	656	448		171	174	291
304	280	475	533	649	639	436		130	132	256
271	246	451	511	632	622	424		89	91	221
238	211	426	490	616	605	411		48	50	185
205	178	401	468	600	587	399				150
171	144	377	446	583	570	387				115
139	109	352	424	568	553	374				80
106	75	327	402	550	536	362				44
73	40	302	380	534	519	350				
40		278	358	518	502	338				
		253	336	500	486	326				
		228	314	483	469	313				

\* Stainless material



H applies also for	H applies also for	F	D	Ν	Ν	В	14 20/2	J	JN9-T	HN9-T
SS.*	SS.*	c/c 25	c/c 22	c/c 16	c/c 17	c/c 12	c/c 68	c/c 41	c/c 41	c/c 35
c/c 33 (mm)	c/c 34 (mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
		204	292	465	452	301				
		179	270	449	435	289				
		154	248	433	418	276				
		130	226	416	400	264				
		105	204	400	383	252				
		81	182	383	366	240				
		56	160	367	349	228				
		32	139	351	332	215				
			117	334	203	203				
			95	318	191	191				
			73	302	178	178				
			51	285	166	166				
			29	269	154	154				
				252	229	142				
				236	212	130				
				220	195	117				
				203	178	105				
				187	160	93				
				171	143	80				
				154	126	68				
				137	109	56				
				122	92	44				
				105	74	31				
				89	57	19				
				72	40					
				56	23					
				40						

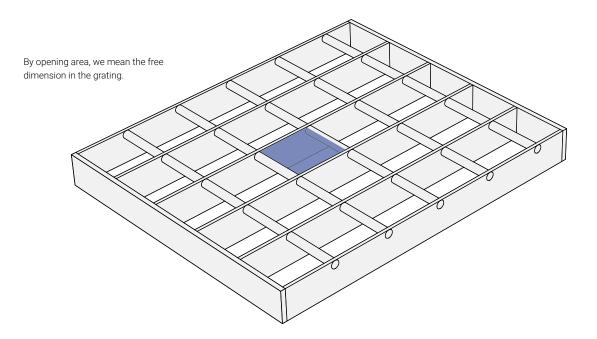
\* Stainless material

#### **OPENING AREA**

By opening area, we mean the free dimension in the grating. A piece of information that often comes up in discussions about the transmission of light.

#### Pressure welded grating

Designation	Mesh width (mm)	Load bearing bar (mm)	Support rod (mm)	Opening area %
B9	12 x 100	3	6.5	68.9
N4	17 x 50	2	5	77.8
N4	17 x 50	3	6.5	68.7
N6	17 x 75	2	4	82.6
N9	17 x 100	3	5	77.3
D4	22 x 50	3	6.5	73.2
D4	22 x 50	4	6.5	68.6
D4	22 x 50	5	6.5	64.0
F4	25 x 50	3	6.5	74.7
F4	25 x 50	4	6.5	70.6
F4	25 x 50	5	6.5	66.5
H3	34 x 37	2	4	83.2
H3	34 x 37	3	4	80.2
H3	33 x 37	4	6.5	70.1
H3	33 x 37	5	6.5	67.0
H4	34 x 50	2	5	83.8
H4	33 x 50	3	5	80.7
H4	33 x 50	4	6.5	74.6
H4	33 x 50	5	6.5	71.5
H6	34 x 75	2	4	88.4
H6	34 x 75	3	5	83.7
H9	33 x 100	3	6.5	84.2
H9	33 x 100	4	6.5	81.1
H9	33 x 100	5	6.5	78.0
J9	41 x 100	3	6.5	86.0
J9	41 x 100	4	6.5	83.5
J9	41 x 100	5	6.5	81.0
16	66 x 75	3	5	88.2
19	100 x 100	3	6.5	90.2

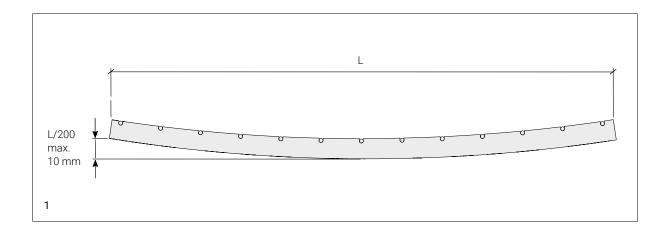


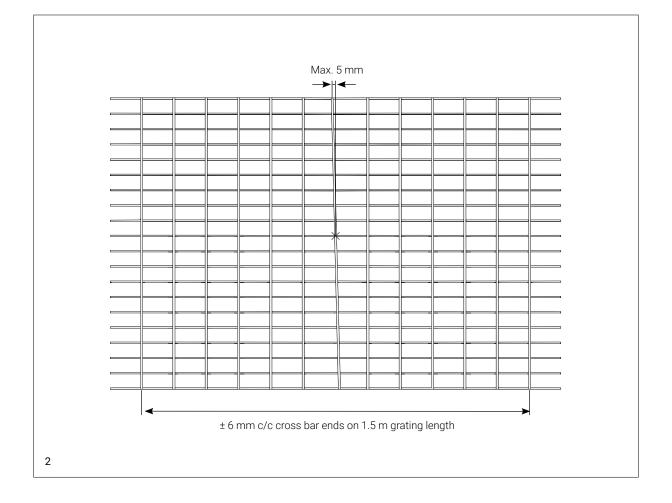
#### Serrated grating

Designation	Mesh width (mm)	Load bearing bar (mm)	Support rod (mm)	Opening area %
N9-T	16 x 100	3	5	77.3
H4-T	33 x 50	2	5	83.8
H4-T	33 x 50	3	5	80.7
H4-T	33 x 50	4	6.5	74.6
H4-T	33 x 50	5	6.5	71.5
F4-T	25 x 50	3	6.5	74.7
F4-T	25 x 50	4	6.5	70.6
F4-T	25 x 50	5	6.5	66.5
Н9-Т	33 x 100	3	6.5	84.2
Н9-Т	33 x 100	4	6.5	81.1
Н9-Т	33 x 100	5	6.5	78.0
J9-T	41 x 100	3	6.5	86.0
J9-T	41 x 100	4	6.5	83.5
J9-T	41 x 100	5	6.5	81.0
HN9-T	35 x 100	3	6.5	70.8
HN9-T	35 x 100	5	6.5	65.0
JN9-T	41 x 100	3	6.5	69.2
JN9-T	41 x 100	5	6.5	64.2

#### Grating, type A

Designation	Mesh width (mm)	Load bearing bar (mm)	Support rod (mm)	Opening area %
A22x22	22 x 22	2	2	82.0
A33x11	33 x 11	2	2	76.0





#### **TOLERANCES, DIMENSIONS**

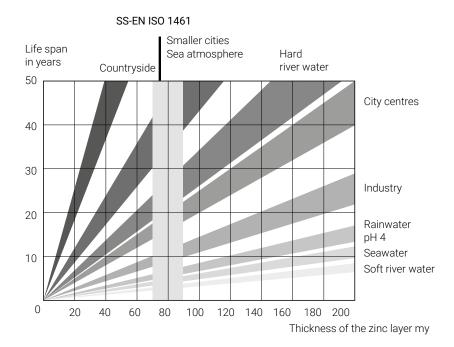
Our production is based on fixed tolerances in respect of length & width. The tolerance is set to +0 / -4 mm. Cross bar ends have a maximum protrusion of 2 mm.

#### 1. Load bearing bar

Maximum load carrier bar deflection is the length of the span through 200 (L/ 200). Maximum deflection is 10 mm.

#### 2. Cross bar

Our production is based on fixed tolerance for the cross bar division. The placing of the cross bars follows the specified mesh width with tolerances according to the diagram.



#### SURFACE TREATMENT

#### Hot-dip galvanisation

material qualities.

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

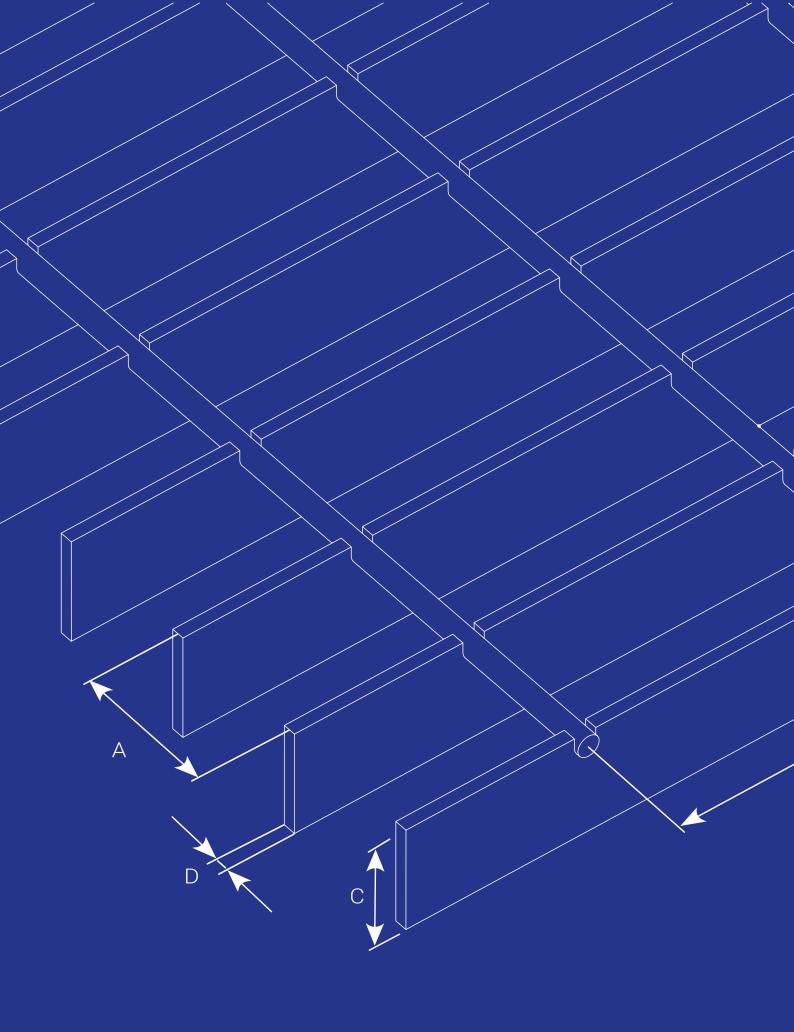
#### Treatment of stainless steel

Stainless steel grating is pickled in order to restore the material after welding.

#### Treatment of aluminium

Aluminium grating is pickled in order to achieve a good surface finish.





# GRATING PEDESTRIAN TRAFFIC

Pressure welded gratings for pedestrian traffic are manufactured in many different mesh widths and heights according to your requirements. We have a large range in stock available for immediate delivery. Gratings for pedestrian traffic can also be made to order with different load bearing bar heights, mesh widths and formats, to meet special specifications and requirements.

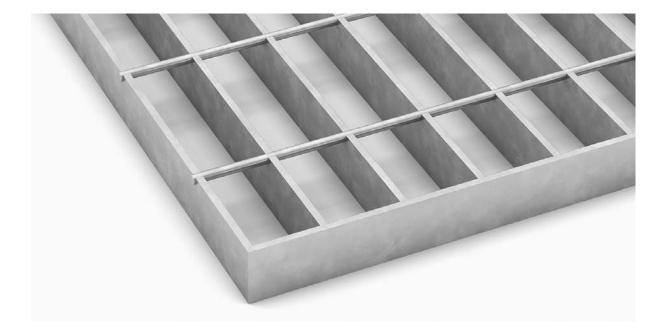
### WALKWAY GRATING H6, MESH WIDTH 34 X 75 MM

Pressure welded grating H6 is our most common grating for pedestrian traffic, which is sold from our stock. It has the same bearing capacity as H3, but with a slightly longer distance between the cross bars. For this reason, it is slightly lighter. H6 walkway grating is available in stock in three different load carrier bar heights and a wide range of different formats. These are available for immediate delivery from stock.

#### H6 - height 25 mm

Mesh width: c/c 34 x 75 mm Grating height: 25 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

L x W (mm)	Part no.	L x W (mm)	Part no.	L x W (mm)	Part no.
300 x 1000	H62520301001*	520 x 1000	H62520521001*	740 x 1000	H6252074100
310 x 1000	H62520311001*	530 x 1000	H62520531001*	750 x 1000	H6252075100
320 x 1000	H62520321001*	540 x 1000	H62520541001*	760 x 1000	H6252076100
330 x 1000	H62520331001*	550 x 1000	H62520551001*	770 x 1000	H6252077100
340 x 1000	H62520341001*	560 x 1000	H62520561001*	780 x 1000	H6252078100
350 x 1000	H62520351001*	570 x 1000	H62520571001*	790 x 1000	H6252079100
360 x 1000	H62520361001*	580 x 1000	H62520581001*	800 x 1000	H6252080100
370 x 1000	H62520371001*	590 x 1000	H62520591001*	810 x 1000	H6252081100
380 x 1000	H62520381001*	600 x 1000	H62520601001*	820 x 1000	H6252082100
390 x 1000	H62520391001*	610 x 1000	H62520611001*	830 x 1000	H6252083100
400 x 1000	H62520401001*	620 x 1000	H62520621001*	840 x 1000	H6252084100
410 x 1000	H62520411001*	630 x 1000	H62520631001*	850 x 1000	H6252085100
420 x 1000	H62520421001*	640 x 1000	H62520641001*	860 x 1000	H6252086100
430 x 1000	H62520431001*	650 x 1000	H62520651001*	870 x 1000	H6252087100
440 x 1000	H62520441001*	660 x 1000	H62520661001*	880 x 1000	H6252088100
450 x 1000	H62520451001*	670 x 1000	H62520671001*	890 x 1000	H6252089100
460 x 1000	H62520461001*	680 x 1000	H62520681001*	900 x 1000	H6252090100
470 x 1000	H62520471001*	690 x 1000	H62520691001*	910 x 1000	H6252091100
480 x 1000	H62520481001*	700 x 1000	H62520701001*	920 x 1000	H6252092100
490 x 1000	H62520491001*	710 x 1000	H62520711001*	930 x 1000	H6252093100
500 x 1000	H62520501001*	720 x 1000	H62520721001*	940 x 1000	H6252094100
510 x 1000	H62520511001*	730 x 1000	H62520731001*		

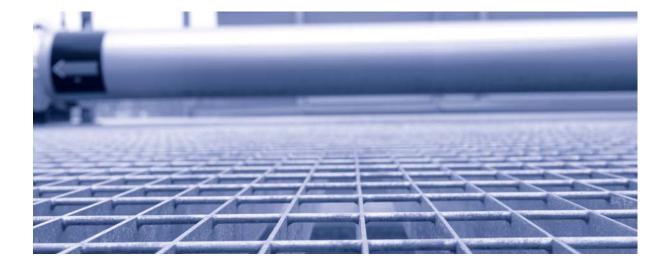


L x W (mm)	Part no.	Lx
950 x 1000	H62520951001*	117
960 x 1000	H62520961001*	118
970 x 1000	H62520971001*	119
980 x 1000	H62520981001*	120
990 x 1000	H62520991001*	121
1000 x 1000	H62521001001*	122
1010 x 1000	H62521011001*	123
1020 x 1000	H62521021001*	124
1030 x 1000	H62521031001*	125
1040 x 1000	H62521041001*	126
1050 x 1000	H62521051001*	127
1060 x 1000	H62521061001*	128
1070 x 1000	H62521071001*	129
1080 x 1000	H62521081001*	130
1090 x 1000	H62521091001*	131
1100 x 1000	H62521101001*	132
1110 x 1000	H62531111001*	133
1120 x 1000	H62531121001*	134
1130 x 1000	H62531131001*	135
1140 x 1000	H62531141001*	136
1150 x 1000	H62531151001*	137
1160 x 1000	H62531161001*	138

L x W (mm)	Part no.
1170 x 1000	H62531171001*
1180 x 1000	H62531181001*
1190 x 1000	H62531191001*
1200 x 1000	H62531201001*
1210 x 1000	H62531211001*
1220 x 1000	H62531221001*
1230 x 1000	H62531231001*
1240 x 1000	H62531241001*
1250 x 1000	H62531251001*
1260 x 1000	H62531261001*
1270 x 1000	H62531271001*
1280 x 1000	H62531281001*
1290 x 1000	H62531291001*
1300 x 1000	H62531301001*
1310 x 1000	H62531311001*
1320 x 1000	H62531321001*
1330 x 1000	H62531331001*
1340 x 1000	H62531341001*
1350 x 1000	H62531351001*
1360 x 1000	H62531361001*
1370 x 1000	H62531371001*
1380 x 1000	H62531381001*

L x W (mm)	Part no.
1390 x 1000	H62531391001*
1400 x 1000	H62531401001*
1410 x 1000	H62531411001*
1420 x 1000	H62531421001*
1430 x 1000	H62531431001*
1440 x 1000	H62531441001*
1450 x 1000	H62531451001*
1460 x 1000	H62531461001*
1470 x 1000	H62531471001*
1480 x 1000	H62531481001*
1490 x 1000	H62531491001*
1500 x 1000	H62531501001*
1600 x 1000	H62531601001*
1700 x 1000	H62531701001*
1800 x 1000	H62531801001*
1900 x 1000	H62531901001*
2000 x 1000	H62532001001*
*Stocked	

l6 - height 30	) mm	L v M (mm)	Part no.	$1 \times M(mm)$	Part no.
1esh width: c/o	c 34 x 75 mm	L x W (mm)		L x W (mm)	
i <mark>rating height:</mark> dge bar: 25 mi		640 x 1000	H63020641001*	1030 x 1000	H6302103100
oad bearing b	<b>ar length (L)</b> = Bearing	650 x 1000	H63020651001*	1040 x 1000	H6302104100
mension <b>nish:</b> Hot dip (	galvanized steel	660 x 1000	H63020661001*	1050 x 1000	H6302105100
	5	670 x 1000	H63020671001*	1060 x 1000	H6302106100
L x W (mm)	Part no.	680 x 1000	H63020681001*	1070 x 1000	H6302107100
300 x 1000	H63020301001*	690 x 1000	H63020691001*	1080 x 1000	H6302108100
310 x 1000	H63020311001*	700 x 1000	H63020701001*	1090 x 1000	H6302109100
320 x 1000	H63020321001*	710 x 1000	H63020711001*	1100 x 1000	H6302110100
330 x 1000	H63020331001*	720 x 1000	H63020721001*	1110 x 1000	H6302111100
340 x 1000	H63020341001*	730 x 1000	H63020731001*	1120 x 1000	H6302112100
350 x 1000	H63020351001*	740 x 1000	H63020741001*	1130 x 1000	H6302113100
360 x 1000	H63020361001*	750 x 1000	H63020751001*	1140 x 1000	H6302114100
370 x 1000	H63020371001*	760 x 1000	H63020761001*	1150 x 1000	H6302115100
380 x 1000	H63020381001*	770 x 1000	H63020771001*	1160 x 1000	H6302116100
390 x 1000	H63020391001*	780 x 1000	H63020781001*	1170 x 1000	H6302117100
400 x 1000	H63020401001*	790 x 1000	H63020791001*	1180 x 1000	H6302118100
410 x 1000	H63020411001*	800 x 1000	H63020801001*	1190 x 1000	H6302119100
420 x 1000	H63020421001*	810 x 1000	H63020811001*	1200 x 1000	H6302120100
430 x 1000	H63020431001*	820 x 1000	H63020821001*	1210 x 1000	H6302121100
440 x 1000	H63020441001*	830 x 1000	H63020831001*	1220 x 1000	H6302122100
450 x 1000	H63020451001*	840 x 1000	H63020841001*	1230 x 1000	H6302123100
460 x 1000	H63020461001*	850 x 1000	H63020851001*	1240 x 1000	H6302124100
470 x 1000	H63020471001*	860 x 1000	H63020861001*	1250 x 1000	H6302125100
480 x 1000	H63020481001*	870 x 1000	H63020871001*	1260 x 1000	H6302126100
490 x 1000	H63020491001*	880 x 1000	H63020881001*	1270 x 1000	H6302127100
500 x 1000	H63020501001*	890 x 1000	H63020891001*	1280 x 1000	H6302128100
510 x 1000	H63020511001*	900 x 1000	H63020901001*	1290 x 1000	H6302129100
520 x 1000	H63020521001*	910 x 1000	H63020911001*	1300 x 1000	H6302130100
530 x 1000	H63020531001*	920 x 1000	H63020921001*	1310 x 1000	H6303131100
540 x 1000	H63020541001*	930 x 1000	H63020931001*	1320 x 1000	H6303132100
550 x 1000	H63020551001*	940 x 1000	H63020941001*	1330 x 1000	H6303133100
560 x 1000	H63020561001*	950 x 1000	H63020951001*	1340 x 1000	H6303134100
570 x 1000	H63020571001*	960 x 1000	H63020961001*	1350 x 1000	H6303135100
580 x 1000	H63020581001*	970 x 1000	H63020971001*	1360 x 1000	H6303136100
590 x 1000	H63020591001*	980 x 1000	H63020981001*	1370 x 1000	H6303137100
500 x 1000	H63020601001*	990 x 1000	H63020991001*	1380 x 1000	H6303138100
510 x 1000	H63020611001*	1000 x 1000	H63021001001*	1390 x 1000	H6303139100
620 x 1000	H63020621001*	1010 x 1000	H63021011001*	1400 x 1000	H6303140100
630 x 1000	H63020631001*	1020 x 1000	H63021021001*	1410 x 1000	H6303141100

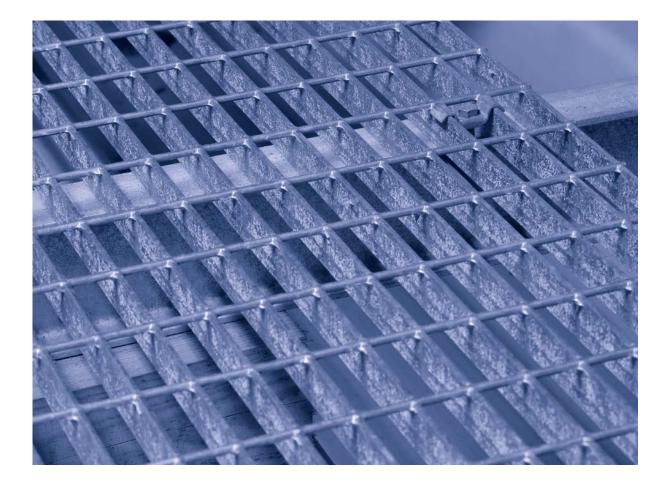


L x W (mm)	Part no.	L	. x W (mm)	Part no.	L x W (mm)	Part no.
1420 x 1000	H63031421001*	3	320 x 1000	H64020321001*	560 x 1000	H6402056100
1430 x 1000	H63031431001*	3	30 x 1000	H64020331001*	570 x 1000	H6402057100
1440 x 1000	H63031441001*	3	40 x 1000	H64020341001*	580 x 1000	H6402058100
1450 x 1000	H63031451001*	3	50 x 1000	H64020351001*	590 x 1000	H6402059100
1460 x 1000	H63031461001*	3	860 x 1000	H64020361001*	600 x 1000	H6402060100
1470 x 1000	H63031471001*	3	370 x 1000	H64020371001*	610 x 1000	H6402061100
1480 x 1000	H63031481001*	3	80 x 1000	H64020381001*	620 x 1000	H6402062100
1490 x 1000	H63031491001*	З	90 x 1000	H64020391001*	630 x 1000	H6402063100
1500 x 1000	H63031501001*	4	00 x 1000	H64020401001*	640 x 1000	H6402064100
1600 x 1000	H63031601001*	4	10 x 1000	H64020411001*	650 x 1000	H6402065100
1700 x 1000	H63031701001*	4	20 x 1000	H64020421001*	660 x 1000	H6402066100
1800 x 1000	H63031801001*	4	30 x 1000	H64020431001*	670 x 1000	H6402067100
1900 x 1000	H63031901001*	4	40 x 1000	H64020441001*	680 x 1000	H6402068100
2000 x 1000	H63032001001*	4	50 x 1000	H64020451001*	690 x 1000	H6402069100
Stocked		4	60 x 1000	H64020461001*	700 x 1000	H6402070100
C L . L . 40		4	70 x 1000	H64020471001*	710 x 1000	H6402071100
6 - height 40 esh width: c/c		4	80 x 1000	H64020481001*	720 x 1000	H6402072100
rating height: 4	10 mm	4	90 x 1000	H64020491001*	730 x 1000	H6402073100
<mark>dge bar:</mark> 25 mr bad bearing ba	n I <b>r length (L)</b> = Bearing	5	500 x 1000	H64020501001*	740 x 1000	H6402074100
imension	3 ( ) 3	5	510 x 1000	H64020511001*	750 x 1000	H6402075100
nisn: Hot dip g	alvanized steel	5	520 x 1000	H64020521001*	760 x 1000	H6402076100
L x W (mm)	Part no.	5	530 x 1000	H64020531001*	770 x 1000	H6402077100
300 x 1000	H64020301001*	5	540 x 1000	H64020541001*	780 x 1000	H6402078100
310 x 1000	H64020311001*	5	50 x 1000	H64020551001*	790 x 1000	H6402079100

\*Stocked

#### Cont. H6 - height 40 mm

L x W (mm)	Part no.	L x W (mm)	Part no.	LxW (mm)	Part no.
800 x 1000	H64020801001*	1180 x 1000	H64021181001*	1560 x 1000	H6402156100
810 x 1000	H64020811001*	1190 x 1000	H64021191001*	1570 x 1000	H6402157100
820 x 1000	H64020821001*	1200 x 1000	H64021201001*	1580 x 1000	H6402158100
830 x 1000	H64020831001*	1210 x 1000	H64021211001*	1590 x 1000	H6402159100
840 x 1000	H64020841001*	1220 x 1000	H64021221001*	1600 x 1000	H6402160100
850 x 1000	H64020851001*	1230 x 1000	H64021231001*	1610 x 1000	H6402161100
860 x 1000	H64020861001*	1240 x 1000	H64021241001*	1620 x 1000	H6402162100
870 x 1000	H64020871001*	1250 x 1000	H64021251001*	1630 x 1000	H640216310
880 x 1000	H64020881001*	1260 x 1000	H64021261001*	1640 x 1000	H640216410
890 x 1000	H64020891001*	1270 x 1000	H64021271001*	1650 x 1000	H640216510
900 x 1000	H64020901001*	1280 x 1000	H64021281001*	1660 x 1000	H640216610
910 x 1000	H64020911001*	1290 x 1000	H64021291001*	1670 x 1000	H640216710
920 x 1000	H64020921001*	1300 x 1000	H64021301001*	1680 x 1000	H640216810
930 x 1000	H64020931001*	1310 x 1000	H64021311001*	1690 x 1000	H640216910
940 x 1000	H64020941001*	1320 x 1000	H64021321001*	1700 x 1000	H640217010
950 x 1000	H64020951001*	1330 x 1000	H64021331001*	1710 x 1000	H640217110
960 x 1000	H64020961001*	1340 x 1000	H64021341001*	1720 x 1000	H640217210
970 x 1000	H64020971001*	1350 x 1000	H64021351001*	1730 x 1000	H640217310
980 x 1000	H64020981001*	1360 x 1000	H64021361001*	1740 x 1000	H640217410
990 x 1000	H64020991001*	1370 x 1000	H64021371001*	1750 x 1000	H640217510
1000 x 1000	H64021001001*	1380 x 1000	H64021381001*	1760 x 1000	H640217610
1010 x 1000	H64021011001*	1390 x 1000	H64021391001*	1770 x 1000	H640217710
1020 x 1000	H64021021001*	1400 x 1000	H64021401001*	1780 x 1000	H640217810
1030 x 1000	H64021031001*	1410 x 1000	H64021411001*	1790 x 1000	H640217910
1040 x 1000	H64021041001*	1420 x 1000	H64021421001*	1800 x 1000	H640318010
1050 x 1000	H64021051001*	1430 x 1000	H64021431001*	1900 x 1000	H640319010
1060 x 1000	H64021061001*	1440 x 1000	H64021441001*	2000 x 1000	H640320010
1070 x 1000	H64021071001*	1450 x 1000	H64021451001*	*Stocked	
1080 x 1000	H64021081001*	1460 x 1000	H64021461001*		
1090 x 1000	H64021091001*	1470 x 1000	H64021471001*		
1100 x 1000	H64021101001*	1480 x 1000	H64021481001*		
1110 x 1000	H64021111001*	1490 x 1000	H64021491001*		
1120 x 1000	H64021121001*	1500 x 1000	H64021501001*		
1130 x 1000	H64021131001*	1510 x 1000	H64021511001*		
1140 x 1000	H64021141001*	1520 x 1000	H64021521001*		
1150 x 1000	H64021151001*	1530 x 1000	H64021531001*		
1160 x 1000	H64021161001*	1540 x 1000	H64021541001*		
1170 x 1000	H64021171001*	1550 x 1000	H64021551001*		



#### H6 RF - height 20 mm

Mesh width: c/c 34 x 75 mm Load bearing bar: 20/3 mm Edge bar: 20 mm Finish: Stainless, acid-proof, untreated, and pickled

Load bearing bar (mm)	Surface treat- ment	Part no.
20/3	Untreated	HD06203021
20/3	Pickled	HD06203321

#### H6 RF - height 25 mm

Mesh width: c/c 34 x 75 mm Load bearing bar: 25/2 and 25/ 3 Edge bar: 25 mm Finish: Stainless, acid-proof, untreated, and pickled

Load bearing bar (mm)	Surface treat- ment	Part no.
25/2	Untreated	HD06252021
25/2	Pickled	HD06252321
25/3	Untreated	HD06253021
25/3	Pickled	HD06253321

#### H6 RF - height 30 mm

Mesh width: c/c 34 x 75 mm Load bearing bar: 30/3 Edge bar: 25 mm Finish: Stainless, acid-proof, untreated, and pickled

Load bearing bar (mm)	Surface treat- ment	Part no.
30/3	Untreated	HD06303021
30/3	Pickled	HD06303321

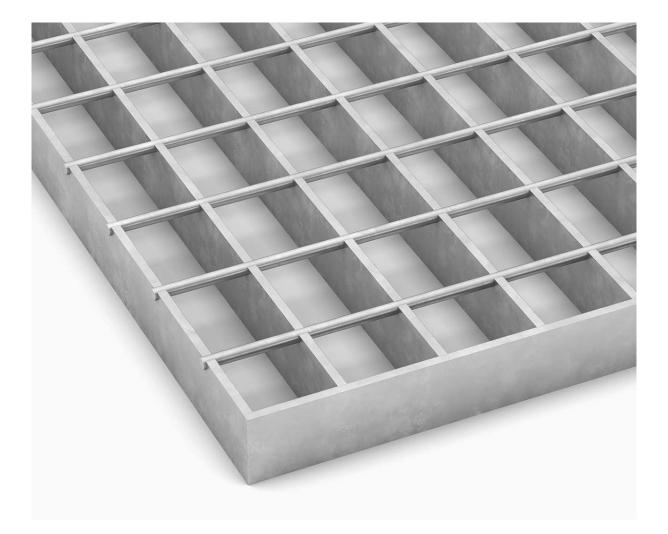
### WALKWAY GRATING H3, MESH WIDTH 34 X 37 MM

Projection welded walkway grating H3 is one of our most common gratings for pedestrian traffic, which is sold from our stock. H3 walkway grating is stocked in two different load bearing bar heights and a wide range of different formats. These can be delivered immediately from stock.

#### H3 - height 25 mm

Mesh width: c/c 34 x 37 mm Grating height: 25 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

L x W (mm)	Part no.	L x W (mm)	Part no.	L x W (mm)	Part no.
300 x 1000	2530301001*	590 x 1000	2530591001*	880 x 1000	2530881001
310 x 1000	2530311001*	600 x 1000	2530601001*	890 x 1000	2530891001
320 x 1000	2530321001*	610 x 1000	2530611001*	900 x 1000	2530901001
330 x 1000	2530331001*	620 x 1000	2530621001*	910 x 1000	2530911001
340 x 1000	2530341001*	630 x 1000	2530631001*	920 x 1000	2530921001
350 x 1000	2530351001*	640 x 1000	2530641001*	930 x 1000	2530931001
360 x 1000	2530361001*	650 x 1000	2530651001*	940 x 1000	2530941001
370 x 1000	2530371001*	660 x 1000	2530661001*	950 x 1000	2530951001
380 x 1000	2530381001*	670 x 1000	2530671001*	960 x 1000	2530961001
390 x 1000	2530391001*	680 x 1000	2530681001*	970 x 1000	2530971001
400 x 1000	2530401001*	690 x 1000	2530691001*	980 x 1000	2530981001
410 x 1000	2530411001*	700 x 1000	2530701001*	990 x 1000	2530991001
420 x 1000	2530421001*	710 x 1000	2530711001*	1000 x 1000	2531001001
430 x 1000	2530431001*	720 x 1000	2530721001*	1010 x 1000	2531011001
440 x 1000	2530441001*	730 x 1000	2530731001*	1020 x 1000	2531021001
450 x 1000	2530451001*	740 x 1000	2530741001*	1030 x 1000	2531031001
460 x 1000	2530461001*	750 x 1000	2530751001*	1040 x 1000	2531041001
470 x 1000	2530471001*	760 x 1000	2530761001*	1050 x 1000	2531051001
480 x 1000	2530481001*	770 x 1000	2530771001*	1060 x 1000	2531061001
490 x 1000	2530491001*	780 x 1000	2530781001*	1070 x 1000	2531071001
500 x 1000	2530501001*	790 x 1000	2530791001*	1080 x 1000	2531081001
510 x 1000	2530511001*	800 x 1000	2530801001*	1090 x 1000	2531091001
520 x 1000	2530521001*	810 x 1000	2530811001*	1100 x 1000	2531101001
530 x 1000	2530531001*	820 x 1000	2530821001*	1110 x 1000	2531111001
540 x 1000	2530541001*	830 x 1000	2530831001*	1120 x 1000	2531121001
550 x 1000	2530551001*	840 x 1000	2530841001*	1130 x 1000	2531131001
560 x 1000	2530561001*	850 x 1000	2530851001*	1140 x 1000	2531141001
570 x 1000	2530571001*	860 x 1000	2530861001*	1150 x 1000	2531151001
580 x 1000	2530581001*	870 x 1000	2530871001*	1160 x 1000	2531161001



L x W (mm)	Part no.	L x W (mm)	Part no.	L x W (mm)	Part no.
1170 x 1000	2531171001*	1300 x 1000	2531301001*	1430 x 1000	2531431001*
1180 x 1000	2531181001*	1310 x 1000	2531311001*	1440 x 1000	2531441001*
1190 x 1000	2531191001*	1320 x 1000	2531321001*	1450 x 1000	2531451001*
1200 x 1000	2531201001*	1330 x 1000	2531331001*	1460 x 1000	2531461001*
1210 x 1000	2531211001*	1340 x 1000	2531341001*	1470 x 1000	2531471001*
1220 x 1000	2531221001*	1350 x 1000	2531351001*	1480 x 1000	2531481001*
1230 x 1000	2531231001*	1360 x 1000	2531361001*	1490 x 1000	2531491001*
1240 x 1000	2531241001*	1370 x 1000	2531371001*	1500 x 1000	2531501001*
1250 x 1000	2531251001*	1380 x 1000	2531381001*	1600 x 1000	2531601001*
1260 x 1000	2531261001*	1390 x 1000	2531391001*	1700 x 1000	2531701001*
1270 x 1000	2531271001*	1400 x 1000	2531401001*	1800 x 1000	2531801001*
1280 x 1000	2531281001*	1410 x 1000	2531411001*	1900 x 1000	2531901001*
1290 x 1000	2531291001*	1420 x 1000	2531421001*	2000 x 1000	2532001001*
				*Stocked	

H3 - height 30		L x W (mm)	Part no.	L x W (mm)	Part no.
Mesh width: c/c Grating height: 3		640 x 1000	3030641001*	680 x 1000	3030681001*
Edge bar: 25 mr	n	650 x 1000	3030651001*	690 x 1000	3030691001*
limension	ar length (L) = Bearing	700 x 1000	3030701001*	1050 x 1000	3031051001*
<b>inish:</b> Hot dip g	alvanized steel	710 x 1000	3030711001*	1060 x 1000	3031061001*
L x W (mm)	Part no.	720 x 1000	3030721001*	1070 x 1000	3031071001*
300 x 1000	3030301001*	730 x 1000	3030731001*	1080 x 1000	3031081001*
310 x 1000	3030311001*	740 x 1000	3030741001*	1090 x 1000	3031091001*
320 x 1000	3030321001*	750 x 1000	3030751001*	1100 x 1000	3031101001,
330 x 1000	3030331001*	760 x 1000	3030761001*	1110 x 1000	3031111001,
340 x 1000	3030341001*	770 x 1000	3030771001*	1120 x 1000	3031121001,
350 x 1000	3030351001*	780 x 1000	3030781001*	1130 x 1000	3031131001,
360 x 1000	3030361001*	790 x 1000	3030791001*	1140 x 1000	3031141001
370 x 1000	3030371001*	800 x 1000	3030801001*	1150 x 1000	3031151001,
380 x 1000	3030381001*	810 x 1000	3030811001*	1160 x 1000	3031161001
390 x 1000	3030391001*	820 x 1000	3030821001*	1170 x 1000	3031171001
400 x 1000	3030401001*	830 x 1000	3030831001*	1180 x 1000	3031181001
410 x 1000	3030411001*	840 x 1000	3030841001*	1190 x 1000	3031191001
420 x 1000	3030421001*	850 x 1000	3030851001*	1200 x 1000	3031201001
430 x 1000	3030431001*	860 x 1000	3030861001*	1210 x 1000	3031211001
440 x 1000	3030441001*	870 x 1000	3030871001*	1220 x 1000	3031221001
450 x 1000	3030451001*	880 x 1000	3030881001*	1230 x 1000	3031231001
460 x 1000	3030461001*	890 x 1000	3030891001*	1240 x 1000	3031241001
470 x 1000	3030471001*	900 x 1000	3030901001*	1250 x 1000	3031251001
480 x 1000	3030481001*	910 x 1000	3030911001*	1260 x 1000	3031261001
490 x 1000	3030491001*	920 x 1000	3030921001*	1270 x 1000	3031271001
500 x 1000	3030501001*	930 x 1000	3030931001*	1280 x 1000	3031281001
510 x 1000	3030511001*	940 x 1000	3030941001*	1290 x 1000	3031291001
520 x 1000	3030521001*	950 x 1000	3030951001*	1300 x 1000	3031301001
530 x 1000	3030531001*	960 x 1000	3030961001*	1310 x 1000	3031311001
540 x 1000	3030541001*	970 x 1000	3030971001*	1320 x 1000	3031321001
550 x 1000	3030551001*	980 x 1000	3030981001*	1330 x 1000	3031331001
560 x 1000	3030561001*	990 x 1000	3030991001*	1340 x 1000	3031341001
570 x 1000	3030571001*	1000 x 1000	3031001001*	1350 x 1000	3031351001
580 x 1000	3030581001*	1010 x 1000	3031011001*	1360 x 1000	3031361001
590 x 1000	3030591001*	1020 x 1000	3031021001*	1370 x 1000	3031371001
600 x 1000	3030601001*	1030 x 1000	3031031001*	1380 x 1000	3031381001
610 x 1000	3030611001*	1040 x 1000	3031041001*	1390 x 1000	3031391001
620 x 1000	3030621001*	660 x 1000	3030661001*	1400 x 1000	3031401001
630 x 1000	3030631001*	670 x 1000	3030671001*	1410 x 1000	3031411001*



L x W (mm)	Part no.
1420 x 1000	3031421001*
1430 x 1000	3031431001*
1440 x 1000	3031441001*
1450 x 1000	3031451001*
1460 x 1000	3031461001*
1470 x 1000	3031471001*
1480 x 1000	3031481001*
1490 x 1000	3031491001*
1500 x 1000	3031501001*
1600 x 1000	3031601001*
1700 x 1000	3031701001*
1800 x 1000	3031801001*
1900 x 1000	3031901001*
2000 x 1000	3032001001*

#### H3 RF - height 25 mm

Mesh width: c/c 34 x 37 mm Load bearing bar: 25/3 mm Edge bar: 25 mm Finish: Stainless, acid-proof, untreated, and pickled

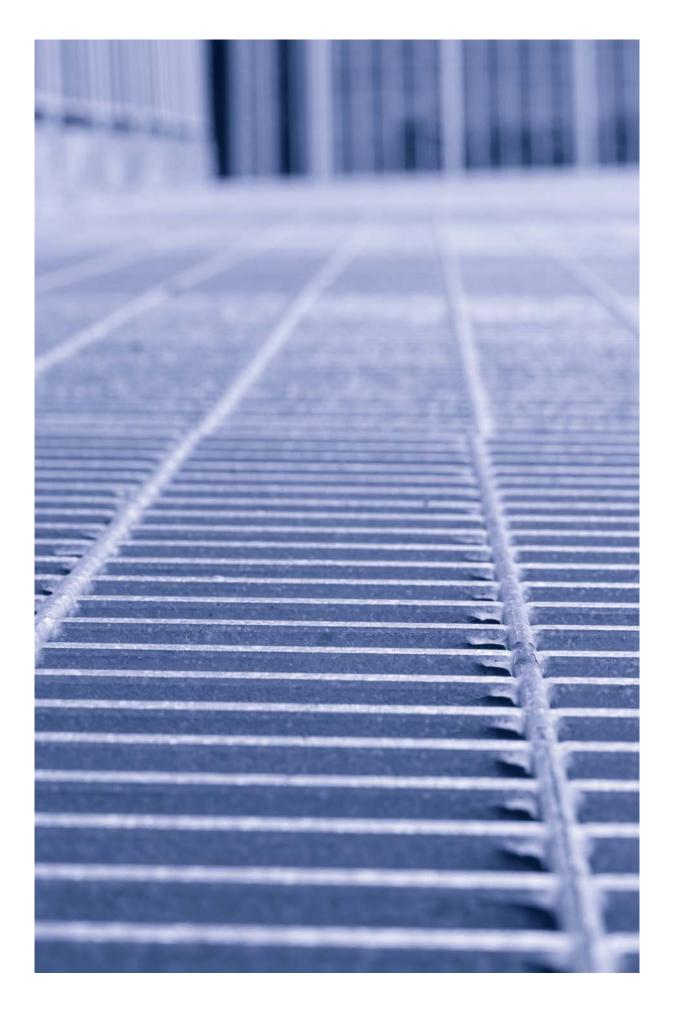
Surface treat- ment	Part no.
Untreated	HD03253021
Pickled	HD03253321

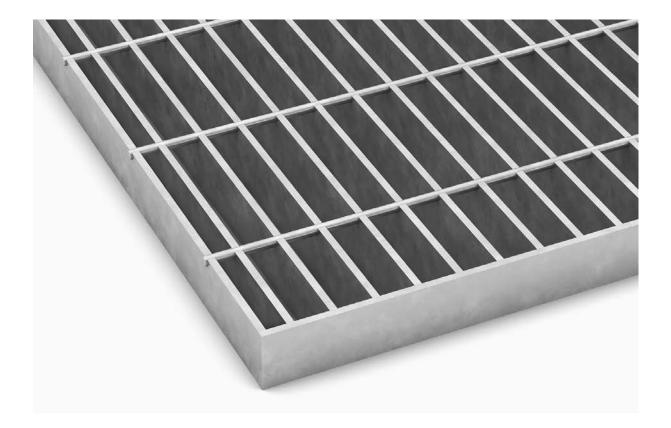
#### H3 RF - height 30 mm

Mesh width: c/c 34 x 37 mm Load bearing bar: 30/3 mm Edge bar: 25 mm Finish: Stainless, acid-proof, untreated, and pickled

Surface treat- ment	Part no.
Untreated	HD03303021
Pickled	HD03303321

\*Stocked





#### WALKWAY GRATING N6, MESH WIDTH 17 X 75 MM

N6 projection welded grating is a walkway grating with a denser mesh width. The mesh width of the grating is compliant with the "ball" requirement of SS-EN ISO 14122-2. This requirement stipulates that a ball with a diameter of 20 mm should not be able to fall through the mesh. N6 walkway grating is stocked in two different load bearing bar heights and a wide range of different formats. These are available for immediate delivery from stock.

#### N6 - height 25 mm

Mesh width: c/c 17 x 75 mm Grating height: 25 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

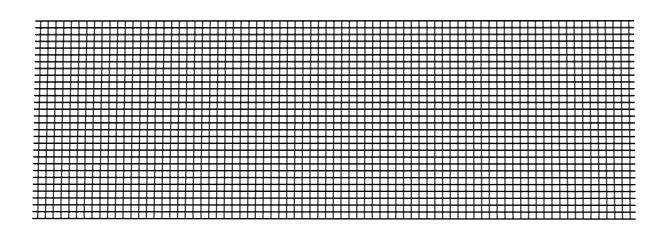
L x W (mm)	Part no.
500 x 1000	N2520501001*
590 x 1000	N2520591001*
600 x 1000	N2520601001*

L x W (mm)	Part no.
690 x 1000	N2520691001*
700 x 1000	N2520701001*
790 x 1000	N2520791001*
800 x 1000	N2520801001*
890 x 500	N2520890501*
890 x 883	N2520890881*
890 x 1000	N2520891001*
900 x 1000	N2520901001*
990 x 1000	N2520991001*
1000 x 1000	N2521001001*
1090 x 1000	N2521091001*
1100 x 1000	N2521101001*
1100 x 1100	N2521101101*
1190 x 1000	N2521191001*
1200 x 1000	N2521201001*
1290 x 500	N2521290501*
1290 x 883	N2521290881*
1290 x 1000	N2521291001*
*Stocked	

#### N6 - height 30 mm

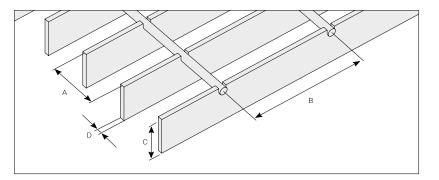
Mesh width: c/c 17 x 75 mm Grating height: 30 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

L x W (mm)	Part no.
500 x 1000	N3020501001*
600 x 1000	N3020601001*
700 x 1000	N3020701001*
800 x 1000	N3020801001*
900 x 1000	N3020901001*
1000 x 1000	N3021001001*
1100 x 1000	N3021101001*
1200 x 1000	N3021201001*
1300 x 1000	N3021301001*
1400 x 1000	N3021401001*
1500 x 1000	N3021501001*
1600 x 1000	N3021601001*
1700 x 1000	N3021701001*
*Stocked	



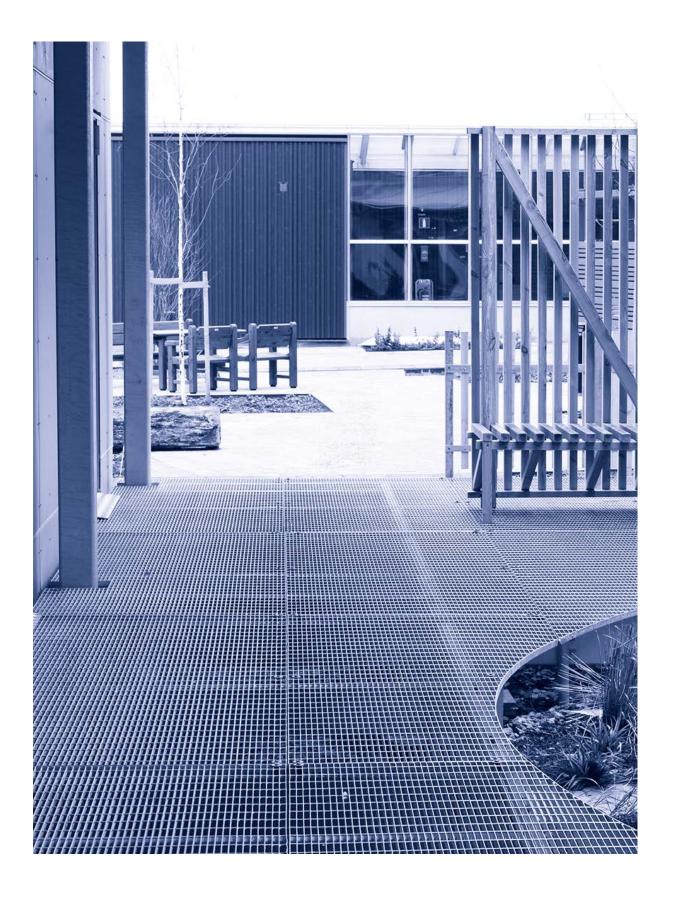
#### WALKWAY GRATING, FULL SIZE

In addition to our format-made walkways, we also offer a range of full format walkway grating. These are available in dimensions 3 x 1 m and 6 x 1 m. Gratings are supplied hot-dip galvanized.



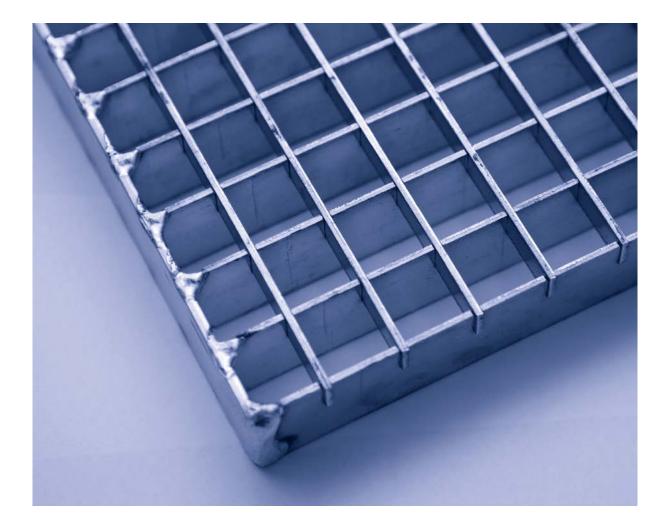
Designation	Mesh width c/c (mm) (A x B)	Load bearing bar (mm) (C)	Grating format (mm)	Edge bar (mm)	Part no.
H3 25/3	34 x 37	25 x 3	3000 x 1000	25 x 2	2533001001*
H3 30/3	34 x 37	30 x 3	3000 x 1000	25 x 2	3033001001*
H3 40/3	34 x 37	40 x 3	3000 x 1000	25 x 2	4023001001*
H3 25/3	34 x 37	25 x 3	6000 x 1000	without edge bar	2536001001*
H3 30/3	34 x 37	30 x 3	6000 x 1000	without edge bar	3036001001*
H3 40/3	34 x 37	40 x 3	6000 x 1000	without edge bar	4026001001*
H4-T 30/3	33 x 50	30 x 3	6000 x 1000	without edge bar	HS04613031*
H6 25/3	34 x 75	25 x 3	3000 x 1000	without edge bar	HD06312531*
H6 30/3	34 x 75	30 x 3	3000 x 1000	without edge bar	HD06313031*
H6 25/3	34 x 75	25 x 3	6000 x 1000	without edge bar	HD06612531*
H6 30/3	34 x 75	30 x 3	6000 x 1000	without edge bar	HD06613031*
H6 35/3	34 x 75	35 x 3	6000 x 1000	without edge bar	HD06613531*
H6 40/3	34 x 75	40 x 3	6000 x 1000	without edge bar	HD06614031*
N6 25/2	17 x 75	25 x 2	6000 x 1000	without edge bar	N2526001001*
N6 30/2	17 x 75	30 x 2	6000 x 1000	without edge bar	N3026001001*

\*Stocked



#### CUSTOM-MADE WALKWAY GRATING

Apart from the stock range of gratings, Weland also offers custom-made gratings in many versions and types. Each grating type has its application, such as pedestrian traffic, various types of vehicular traffic, entrances and so on. The gratings can be ordered with different bearing bar heights, mesh widths, and formats. Custom-made grating is cut and adapted to meet the customer's needs. We will be pleased to assist you with planning and design.



#### WALKWAY GRATING, ALUMINIUM

Aluminium gratings are lightweight, stable gratings that are used in environments that are subject to specific requirements. One of the advantages of aluminium is that it weighs about one third less than steel grating. Aluminium grating should be placed indoors in a dry environment.

Aluminium grating load bearing bars and cross bars are made of grade EN AW-5754 aluminium. Flat load bearing and cross bars are put together as A-type grating. Mesh width: c/c 22 x 22 mm an 33 x 11 mm Grating height: 25 and 30 mm Finish: Aluminium EN AW-5754

Designation	Mesh width c/c (mm)	Load bearing bar (mm)	Max. span (mm)
A22x22	22 x 22	25/3	1000
A22x22	22 x 22	30/3	1200
A33x11	33 x 11	25/3	850
A33x11	33 x 11	30/3	1050

\*Applies for pedestrian traffic 5 kN



## WALKWAY GRATING, STAINLESS STEEL TYPE A

Stainless steel A-grating is mainly used when you want create an exclusive entrance. This is usually a good choice if exclusive materials have been used elsewhere and want to imbue the exclusivity in your entrance grating.

Mesh width: c/c 22 x 22 or 33 x 11 mm Finish: Stainless acid-proof untreated

Designation	Load bearing bar (mm)	Surface treatment	Part no.
A22x22	25/2	Untreated	AD222225202
A22x22	25/2	Pickled	AD222225232
A22x22	30/2	Untreated	AD222230202
A22x22	30/2	Pickled	AD222230232
A22x22	25/3	Untreated	AD222225302
A22x22	25/3	Pickled	AD222225332
A22x22	30/3	Untreated	AD222230302
A22x22	30/3	Pickled	AD222230332
A33x11	25/2	Untreated	AD331125202
A33x11	25/2	Pickled	AD331125232
A33x11	30/2	Untreated	AD331130202
A33x11	30/2	Pickled	AD331130232



#### SERRATED VERSION

Serrated gratings are available with load bearing bar heights ranging from 25 to 80 mm in order to satisfy your load requirements. Serrated gratings are custom-made to meet your particular specifications, needs, and requirements. For all items we have in stock, visit weland.com.

#### H9-T

H9-T is our most common variant of serrated grating and is made from pressure welded grating. The most common load bearing bar heights for this grating type type are 25 - 40 mm. H9-T is also manufactured in other load bearing bar heights and is a non-stock item.

Mesh width: c/c 33 x 100 mm Finish: Untreated and hot-dip galvanized steel

#### H4-T

Mesh width: c/c 33 x 50 mm Finish: Untreated and hot-dip galvanized steel

#### F4-T

Mesh width: c/c 25 x 50 mm Finish: Untreated and hot-dip galvanized steel

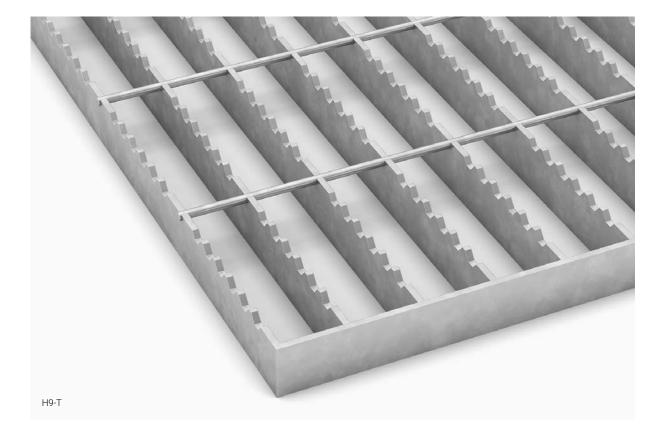
#### A33x11, Serrated

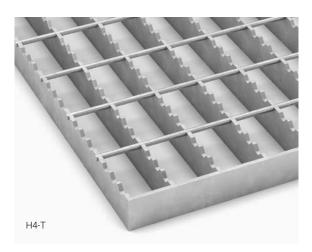
Serrated grating, type A33x11, is primarily used in entrances.

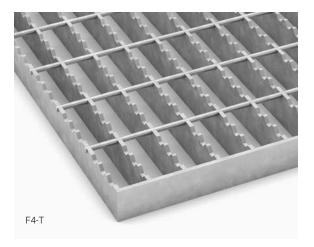
Mesh width: c/c 33 x 11 mm Finish: Hot dip galvanized steel

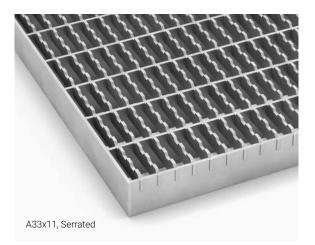
#### J9-T

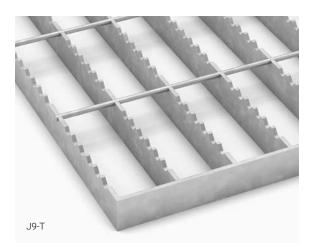
Mesh width: c/c 41 x 100 mm Finish: Untreated and hot-dip galvanized steel



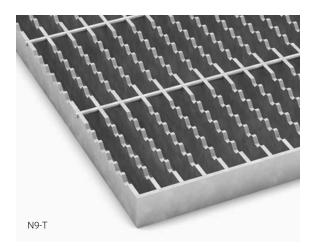


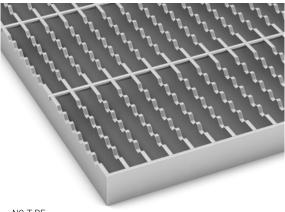




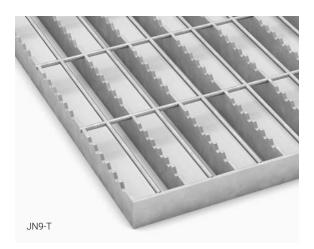


Cont. Serrated version





N9-T RF





Mesh width: c/c 16 x 100 mm Finish: Untreated and hot-dip galvanized steel

#### N9-T RF

Mesh width: c/c 16 x 100 mm Finish: Stainless, acid-proof, untreated, or pickled version

#### JN9-T

HN9-T

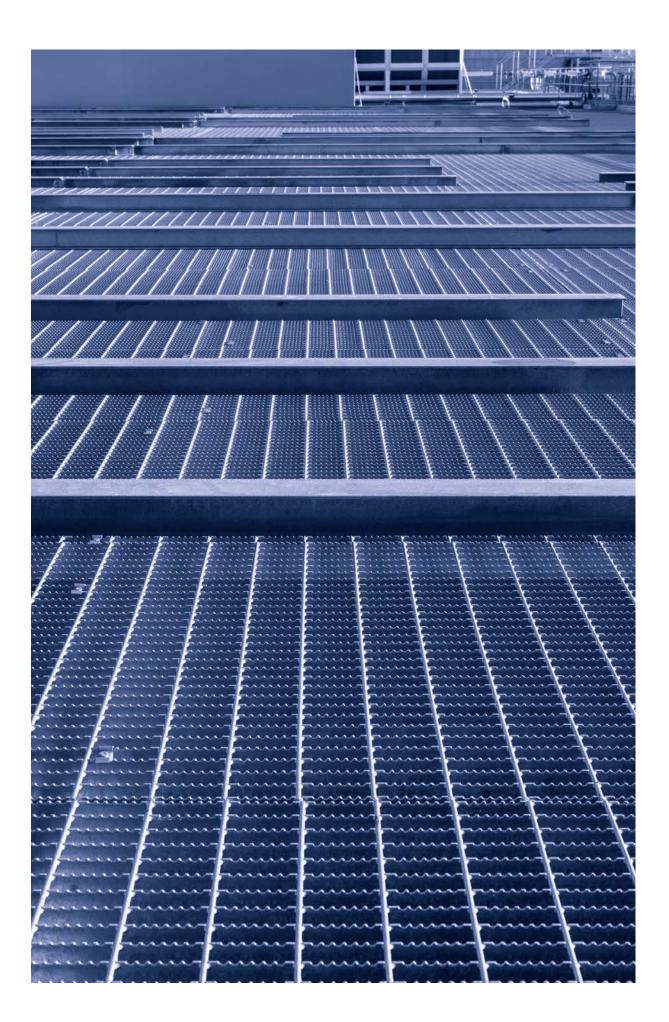
A round bar is placed between each load bearing bar. This keeps the weight down and satisfies the requirement for a maximum mesh opening of 15 mm.

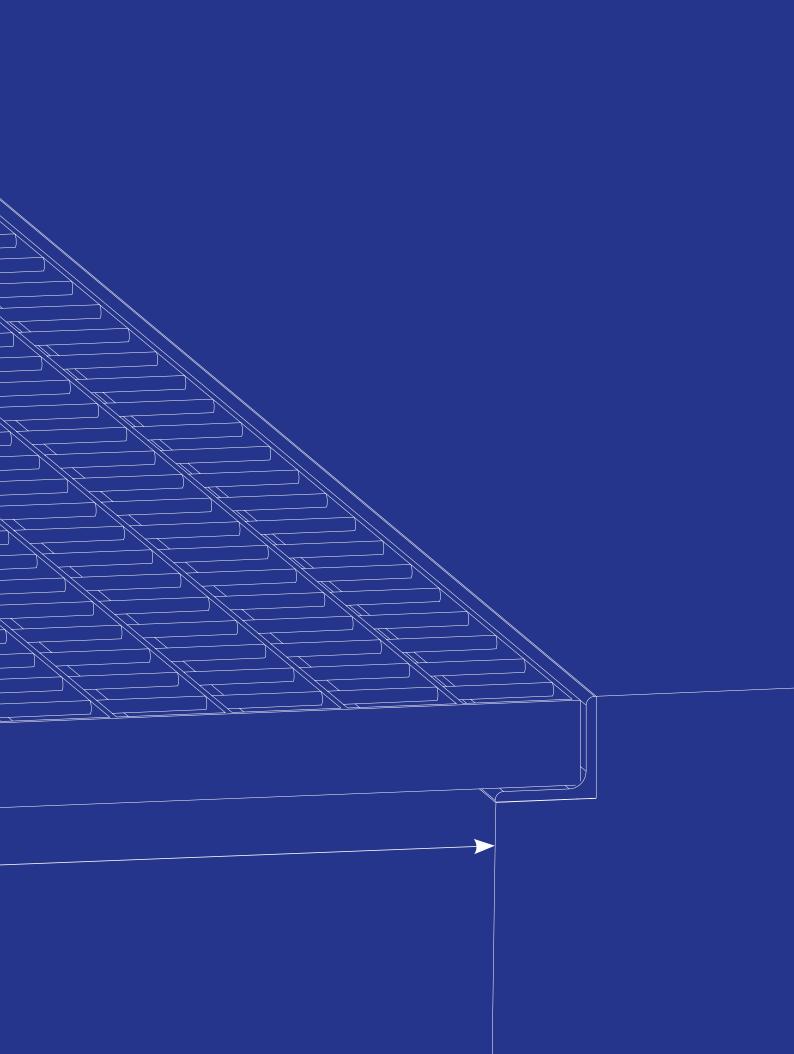
Mesh width: c/c 41 x 100 mm Mesh opening: 15 x 92 mm Finish: Untreated and hot-dip galvanized steel

#### HN9-T

Every other load bearing bar has been replaced with a round bar. This keeps the weight down and satisfies the requirement for a maximum mesh opening of 15 mm.

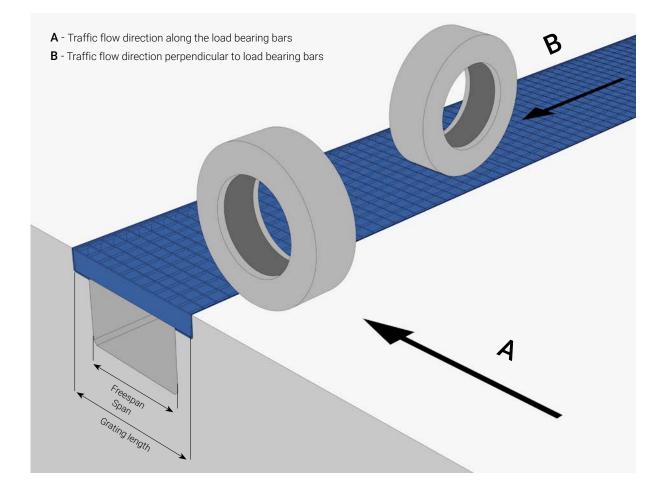
Mesh width: c/c 35 x 100 mm Mesh opening: 13 x 92 mm Finish: Untreated and hot-dip galvanized steel





# GRATING VEHICLE TRAFFIC

We provide gratings for vehicle traffic in a myriad of different variants. As standard, we keep the majority in stock. Vehicular gratings are stocked for immediate delivery, but they can also be custom-made to meet special specifications and requirements. Apart from our standard range, which is hot-dip galvanized, we also offer gratings in stainless steel.



#### STOCK VEHICULAR GRATING

We stock vehicular gratings in the most commonly occurring formats for varying loads. You can find the stocked formats in the tables on the next few pages. Stock vehicular gratings are available for immediate delivery, providing you with simple planning and easy handling of the gratings. All stock vehicular gratings are provided with an edge bar and are supplied hot-dip galvanized.

Stocked vehicular gratings are available for same day delivery, provided that you order before 10 am.

#### Find the right grating in our stock range

The tables give examples of various load cases with vehicles. The specified values are calculated according to 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. More information is available on page 292.

Please note that for heavy goods vehicles there are two tables, depending on the direction of traffic flow required (see illustration above).

#### CUSTOM-MADE, VEHICULAR, PRESSUREWELD-ED GRATING

In addition to our vehicular gratings, which are kept in stock for immediate delivery, we also offer gratings with specifically customised dimensions. This creates many opportunities for variation and the right criteria to satisfy special conditions, requirements, and needs. Custom grating can either be supplied as hot-dip galvanized from our standard range, or in stainless material.

Contact our sales team for more information.





#### PRIVATE CARS MAX. 3 TONNES

Vehicular gratings for private cars with total max. weight 3 tonnes.

Mesh width: c/c 34 x 37 mm. Load: 10 kN per wheel. Load area: 100 x 100 mm. Any driving direction.

Designation	Freespan (mm)	Grating format (mm)	Dimensions, kerb angle frame(mm)	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 50/4	600	690 x 1000 x 50	L-55 x 55 x 3	5040691001*
H3 50/4	700	790 x 1000 x 50	L-55 x 55 x 3	5040791001*
H3 50/4	800	890 x 1000 x 50	L-55 x 55 x 3	5040891001*
H3 50/4	900	990 x 1000 x 50	L-55 x 55 x 3	5040991001*
H3 60/4	1000	1114 x 1000 x 60	L-65 x 65 x 3	60411141001*
H3 60/4	1100	1215 x 1000 x 60	L-65 x 65 x 3	60412151001*
H3 60/4	1200	1315 x 1000 x 60	L-65 x 65 x 3	60413151001*

\*Stocked



#### VEHICLES BETWEEN 3 - 16 TONNES TOTAL WEIGHT

Vehicular gratings for small goods vehicles with total max. weight 3 - 16 tonnes.

Mesh width: c/c 34 x 37 mm. Load: 45 kN per wheel. Load area: 200 x 200 mm. Any driving direction.

Designation	Freespan (mm)	Grating format	Dimensions kerb angle frame	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 60/4	600	715 x 1000 x 60	L-65 x 65 x 3	60407151001*
H3 60/4	700	815 x 1000 x 60	L-65 x 65 x 3	60408151001*
H3 70/4	800	935 x 700 x 70	L-75 x 75 x 3	70409350701*
H3 80/4	900	1054 x 700 x 80	L-85 x 85 x 3	80410540701*
H3 80/4	1000	1150 x 700 x 80	L-85 x 85 x 3	8041150701*
H3 80/4	1100	1250 x 700 x 80	L-85 x 85 x 3	80412500701*
H3 80/4	1200	1350 x 700 x 80	L-85 x 85 x 3	80413500701*



### HEAVY GOODS VEHICLES (GENERAL TRAFFIC)

Vehicular gratings for heavy traffic.

#### Vehicular gratings, direction of travel A

Mesh width: c/c 34 x 37 mm. Load: 105 kN per wheel. Load area: 600 x 200 mm.

Designation	Freespan (mm)	Grating format (mm)	Dimensions, kerb angle frame(mm)	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 60/4	600	715 x 1000 x 60	L-65 x 65 x 3	60407151001*
H3 60/4	700	815 x 1000 x 60	L-65 x 65 x 3	60408151001*
H3 60/4	800	915 x 1000 x 60	L-65 x 65 x 3	60409151001*
H3 80/4	900	1054 x 700 x 80	L-85 x 85 x 3	80410540701*
H3 70/4	1000	1135 x 700 x 70	L-75 x 75 x 3	70411350701*
H3 80/4	1100	1250 x 700 x 80	L-85 x 85 x 3	80412500701*
H3 80/4	1200	1350 x 700 x 80	L-85 x 85 x 3	80413500701*

\*Stocked

#### Vehicular gratings, direction of travel B

Mesh width: c/c 34 x 37 mm. Load: 105 kN per wheel. Load area: 200 x 600 mm.

Designation	Freespan (mm)	Grating format (mm)	Dimensions, kerb angle frame(mm)	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 60/4	500	615 x 1000 x 60	L-65 x 65 x 3	60406151001*
H3 70/4	600	735 x 700 x 70	L-75 x 75 x 3	70407350701*
H3 80/4	700	850 x 700 x 80	L-85 x 85 x 3	8040850701*



#### FORK LIFT TRUCK TRAFFIC WITH PNEUMATIC TYRES

Stock V=vehicular gratings for fork lift trucks with pneumatic tyres.

#### Vehicular grating fork lift truck class FL1

Mesh width: c/c 34 x 37 mm. Load: 18 kN per wheel. Fork lift truck net weight: 2.1 tonnes. Lifting capacity: 1.0 tonne.

Designation	Freespan (mm)	Grating format (mm)	Dimensions, kerb angle frame(mm)	Part no.
H3 35/3	300	360 x 1000 x 35	L-40 x 40 x 3	3530361001*
H3 40/3	400	470 x 1000 x 40	L-45 x 45 x 3	4030471001*
H3 45/3	500	580 x 1000 x 45	L-50 x 50 x 3	4530581001*
H3 50/4	600	690 x 1000 x 50	L-55 x 55 x 3	5040691001*
H3 50/4	700	790 x 1000 x 50	L-55 x 55 x 3	5040791001*
H3 50/4	800	890 x 1000 x 50	L-55 x 55 x 3	5040891001*
H3 50/4	900	990 x 1000 x 50	L-55 x 55 x 3	5040991001*
H3 60/4	1000	1114 x 1000 x 60	L-65 x 65 x 3	60411141001*
H3 60/4	1100	1215 x 1000 x 60	L-65 x 65 x 3	60412151001*
H3 60/4	1200	1315 x 1000 x 60	L-65 x 65 x 3	60413151001*

\*Stocked

#### Vehicular grating fork lift truck class FL2

Mesh width: c/c 34 x 37 mm. Load: 28 kN per wheel. Fork lift truck's net weight: 3.1 tonnes. Lifting capacity: 1.5 tonnes.

Designation	Freespan (mm)	Grating format (mm)	Dimensions, kerb angle frame(mm)	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 40/3	400	470 x 1000 x 40	L-45 x 45 x 3	4030471001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 50/4	600	690 x 1000 x 50	L-55 x 55 x 3	5040691001*
H3 50/4	700	790 x 1000 x 50	L-55 x 55 x 3	5040791001*
H3 50/4	800	890 x 1000 x 50	L-55 x 55 x 3	5040891001*
H3 80/4	900	1054 x 700 x 80	L-85 x 85 x 3	80410540701*
H3 60/4	1000	1114 x 1000 x 60	L-65 x 65 x 3	60411141001*
H3 60/4	1100	1215 x 1000 x 60	L-65 x 65 x 3	60412151001*
H3 60/4	1200	1315 x 1000 x 60	L-65 x 65 x 3	60413151001*

Cont. Fork lift truck traffic with pneumatic tyres

#### Vehicular grating fork lift truck class FL3

Mesh width: c/c 34 x 37 mm. Load: 44 kN per wheel. Fork lift truck's net weight: 4.4 tonnes. Lifting capacity: 2.5 tonnes.

Designation	Freespan (mm)	Grating format (mm)	Dimensions kerb angle frame	Part no.
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 60/4	600	715 x 1000 x 60	L-65 x 65 x 3	60407151001*
H3 60/4	700	815 x 1000 x 60	L-65 x 65 x 3	60408151001*
H3 70/4	800	935 x 700 x 70	L-75 x 75 x 3	70409350701*
H3 80/4	900	1054 x 700 x 80	L-85 x 85 x 3	80410540701*
H3 80/4	1000	1150 x 700 x 80	L-85 x 85 x 3	8041150701*
H3 80/4	1100	1250 x 700 x 80	L-85 x 85 x 3	80412500701*
H3 80/4	1200	1350 x 700 x 80	L-85 x 85 x 3	80413500701*

\*Stocked

#### Vehicular grating fork lift truck class FL4

Mesh width: c/c 34 x 37 mm. Load: 63 kN per wheel. Fork lift truck's net weight: 6.0 tonnes Lifting capacity: 4.0 tonnes.

Designation	Freespan (mm)	Grating format (mm)	Dimensions kerb angle frame	Part no.
H3 60/4	500	615 x 1000 x 60	L-65 x 65 x 3	60406151001*
H3 70/4	600	735 x 700 x 70	L-75 x 75 x 3	70407350701*
H3 80/4	700	850 x 700 x 80	L-85 x 85 x 3	8040850701*

\*Stocked

#### FORK LIFT TRUCKS WITH SOLID TYRES

Vehicular gratings for fork lift trucks with solid tyres.

#### Vehicular grating fork lift truck class FL1

Mesh width: c/c 34 x 37 mm. Load: 26 kN per wheel. Fork lift truck's net weight: 2.1 tonnes Lifting capacity: 1.0 tonne.

Designation	Freespan (mm)	Grating format (mm)	Dimensions kerb angle frame	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 40/3	400	470 x 1000 x 40	L-45 x 45 x 3	4030471001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 50/4	600	690 x 1000 x 50	L-55 x 55 x 3	5040691001*
H3 50/4	700	790 x 1000 x 50	L-55 x 55 x 3	5040791001*
H3 50/4	800	890 x 1000 x 50	L-55 x 55 x 3	5040891001*
H3 50/4	900	990 x 1000 x 50	L-55 x 55 x 3	5040991001*
H3 60/4	1000	1114 x 1000 x 60	L-65 x 65 x 3	60411141001*
H3 60/4	1100	1215 x 1000 x 60	L-65 x 65 x 3	60412151001*
H3 60/4	1200	1315 x 1000 x 60	L-65 x 65 x 3	60413151001*



#### Vehicular grating fork lift truck class FL2

Mesh width: c/c 34 x 37 mm. Load: 40 kN per wheel. Fork lift truck's net weight: 3.1 tonnes. Lifting capacity: 1.5 tonnes.

Designation	Freespan (mm)	Grating format (mm)	Dimensions kerb angle frame	Part no.
H3 50/3	300	390 x 1000 x 50	L-55 x 55 x 3	5030391001*
H3 50/4	400	490 x 1000 x 50	L-55 x 55 x 3	5040491001*
H3 50/4	500	590 x 1000 x 50	L-55 x 55 x 3	5040591001*
H3 50/4	600	690 x 1000 x 50	L-55 x 55 x 3	5040691001*
H3 60/4	700	815 x 1000 x 60	L-65 x 65 x 3	60408151001*
H3 60/4	800	915 x 1000 x 60	L-65 x 65 x 3	60409151001*
H3 80/4	900	1054 x 700 x 80	L-85 x 85 x 3	80410540701*
H3 70/4	1000	1135 x 700 x 70	L-75 x 75 x 3	70411350701*
H3 80/4	1100	1250 x 700 x 80	L-85 x 85 x 3	80412500701*
H3 80/4	1200	1350 x 700 x 80	L-85 x 85 x 3	80413500701*

\*Stocked

#### Vehicular grating fork lift truck class FL3

Mesh width: c/c 34 x 37 mm. Load: 63 kN per wheel. Fork lift truck's net weight: 4.4 tonnes. Lifting capacity: 2.5 tonnes.

Designation	Freespan (mm)	Grating format (mm)	Dimensions kerb angle frame	Part no.
H3 60/4	500	615 x 1000 x 60	L-65 x 65 x 3	60406151001*
H3 70/4	600	735 x 700 x 70	L-75 x 75 x 3	70407350701*
H3 80/4	700	850 x 700 x 80	L-85 x 85 x 3	8040850701*
*Stocked				

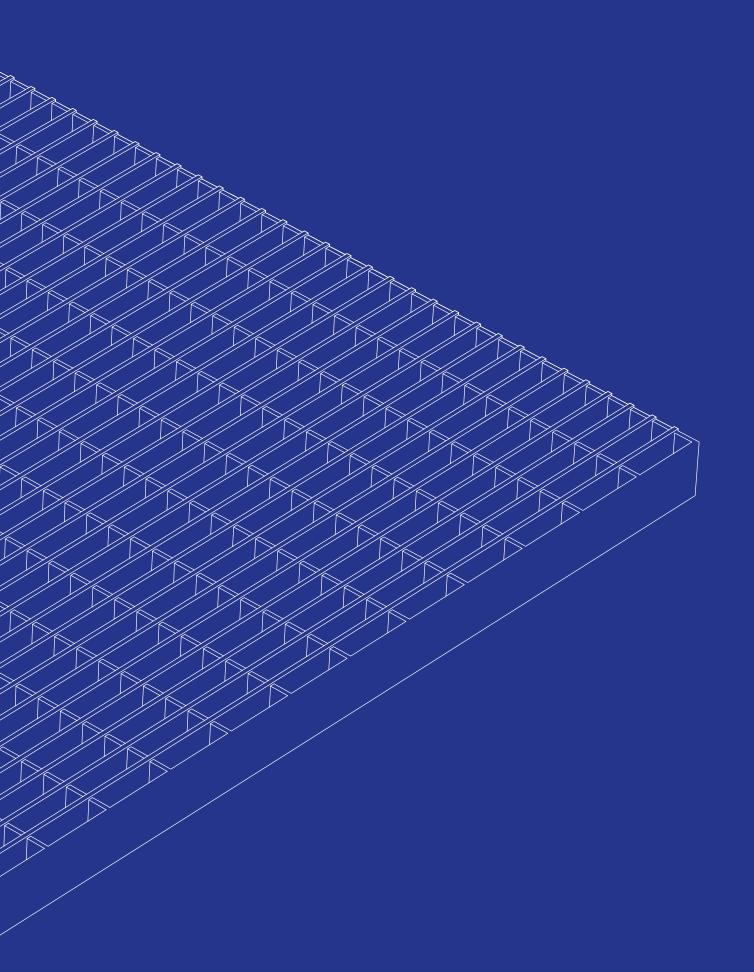
## VEHICULAR GRATING IN STAINLESS MATERIAL

As a complement to our stocked and vehicular grating, as well as the possibility of obtaining grating in custom dimensions, we also offer vehicular grating in stainless material. Grating is then manufactured in a stainless, acid-proof, untreated, or pickled version.

Mesh width: c/c 33 x 37 mm Grating height: 50 mm Edge bar: 25 mm Finish: Stainless, acid-proof, untreated, or pickled version



Designation	Load bearing bar (mm)	Surface treatment	Part no.
H3 RF	50/3	Untreated	HD03503021
H3 RF	50/3	Pickled	HD03503321



# ENTRANCE GRATING

Entrance gratings are made in several different versions. The different versions are pressure welded entrance grating, type A entrance grating, and type AR1 entrance grating, as well as serrated grating. Entrance gratings are stocked for immediate delivery, providing you with simple planning and easy handling. We also manufacture custom-made entrance gratings to meet your wishes.

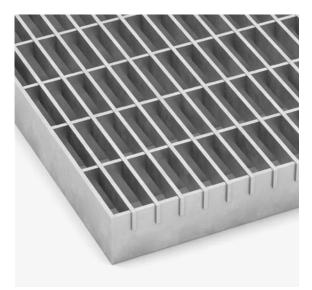
#### **ENTRANCE GRATING A33X11**

The entrance grating is constructed from flat bars running in both directions. Stocked in the following sizes, but can also be ordered in custom sizes. Our stocked dimensions also have associated frames.

#### A33x11

Mesh width: c/c 33 x 11 mm Height: 25 mm Edge bar: 25 x 2 mm Load bearing bar length (L) = Bearing dimension Finish: Hot-dip galvanized

L x W (mm)	Part no.
300 x 600	AD331125203060*
400 x 600	AD331125204060*
400 x 700	AD331125204070*
500 x 700	AD331125205070*
500 x 800	AD331125205080*
500 x 900	AD331125205090*
500 x 1000	AD331125205100*
600 x 800	AD331125206080*
600 x 900	AD331125206090*
600 x 1000	AD331125206100*
600 x 1200	AD331125206120*
700 x 900	AD331125207090*
700 x 1000	AD331125207100*
700 x 1200	AD331125207120*
800 x 1000	AD331125208100*
800 x 1200	AD331125208120*
1000 x 1000	AD331125210100*
1000 x 1200	AD331125210120*
*Stocked	



#### A33x11 RF

Mesh width: c/c 33 x 11 mm Height: 25 mm and 30 mm Load bearing bar: 25 x 2 mm and 30 x 2 mm Finish: Stainless, acid-proof, untreated, or pickled version

Surface treatment	Part no.
Untreated	AD331125202
Pickled	AD331125232
Untreated	AD331130202
Pickled	AD331130232
	Untreated Pickled Untreated



#### AR1-25 - With rubber strip

Entrance grating in hot-dip galvanized steel that is suitable for use in instances where you have stringent demands in respect of dense mesh width and design. The entrance grating is constructed from 3 mm flat bars running in both directions and provided with ø 4 mm round bars to give a close-meshed pattern. Stocked in several sizes and can also be made to order. Our stocked dimensions also have associated frames.

Mesh width: c/c 45 x 10 mm Load bearing bar: 25 x 3 mm Edge bar: 25 x 3 mm Round bar: ø 4 mm Load bearing bar length (L) = Bearing dimension

L x W (mm)	Part no.
490 x 790	AR0125349792*
490 x 990	AR0125349992*
590 x 790	AR0125359792*
590 x 990	AR0125359992*
790 x 990	AR0125379992*

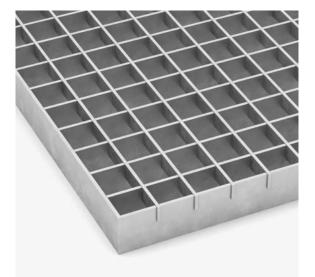
#### ENTRANCE GRATING A22X22

The entrance grating is constructed from flat bars running in both directions. Stocked in several sizes and can also be custom-made. For our stock sizes, matching frames are also available.

#### A22x22

Mesh width: c/c 22 x 22 mm Height: 25 mm Edge bar: 25 x 2 mm Load bearing bar length (L) = Bearing dimension Finish: Hot-dip galvanized

L x W (mm)	Part no.
300 x 600	AD222225203060*
400 x 600	AD222225204060*
400 x 700	AD222225204070*
500 x 700	AD222225205070*
500 x 800	AD222225205080*
500 x 900	AD222225205090*
500 x 1000	AD222225205100*
600 x 800	AD222225206080*
600 x 900	AD222225206090*
600 x 1000	AD222225206100*
600 x 1200	AD222225206120*
700 x 900	AD222225207090*
700 x 1000	AD222225207100*
700 x 1200	AD222225207120*
800 x 1000	AD222225208100*
800 x 1200	AD222225208120*
1000 x 1000	AD222225210100*
1000 x 1200	AD222225210120*



#### A22x22 RF

Mesh width: c/c 22 x 22 mm Height: 25 and 30 mm Load bearing bar: 25 x 2 mm, 30 x 2 mm, 25 x 3 mm and 30 x 3 mm Finish: Stainless acid-proof untreated

Load bearing bar (mm)	Surface treatment	Part no.
25/2	Untreated	AD222225202
25/2	Pickled	AD222225232
30/2	Untreated	AD222230202
30/2	Pickled	AD222230232
25/3	Untreated	AD222225302
25/3	Pickled	AD222225332
30/3	Untreated	AD222230302
30/3	Pickled	AD222230332

\*Stocked



#### AR1-25 – With scraper strip made from punched steel profiles

Entrance grating in hot-dip galvanized steel that is suitable for use in instances where you have stringent demands in respect of dense mesh width and construction. The entrance grating is constructed from 3 mm flat bars running in both directions and provided with Ø 4 mm round bars to give a close-meshed pattern. Stocked in several sizes and can also be custom-made. Our stocked dimensions also have associated frames. Mesh width: c/c 45 x 10 mm Load bearing bar: 25 x 3 mm Edge bar: 25 x 3 mm Round bar: Ø 4 mm Load bearing bar length (L) = Bearing dimension

L x W (mm)	Part no.
490 x 790	AR0125349791*
490 x 990	AR0125349991*
590 x 790	AR0125359791*
590 x 990	AR0125359991*
790 x 990	AR0125379991*
*Stocked	

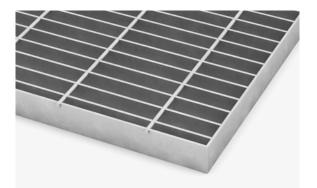
#### ENTRANCE GRATING N6

Pressure welded entrance gratings have the same design as normal pressure welded gratings. The difference is that entrance gratings have a denser mesh width. Non-stock item and custom-made according to your requirements. The entrance gratings are supplied with edging bars the same height as the load bearing bars. Our stocked dimensions also have associated frame sides and corners.

#### N6 - height 25 mm

Mesh width: c/c 17 x 75 mm Grating height: 25 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

L x W (mm)	Part no.
500 x 1000	N2520501001*
590 x 1000	N2520591001*
600 x 1000	N2520601001*
690 x 1000	N2520691001*
700 x 1000	N2520701001*
790 x 1000	N2520791001*
800 x 1000	N2520801001*
890 x 500	N2520890501*
890 x 883	N2520890881*
890 x 1000	N2520891001*
900 x 1000	N2520901001*
990 x 1000	N2520991001*
1000 x 1000	N2521001001*
1090 x 1000	N2521091001*
1100 x 1000	N2521101001*
1100 x 1100	N2521101101*
1190 x 1000	N2521191001*
1200 x 1000	N2521201001*
1290 x 500	N2521290501*
1290 x 883	N2521290881*
1290 x 1000	N2521291001*
1300 x 1000	N2521301001*
1400 x 1000	N2521401001*
1500 x 500	N2521500501*
1500 x 1000	N2521501001*
*Stocked	



#### N6 - height 30 mm

Mesh width: c/c 17 x 75 mm Grating height: 30 mm Edge bar: 25 mm Load bearing bar length (L) = Bearing dimension Finish: Hot dip galvanized steel

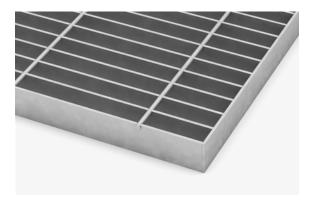
L	x W (mm)	Part no.
50	00 x 1000	N3020501001*
60	00 x 1000	N3020601001*
70	00 x 1000	N3020701001*
80	00 x 1000	N3020801001*
90	00 x 1000	N3020901001*
10	000 x 1000	N3021001001*
11	00 x 1000	N3021101001*
12	200 x 1000	N3021201001*
13	300 x 1000	N3021301001*
14	400 x 1000	N3021401001*
15	500 x 1000	N3021501001*
16	500 x 1000	N3021601001*
17	700 x 1000	N3021701001*
*Sto	ocked	

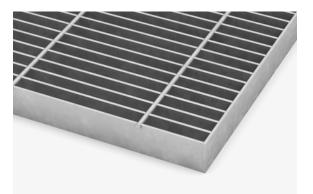
\*Stocked

### N6 RF

Mesh width: c/c 17 x 75 mm Finish: Stainless acid-proof untreated

Load bearing bar height (mm)	Surface treat- ment	Part no.
25	Untreated	ND06252021*
25	Pickled	ND06252321





#### ENTRANCE GRATING N9

Projection welded entrance gratings are constructed in the same way as normal projection welded gratings. The difference between the different gratings is that entrance gratings have a denser mesh width. Non-stock item and custom-made according to your needs and requirements. The entrance gratings are fabricated using edge bar.

#### N9

Mesh width: c/c 17 x 100 mm Finish: Hot-dip galvanized

Load bearing bar height (mm)	Part no.
20	ND092031
25	ND092531
30	ND093031
35	ND093531
40	ND094031
50	ND095031

#### **ENTRANCE GRATING B9**

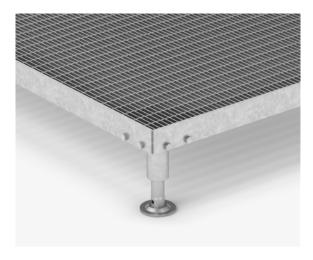
Entrance gratings have a denser mesh width than normal projection welded gratings. Otherwise, projection welded entrance gratings are constructed in the same way as normal projection welded gratings. Non-stock item and custom-made according to your requirements. The entrance gratings are fabricated using edge bar.

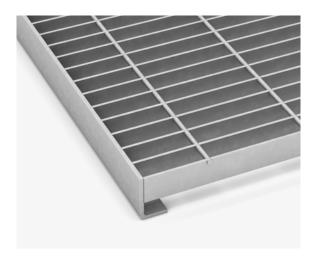
#### B9

Mesh width: c/c 12 x 100 mm Finish: Hot-dip galvanized

Load bearing bar height (mm)	Part no.
20	BD092031
25	BD092531
30	BD093031
35	BD093531
40	BD094031







### ENTRANCE GRATING WITH ADJUSTABLE LEGS

Includes 4 adjustable legs. Total height 135 to 185 and 160 to 210 mm.

#### Entrance grating

Mesh width: c/c 33 x 11 mm Height: 25 mm Edge bar: 50 x 5 mm Load bearing bar length (L) = Bearing dimension Finish: Hot-dip galvanized

L x W (mm)	Total height (mm)	Part no.
500 x 1000	135 - 185	167A0501011*
500 x 1000	160 - 235	167A0501021*
700 x 1000	135 - 185	167A0701011*
700 x 1000	160 - 235	167A0701021*
1000 x 1000	135 - 185	167A1001011*
1000 x 1000	160 - 235	167A1001021*

\*Stocked

#### Adjustable legs

Adjustable legs are available in two different lengths, and each length is available for corner or side installation.

Finish: Hot-dip galvanized

Designation	Length (mm)	Part no.
For corner installation	110 - 160	165111611*
For corner installation	135 - 210	165132111*
For side installation	110 - 160	165111621*
For side installation	135 - 210	165132121*

\*Stocked

### ENTRANCE GRATING L-PROFILE AND KERB ANGLE

The entrance grating is made of pressure welded grating (N6) with an L-profile edge bar. The edge bar has the dimensions  $35 \times 20 \times 3$  mm. The entrance grating is stocked in sizes shown in the table below. Stock kerb angle frames for entrance grating, type N6. The L-profile has a dimension of  $40 \times 25 \times 3$  mm and can ideally be matched with entrance gratings with an L-profile edge bar.

#### Entrance grating with L-profile edge bar

Mesh width: c/c 17 x 75 mm Height: 20 mm Edge bar: L-35 x 20 x 3 mm Load bearing bar length (L) = Bearing dimension Finish: Hot-dip galvanized

L x W (mm)	Part no.
500 x 315	1670503221*
600 x 315	1670603221*
700 x 315	1670703221*
1000 x 486	1671004861*

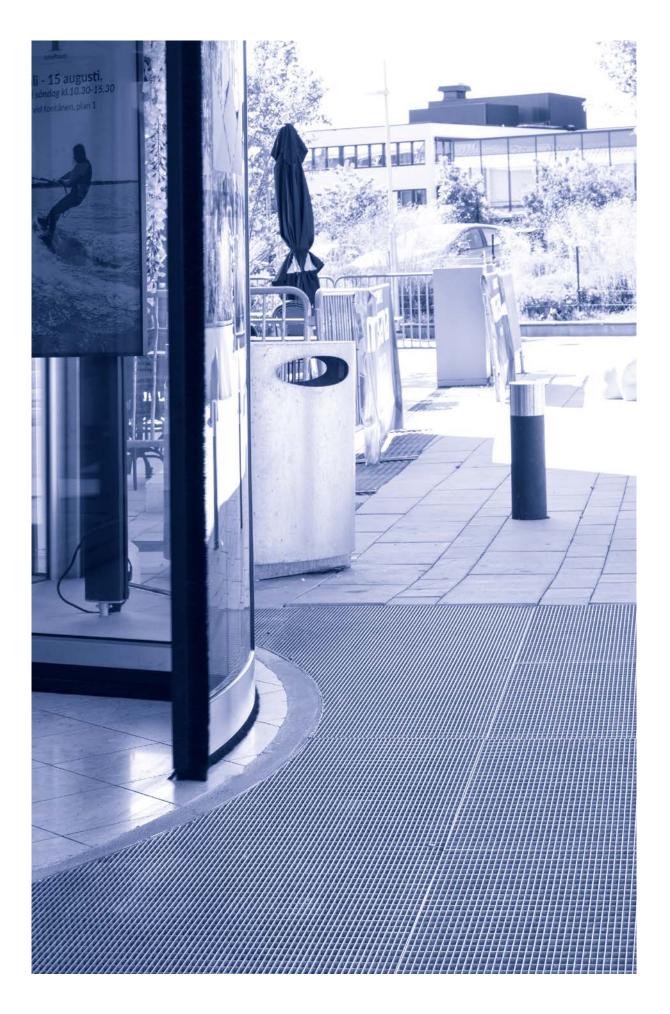
\*Stocked

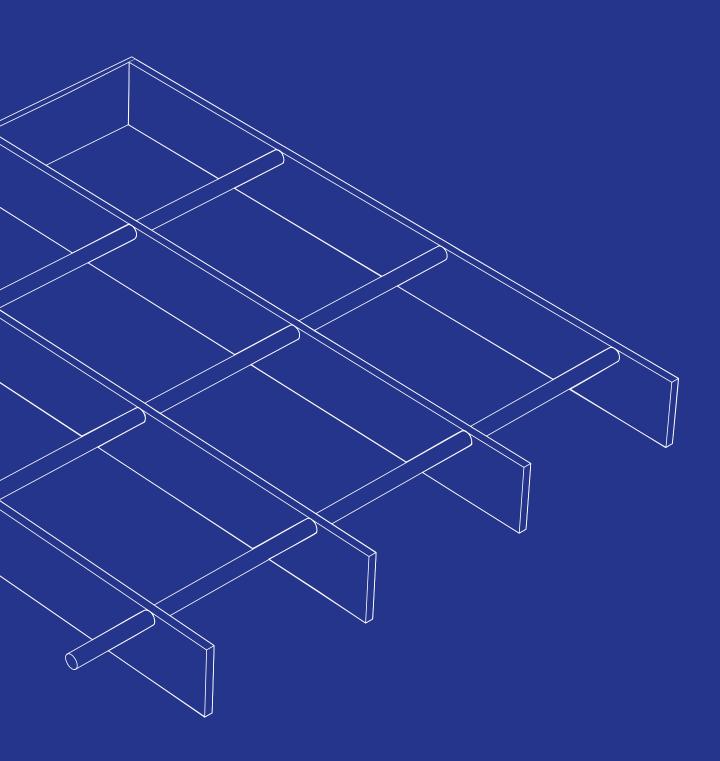
#### Kerb angle frame L-40x25x3

With embedment ties. For grating height 35 mm

Finish: Hot-dip galvanized

Dimensions, external frame measurements (mm)	Part no.
515 x 335	161513351*
615 x 335	161613351*
715 x 335	161713351*
1015 x 500	161105001*





## LARGE MESH GRATING

Our large mesh pressure welded grating can be used for a wide variety of purposes, such as protective grating, gates, break-in protection of various types, fences, false ceilings, barriers, espaliers, and display racks. Large mesh grating is available in three mesh widths. Customised formats are manufactured according to specifications, requirements, and preferences. The gratings are supplied hot-dip galvanized as standard, but can also be supplied painted.

Contact our sales team or visit weland.com for more information.

#### LARGE MESH GRATING

Weland large mesh, projection welded gratings I4, I6 and I9 are used for a wide range of purposes, such as protective grids, gates, break-in protection of various kinds, fences, false ceilings, barriers, espaliers, and display racks.

#### 14

Mesh width: c/c 68 x 50 mm Finish: Untreated and hot-dip galvanized

Load bearing bar (mm)	Surface treatment	Part no.
20/2	Untreated	ID04202*
20/2	Hot-dip galvanized	ID042021

\*Stocked

#### 16

Mesh width: c/c 66 x 75 mm Finish: Untreated and hot-dip galvanized

Load bearing bar (mm)	Surface treatment	Part no.
20/3	Untreated	ID06203
20/3	Hot-dip galvanized	ID062031
25/3	Untreated	ID06253
25/3	Hot-dip galvanized	ID062531
30/3	Untreated	ID06303
30/3	Hot-dip galvanized	ID063031

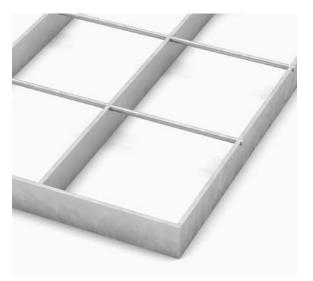
#### 19

\*Stocked

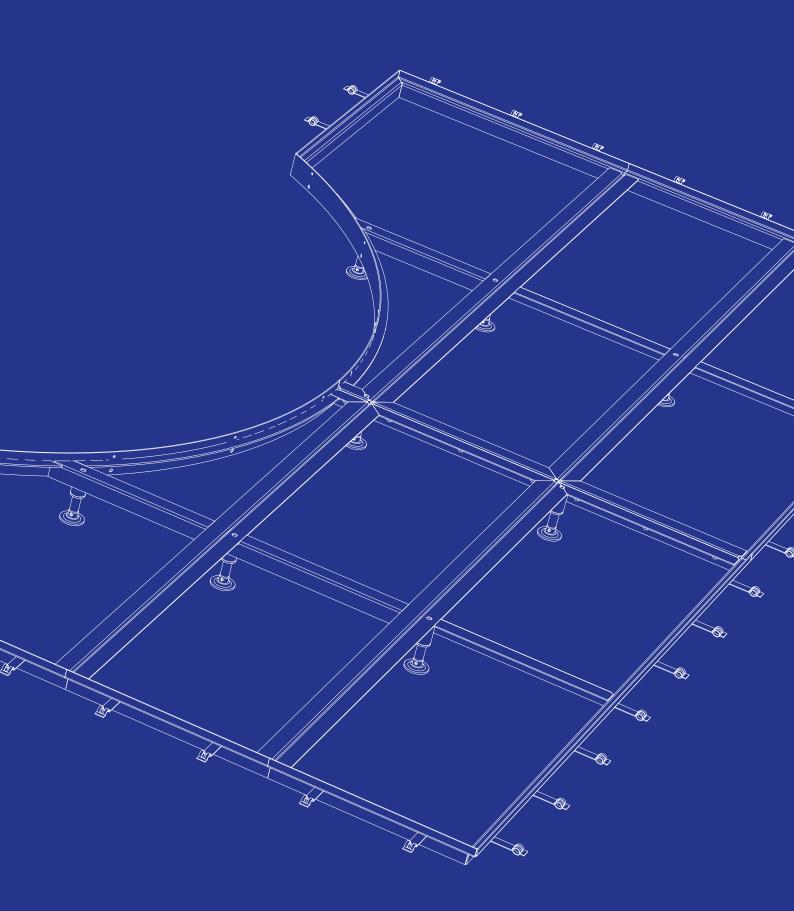
Mesh width: c/c 100 x 100 mm Finish: Untreated and hot-dip galvanized

Load bearing bar (mm)	Surface treatment	Part no.
20/3	Untreated	ID09203
20/3	Hot-dip galvanized	ID092031
25/3	Untreated	ID09253*
25/3	Hot-dip galvanized	ID092531
30/3	Untreated	ID09303
30/3	Hot-dip galvanized	ID093031









See our Z-profile kerb angles frame installation animation



## FRAMES

We offer a wide range of kerb angle frames. Frames are stocked as loose frame sides and corners, but also welded together in finished formats. In addition to these, there are ready-made concept solutions such as our Z-frames. Kerb angle frames can be used with all types of grating.

## L-PROFILE

#### **1. FRAME SIDES**

Frame sides are kept in stock and supplied in 2000 mm lengths and are cut to the required length during installation. With embedment ties and nail holes to facilitate the moulding work.

For grating height (mm)	Dimensions profile (mm)	Part no.
20	25 x 25 x 3	161253201*
25	30 x 30 x 3	161303201*
30	35 x 35 x 3	161353201*
35	40 x 40 x 3	161403201*
40	45 x 45 x 3	161453201*
45	50 x 50 x 3	161503201*
50	55 x 55 x 3	161553201*
60	65 x 65 x 3	161653201*
70	75 x 75 x 3	161753201*
80	85 x 85 x 3	161853201*

\*Stocked

#### 2. FRAME CORNER

Frame corners are delivered in 90° angles, with dimensions 200 x 200 mm. With embedment ties and nail holes to facilitate the moulding work.

Finish: Hot-dip galvanized

For grating height (mm)	Dimensions profile (mm)	Part no.
20	25 x 25 x 3	161253021*
25	30 x 30 x 3	161303021*
30	35 x 35 x 3	161353021*
35	40 x 40 x 3	161405021*
40	45 x 45 x 3	161455021*
45	50 x 50 x 3	161505021*
50	55 x 55 x 3	161555021*
60	65 x 65 x 3	161654021*
70	75 x 75 x 3	161754021*
80	85 x 85 x 3	161854021*

\*Stocked

#### 3. KERB ANGLE FRAME L-30x30x3

Stock kerb angle frames for entrance gratings are suitable for grating height 25 mm. The L profile has dimensions  $30 \times 30 \times 3$  mm. With embedment ties. For grating height 25 mm.

Finish: Hot-dip galvanized

Dimensions, external frame measurements (mm)	Part no.
312 x 612	161030601*
412 x 612	161040601*
412 x 712	161040701*
512 x 712	161050701*
512 x 812	161050801*
512 x 912	161050901*
512 x 1012	161051001*
612 x 812	161060801*
612 x 912	161060901*
612 x 1012	161061001*
612 x 1212	161061201*
712 x 912	161070901*
712 x 1012	161071001*
712 x 1212	161071201*
812 x 1012	161081001*
812 x 1212	161081201*
1012 x 1012	161101001*
1012 x 1212	161101201*

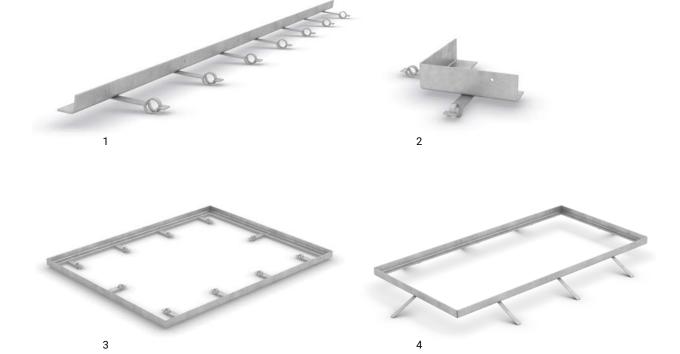
\*Stocked

#### 4. ALUMINIUM KERB ANGLE FRAME

Light metal kerb angle frame for AR-25 entrance gratings with anti-slip strip or rubber strip. Kerb angle frame in speciallyalloyed concrete-resistant light metal, natural colour. The L profiles have dimensions  $31 \times 25 \times 4$  mm. With embedment ties. For grating height 25 mm.

Finish: Aluminium

Dimensions, external frame measurements (mm)	Part no.
500 x 800	161050831*
500 x 1000	161051031*
600 x 800	161060831*
600 x 1000	161061031*
800 x 1000	161081031*



#### KERB ANGLE FRAMES, MADE TO ORDER

Kerb angle frames are delivered custom-made according to your wishes. With embedment ties.

Finish: Hot-dip galvanized

For grating height (mm)	Dimensions profile (mm)
20	25 x 25 x 3
25	30 x 30 x 3
30	35 x 35 x 3
35	40 x 40 x 3
40	45 x 45 x 3
45	50 x 50 x 3
50	55 x 55 x 3
60	65 x 65 x 3
70	75 x 75 x 3
80	85 x 85 x 3



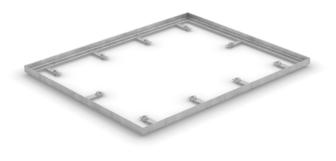
#### Separation of single frame by L-40x40x4

For large kerb angle frames, several gratings are usually delivered. By the joints for these, the kerb angle frames are manufactured with a support section. Max. free span 500 mm between support for normal pedestrian traffic. Dimension of the profile is 40 x 40 x 4 mm.

#### STAINLESS STEEL KERB ANGLE FRAME

Kerb angle frame delivered custom-made according to customer wishes. The kerb angle frame is made of untreated 1.4404 stainless steel. With embedment ties.

For grating height (mm)	Dimensions profile (mm)
20	25 x 25 x 3
25	30 x 30 x 3
35	40 x 40 x 4
45	50 x 50 x 5
55	60 x 60 x 6





Edging for checker plate

### KERB ANGLE FRAME FOR CHEQUERED PLATE

The kerb angle frame is in stock but can also be delivered customised as required. Edge steel for floor plate, floor plate profile type 2.

#### Edging for checker plate

With embedment ties.

Finish: Hot-dip galvanized

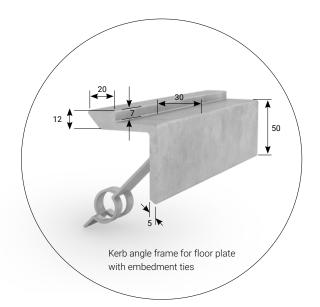
Length (mm)	Dimensions (mm)	Part no.
2000	50 x 50	162575021*
*Stocked		

Slockeu

### Kerb angle frame for chequered plate

With embedment ties. Dimensions 50 x 50 mm.

Finish: Hot-dip galvanized



### **Z-PROFILE**



#### KERB ANGLE FRAME, Z-PROFILE

Kerb angle frames for entrance gratings are supplied with type A22x22 or A33x11 entrance gratings. With embedment ties (Length 130 mm, pitch c / c 300 mm) and adjustable legs, height 135 - 185 mm. Also available in special dimensions.

#### Finish: Hot-dip galvanized

Dimensions (mm)	Grating height (mm):
1612 x 2012	25
2412 x 3012	25
2412 x 4012	25
3212 x 4012	25
3212 x 5012	25
4012 x 6012	25



## KERB ANGLE FRAME, REVOLVING FRAME, Z-PROFILE

Kerb angle frames for revolving doors supplied with type A22x22 or A33x11 entrance gratings. With embedment ties (Length 130 mm, pitch c / c 300 mm) and adjustable legs, height 135 - 185 mm. Also available in special dimensions.

Finish: Hot-dip galvanized

Dimensions (mm)	Diameter of revolving doors (mm)
1512 x 3012	1800
2012 x 4012	2700
4012 x 6012	5400



#### FREE-STANDING FRAME, Z-PROFILE

Free-standing frame for entrance gratings supplied with type A22x22 or A33x11 entrance gratings. With adjustable legs, height 135-185 mm. Also available with special dimensions.

#### Finish: Hot-dip galvanized

Dimensions (mm)	Grating height (mm):
1612 x 2012	25
2412 x 3012	25
2412 x 4012	25
3212 x 4012	25
3212 x 5012	25
4012 x 6012	25

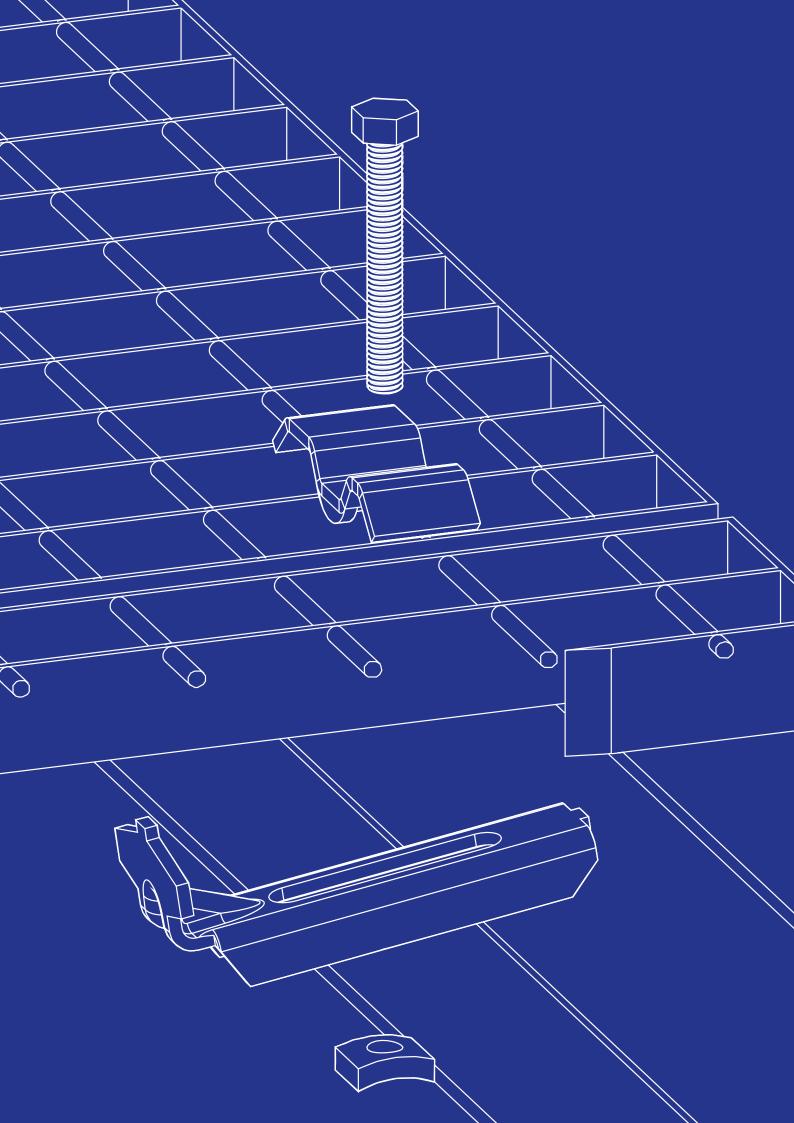


#### FREE-STANDING REVOLVING FRAME, Z-PROFILE

Free-standing frame for revolving doors supplied with type A22x22 or A33x11 entrance gratings. With adjustable legs, height 135-185 mm. Also available in special dimensions.

#### Finish: Hot-dip galvanized

Dimensions (mm)	Diameter of revolving doors (mm)
1512 x 3012	1800
2012 x 4012	2700
4012 x 6012	5400



# FIXINGS FOR GRATINGS

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 we recommend for securing the various grating products in the support structure.

Stock fixings are available as both complete and separate components. The components are also available in hot-dip galvanized and stainless steel versions.

#### COMPLETE FIXINGS FOR GRATINGS

Fixing set, 100 components per box.

#### 1. Complete clamp

Complete clamps for gratings 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.



For plank type	For grating height (mm)	Surface treatment	Part no.
D4, D6, A22x22	20-30	Hot-dip galvanized	163222011*
D4, D6, A22x22	30-40	Hot-dip galvanized	163222021*
D4, D6, A22x22	40-50	Hot-dip galvanized	163222031*
F4	20-30	Hot-dip galvanized	163252011*
F4	30-40	Hot-dip galvanized	163252021*
F4	40-50	Hot-dip galvanized	163252031*
F4	50-60	Hot-dip galvanized	163252041*
H3, H4, H6, H9	20-30	Hot-dip galvanized	163332011*
H3, H4, H6, H9	30-40	Hot-dip galvanized	163332021*
H3, H4, H6, H9	40-50	Hot-dip galvanized	163332031*
H3, H4, H6, H9	50-60	Hot-dip galvanized	163332041*
H3, H4, H6, H9	30-40	Stainless steel	163332022*
H3, H4, H6, H9	40-50	Stainless steel	163332032*
J9	20-30	Hot-dip galvanized	163413011*
J9	30-40	Hot-dip galvanized	163413021*
J9	40-50	Hot-dip galvanized	163413031*
J9	50-60	Hot-dip galvanized	163413041*
H3, H4, H6, H9, J9	20-30	Hot-dip galvanized (Stainless top)	163252511*
H3, H4, H6, H9, J9	30-40	Hot-dip galvanized (Stainless top)	163252521*
H3, H4, H6, H9, J9	40-50	Hot-dip galvanized (Stainless top)	163252531*
H3, H4, H6, H9, J9	50-60	Hot-dip galvanized (Stainless top)	163252541*
HN9-T, JN9-T	20-30	Hot-dip galvanized	163483011
HN9-T, JN9-T	30-40	Hot-dip galvanized	163483021
HN9-T, JN9-T	40-50	Hot-dip galvanized	163483031
HN9-T, JN9-T	50-60	Hot-dip galvanized	163483041

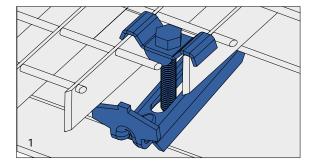
\*Stocked

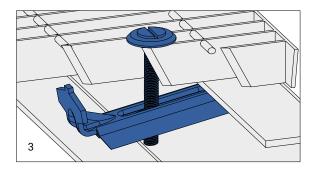
#### 2. J hook for grating and A-type grating

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, and 78 mm. Holes must be drilled in the supporting structure.

Suitable for plank types: A, B, D, F, H, I, J, and N. Finish: Surface treatment zinc/nickel

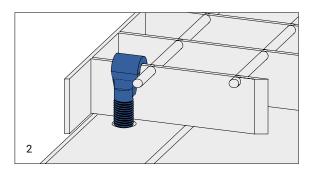
For grating height (mm)	Part no.
<20	163603801*
25-30	163604801*
35-40	163605801*
45-50	163606801*
55-60	163607801*

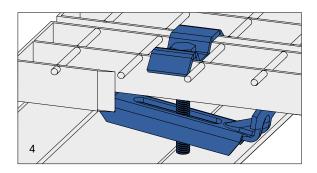




#### 3. Clamp for close-mesh grating

Complete clamp for fine mesh grating 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. Finish: Hot-dip galvanized or stainless steel, grade EN 1.4404

For plank type	For grating height (mm)	Surface treatment	Part no.
B, D, N, A22x22, A33x11	20	Hot-dip galvanized	163280011*
B, D, N, A22x22, A33x11	20	Stainless steel	163280012*
B, D, N, A22x22, A33x11	25-40	Hot-dip galvanized	163280031*
B, D, N, A22x22, A33x11	25-40	Stainless steel	163280032*

\*Stocked

#### 4. Clamps 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. Installed without drilling into the supporting structure.

Suitable for plank types: H and J. Finish: Hot-dip galvanized

For plank type	For grating height (mm)	Surface treatment	Part no.
H3, H4, H6, H9	20-30	Hot-dip galvanized	163362511*
H3, H4, H6, H9	30-40	Hot-dip galvanized	163362521*
H3, H4, H6, H9	40-50	Hot-dip galvanized	163362531*
H3, H4, H6, H9	50-60	Hot-dip galvanized	163362541*
9L	20-30	Hot-dip galvanized	163442511*
9L	30-40	Hot-dip galvanized	163442521*
9L	40-50	Hot-dip galvanized	163442531*
9	50-60	Hot-dip galvanized	163442541*

#### SEPARATE FIXINGS FOR GRATINGS

Attachment set, 100 components per box.

#### 1. Top section

NB The top part with dimensions 22 x 20 mm can only be used together with screw M8 x 50- M8 x 80 mm.

Finish: Hot-dip galvanized or stainless

For plank type	Dimensions (mm)	Surface treatment	Part no.
D4, D9, A22x22	22 x 20	Hot-dip galvanized	163222001*
F4, F9	25 x 20	Hot-dip galvanized	163252001*
H3, H4, H6, H9	33 x 20	Hot-dip galvanized	163332001*
H3, H4, H6, H9	33 x 20	Stainless steel	163332002*
J9	41 x 30	Hot-dip galvanized	163413001*

\*Stocked

#### 2. Stainless steel top part

For plank type: H3, H4, H6, H9, J9 Finish: Stainless steel

Dimensions (mm)	Part no.
25 x 25	1632502*

\*Stocked

#### 3. Top section, close-mesh grating

For plank type: B, D, N, A22x22, A33x11 Diameter: 28 mm Finish: Hot-dip galvanized or stainless

Surface treatment	Part no.
Hot-dip galvanized	163280001*
Stainless steel	163280002*

\*Stocked

#### 4. Top part for grating joint

Finish: Hot-dip galvanized

For plank type	Dimensions (mm)	Part no.
H3, H4, H6, H9	36 x 25	163362501*
J9	44 x 25	163442501*

\*Stocked

#### 5. Special top part for string design grating

For plank type: HN9-T, JN9-T

Finish: Hot-dip galvanized

Dimensions (mm)	Part no.
48 x 30	163483001*
*Stocked	

#### 6. Screw

Finish: Hot-dip galvanized or stainless

For grating height (mm)	Dimensions	Surface treatment	Part no.
20 - 30	M8 x 50	Hot-dip galvanized	163605001*
30 - 40	M8 x 60	Hot-dip galvanized	163606001*
30 - 40	M8 x 60	Stainless steel	163606002*
40 - 50	M8 x 70	Hot-dip galvanized	163607001*
40 - 50	M8 x 70	Stainless steel	163607002*
50 - 60	M8 x 80	Hot-dip galvanized	163608001*

\*Stocked

#### 7. Screw, counter-sunk

For plank type: H3, H4, H6, H9, J9 Finish: Hot-dip galvanized or stainless

Dimen- sions (mm)	Surface treatment	Part no.
M8 x 50	Zn/Ni	1636050042*
M8 x 50	Stainless steel	1636050042*
M8 x 70	Hot-dip galvanized	1636070041*
M8 x 70	Stainless steel	1636070042*
	sions (mm) M8 x 50 M8 x 50 M8 x 70	sions (mm)treatment treatmentM8 x 50Zn/NiM8 x 50Stainless steelM8 x 70Hot-dip galvanizedM8 x 70Stainless

\*Stocked

#### 8. Screw, self-tapping

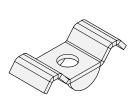
For grating height: 20-40 mm Finish: Surface treatment Zn/Ni C4

Dimensions (mm)

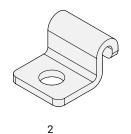
Part no.

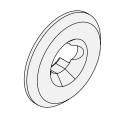
163615001\*

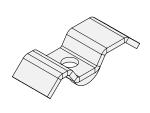
M8 x 50 \*Stocked



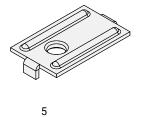
1

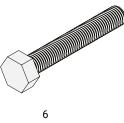


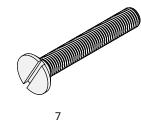


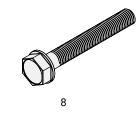


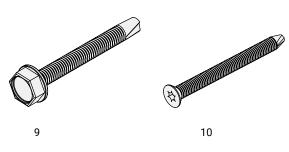
3

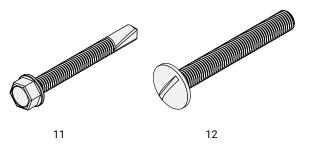












#### 9. Screw, self-drilling

Drilling capacity: max. 6 mm thickness Finish: Surface treated Zn/Ni C4

Dimensions (mm)	Part no.
M8 x 50	163615001*
*Stocked	

#### 10. Drill screw, max. 6 mm

Drill screw with screw head, Torx T30.

#### Drilling capacity: max. 6 mm thickness Finish: Surface treated Zn/Ni C4

Dimensions (mm)	Part no.
6.3 x 60	163636001*
*Stocked	

#### 11. Drill screw, max. 12 mm

Drilling screw with thread section and screw head made of stainless steel A2 with drill tip made of carbon steel.

### Drilling capacity: max. 12 mm thickness Finish: Stainless steel

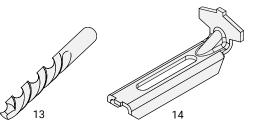
For grating height (mm)	Dimensions (mm)	Part no.
20 - 25	5.5 x 50	163555002*
30 - 40	5.5 x 65	163556502*
*Stocked		

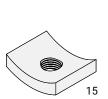
#### 12. Track screw

Track screw with fillister head.

For plank type: A-type grating mesh width c/c 33 x 11 mm Finish: Stainless steel

Dimensions (mm)	Part no.
M8 x 60	164608602*









#### 13. Bit for self-tapping bolt

Finish: Surface treatment Zn/Ni C4

Dimensions (mm)	Part no.
7.6	16376*
*Stocked	

#### 14. Bottom section

Finish: Hot-dip galvanized or stainless

For plank type	Dimensions (mm)	Surface treatment	Part no.
A, B, D, F, H, N	40	Hot-dip galvanized	163400001*
A, B, D, F, H, N	40	Stainless steel	163400002*
J, HN9-T, HB9-T, JN9-T	50	Hot-dip galvanized	163500001*
J, HN9-T, HB9-T, JN9-T	50	Stainless steel	163500002*

\*Stocked

#### 15. Nut for bottom part

Suitable for use with the above bottom section. M8.

Finish: Hot-dip galvanized or stainless

For plank type	Dimensions (mm)	Surface treatment	Part no.
A, B, D, F, H, N	15 x 18	Hot-dip galvanized	163601501*
A, B, D, F, H, N	15 x 18	Stainless steel	163601502*
J, HN9-T, HB9-T, JN9-T	22 x 27	Hot-dip galvanized	163602201*
J, HN9-T, HB9-T, JN9-T	22 x 27	Stainless steel	163602202*

\*Stocked

#### 16. Nylock nut Finish: Stainless steel

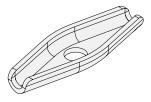
Designation	Part no.
M12 RF A4	1646120012*
*Stocked	

#### 17. Clips for grating

The clips counteract deflection between grating. The clips contribute to keeping the grating as one whole. Suitable for all types of grating with heights 20, 25, 30, 35 and 40 mm.

#### Suitable for plank types: A, B, D, F, H, I, J and N Finish: Stainless steel, grade EN 1.4404

For grating height (mm)	Part no.
20	163032032*
25	163032532*
30	163033032*
35	163033532*
40	163034032*





### SEPARATE FIXING COMPONENTS FOR SLIT PLANK TYPE FLOORING

Many separate components such as screw are available. A standard pack comprises 100 components per box.

#### Top part, slit plank type flooring

Finish: Hot-dip galvanized

Dimensions (mm)	Part no.
22 x 60	16360221

### SEPARATE FIXING COMPONENTS FOR PLANK TYPE FLOORING

Separate fixing components for plank type flooring. Standard pack for separate fixing components is 100 components per box.

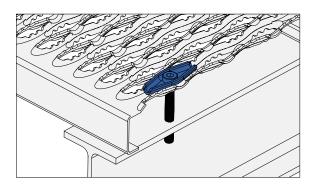
#### Fixing screw

Fixing screw MFT Taptite M6x65. Holes must be drilled in the supporting beams.

Designation	Part no.
Taptite M6x65	0501381

#### COMPLETE FIXING COMPONENTS FOR SLIT PLANK TYPE FLOORING

Slit plank type flooring fixings are available as both complete and separate components. Attachment components can also be used for plank type flooring. Standard pack for omplete fixings is 100 components per box.



#### Clamps - 3 parts

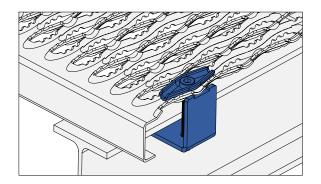
Complete clamp in three parts for fixing slit plank type flooring. Top section, screw (M8) and nut. Available in screw lengths 70 and 100 mm. Holes must be drilled in the supporting beams.

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

Finish: Hot dip galvanized top section. Screw and nut in stainless steel

For grating height (mm)	Part no.
40	1634002*
70	1637002*

\*Stocked



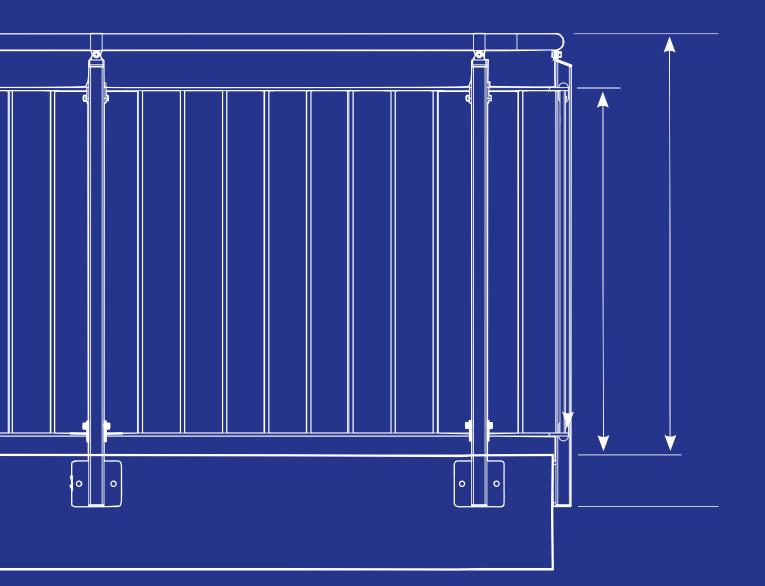
#### Clamps - 4 parts

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. Installed without drilling into the supporting structure.

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

Finish: Hot dip galvanized top and bottom section. Screw and nut are in stainless steel

For grating height (mm)	Part no.
40	1634001*
70	1637001*



# SECTIONAL RAILINGS

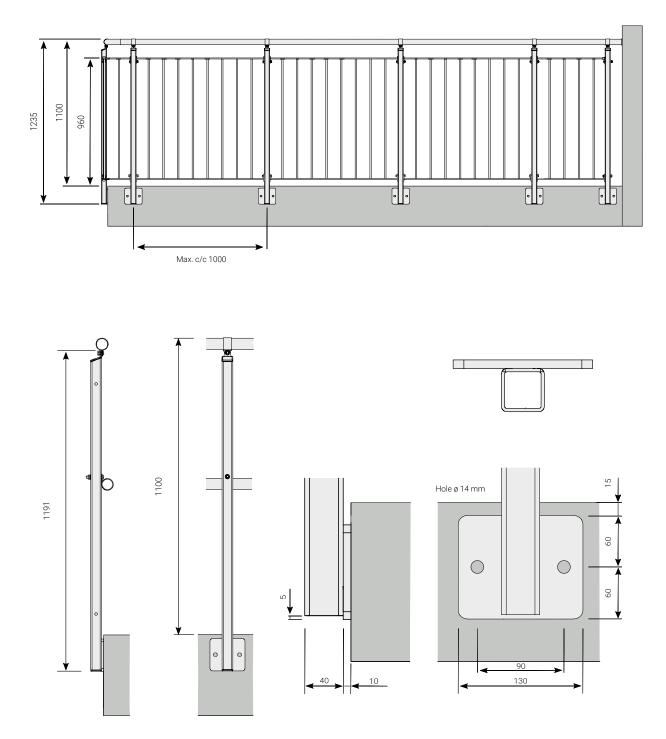
Sectional railings are manufactured as standard with attachments for side or top installation. The railing can be placed both indoors and outdoors. Variants that deviate from the standard concept can of course be manufactured, such as wooden handrails or painted finishes.

### BALUSTER AND BRACKETS FOR SIDE INSTALLATION.

There are a number of different standard variants here. For fixing to surfaces such as wood or concrete, a baluster with a welded base plate is used. For fixing to our Flex steel walkways, a railing baluster without base plate and only through holes is used. For our mezzanines, an extended railing baluster is needed, these are also available as standard in a number of different lengths.



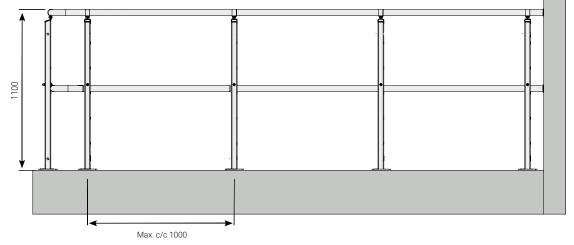
See our animation of side mounting for section railings

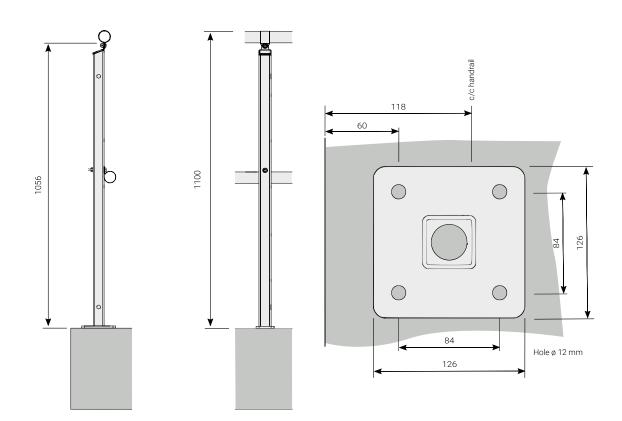


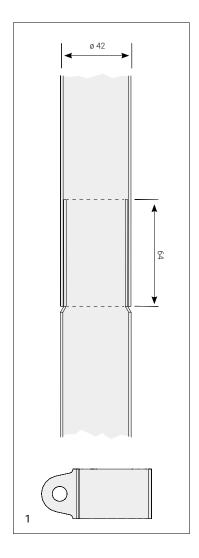
### BALUSTER AND BRACKETS FOR TOP INSTALLATION.

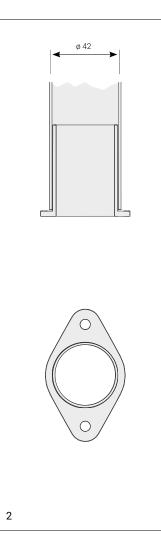
The baluster is made with a mounting plate at the bottom.

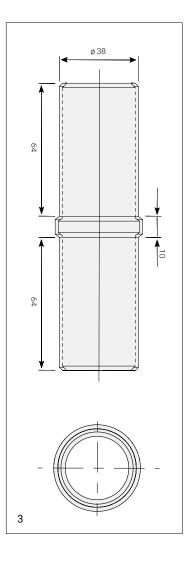


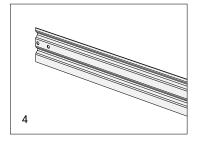
















4. KICK STRIP

Kick strip for railing with intermediate rail. Height 130 mm. Supplied in 3 metre lengths. Includes drill screw.

#### 5. CUTTING RAILING HANDRAILS TO SIZE

Pipe cutters, steel file and round file are suitable tools for length adjustment of stainless steel pipes.

#### 6. CORNER RAILING

For our sectional railing, we also off corner railing. These are stocked for sectional railing Intermediate and Round Bar. We also offer solutions with articulated handrails.

### 1. CLAMP FOR HANDRAIL The joint is placed so it is covered by the handrail clamp.

#### 2. WALL MOUNT

Wall mount for fixing the handrail to the wall.

#### 3. JOINT PLATE

Joint plate for 42x1.5 mm stainless steel handrail.

#### **RAILING INFILL**

Supplementary information about our various railing infills. There are a number of stock formats for our sectional railing Indermediate rails and Round Bars.

#### 1. Intermediate Rail

Indermediate rails are made in a stainless untreated version  $\phi$  42 mm and fastened using a stainless steel clamp.

#### 2. Round Bar

The railing infill consists of a hand rail and under rail made from  $25 \times 8$  mm flat bar. Round bar ø 11 mm. Max opening 100 mm.

#### 3. Sheet Metal

We offer a range of different configurations of perforated sheet metal as standard.

#### Our most common patterns are:

ø 15, square division c / c 40 mm 15 x 15, square division c / c 40 mm ø 20, square division c / c 50 mm 20 x 20, square division c / c 50 mm ø 15, triangle division c / c 50 mm ø 20, triangle division c / c 60 mm

Other versions are also available upon request.

#### 4. Mesh

Crenellated mesh with standard 40x40 mm mesh. 30 x 30 mm mesh is also available.

#### 5. Glass

Laminated safety glass 8 mm (4 + 4), incl. film. Fine ground edge all round. Clamping brackets for handrails.

#### GATES

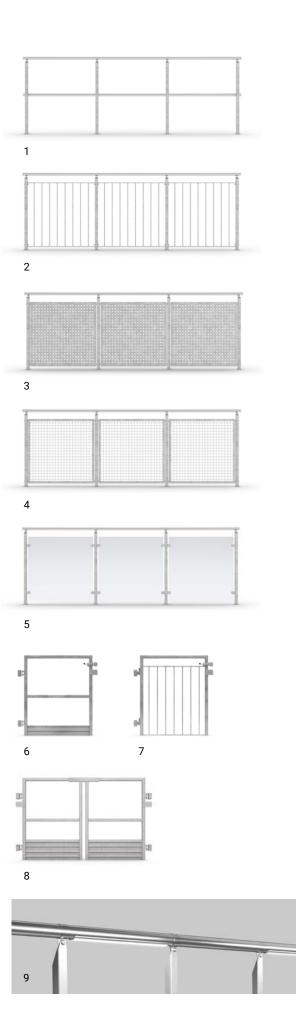
Where railings require openings, a gate can be installed between the sections. Our gates are produced in a range of designs to meet your specific requirements.

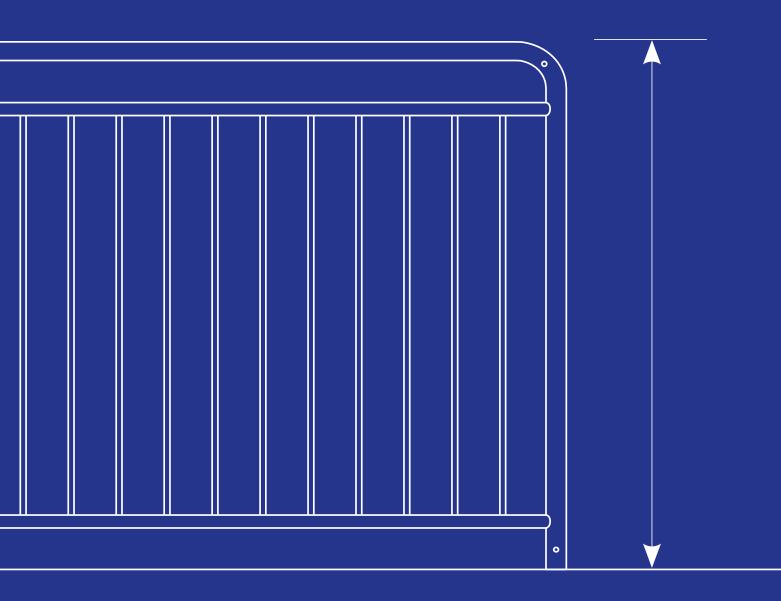
A single gate, a childproof gate, and a double gate. All variants are reversible, and work equally well hung on the right as on the left. We also provide customised lengths.

	Designation	L (mm)	Part no.
6	Gates	1000	1714GR
7	Childproof gate	1000	1714GRB
8	Double gate	1700	1714GR12

#### 9. LIGHTING

To create a decorative and pleasing environment, all our sectional railings can be equipped with lighting. Lighting from the handrail can also act as a functional addition to light up unsafe environments. The design is patent protected.





## UNIVERSAL RAILINGS

A wide variety of accessories are available that can be used to joint universal railings, the choice of which depends on your needs. With many standard lengths, our universal railing can be combined into a myriad of different solutions. The railings are stocked and can be delivered quickly.

### **MODELS AND ACCESSORIES**



Universal railing Standard



Universal railing, Childproof

#### UNIVERSAL RAILING, STANDARD

Baluster/top rail: Ø 42 mm Indermediate rail: Ø 28 mm Height: 1100 mm Finish: Hot-dip galvanized

Designation	Length (mm) external dimensions	Part no.
Standard	365	UI0442*
Standard	465	UI0542*
Standard	665	UI0742*
Standard	965	UI1042*
Standard	1465	UI1542*
Standard	1965	UI2042*
Angle	365 x 365	UI4042*
*Stocked		

#### UNIVERSAL RAILING, CHILDPROOF

Baluster/top rail: Ø 42 mm Top & bottom rail: Ø 28 mm Intermediate bar: Ø 11 mm Height: 1100 mm Finish: Hot-dip galvanized

Designation	Length (mm) external dimensions	Part no.
Childproof	365	UB0442*
Childproof	465	UB0542*
Childproof	665	UB0742*
Childproof	965	UB1042*
Childproof	1465	UB1542*
Childproof	1965	UB2042*
Angle	365 x 365	UB4042*
*Stocked		







#### GATE PACK

Gate consisting of a railing section that is fitted with at least two hinges and one "box lock". If the lock is not needed, the lock plate can be used as a stop. The gate frame is adjustable between 600 - 900 mm. For larger gate openings and heavy traffic, using an extra hinge may be appropriate. At least two hinges (sets) needed per gate. Alternatively, you can use a railing section as a gate.

#### Finish: Hot-dip galvanized

Designation	Part no.
Box lock aluminium	BX0001*
Bracket box lock	BX0002*
Lock plate box lock	BX0004*
Hinge complete	GJ4200*
Hinge complete tube/wall	GJ4202*
Gate hoop	UG6090*

\*Stocked

#### **KICK STRIP**

Kick strips are available for all railing lengths, as well as for railing corners. The kick strip is attached to the railing bow using self-tapping screws.

Height: 100 mm Finish: Hot-dip galvanized

Designation	Length (mm)	Part no.
Kick strip	390	SL0410*
Kick strip	490	SL0510*
Kick strip	690	SL0710*
Kick strip	990	SL1010*
Kick strip	1490	SL1510*
Kick strip	1990	SL2010*
Kick strip, corner railing	336 x 336	SL4040*



### ASSEMBLY AND FASTENING

#### 1. FASTENING, SIDE INSTALLATION

Intended to be screwed into e.g. wood or concrete. The side brackets are available in right and left hand versions. The right bracket is located to the right when looking at the installation side. The fixing has a serrated post to facilitate installation at the correct height. To secure the railing post, a bolt, a locking washer and a nut are required.

#### Finish: Hot-dip galvanized

Designation	Dimensions (mm)	Part no.
Left	80 x 35 x 280	UV1001*
Right	80 x 35 x 280	UV1002*

\*Stocked

#### 2. FASTENING, TOP INSTALLATION

Intended to be screwed into e.g. wood or concrete. To secure the railing post, a bolt, a locking washer and a nut are required.

#### Finish: Hot-dip galvanized

Designation	Dimensions (mm)	Part no.
Single	125 x 125 x 108	UG1000*
Double	200 x 125 x 108	UG2000*

\*Stocked

#### **3. GROUND ATTACHMENT**

The mount is manufactured from folded sheet metal and it provides stable fixing when sunk into the ground with macadam or crushed stone in the pit. The attachment can also be used for embedding in concrete. The attachment is available in single and double versions.

#### Finish: Hot-dip galvanized

Designation	Part no.
Ground attachment, single 42 mm	UM1000*
Ground attachment, double 42 mm	UM2000*
*Stocked	

#### 4. INTERNAL PIN

Used for casting in concrete. Can also be used to extend the extension pin down into the sleeve that lies flush with the floor. The pin is locked to the railing with a bolt, nut and washer against the railing post in the same way as other brackets.

Finish: Hot-dip galvanized

Length (mm)	Part no.
310	UT3100*
*Stocked	

#### 5. CONCRETE BASE

Stable concrete base with embedded handles and two holes.

Dimensions	Height (mm)	Part no.
360 x 245	125	BF2000*

\*Stocked

#### 6. CONNECTIONS

Connection between railings is carried out by linking them together with a sleeve and a through bolt. All railings have predrilled holes. Railings that are not installed in a straight line are linked together with a corner connection that clamps around the railing balusters.

Finish: Hot dip galvanized.

Designation	Part no.
Coupling	KP4277*
Corner connection	MK4200*

\*Stocked

#### 7. WALL MOUNT

For ending the railing against a wall or post. The wall mount is available for handrails and intermediate rails.

Finish: Hot-dip galvanized

Designation	Dimensions (mm)	Part no.
Bracket handrail	35 x 59.2	UV4200*
Bracket intermedi- ate rail	20 x 39.7	UV2700*

\*Stocked

#### 8. RAILING JOINTS

For joining railing and Indermediate rails.

Finish: Hot-dip galvanized

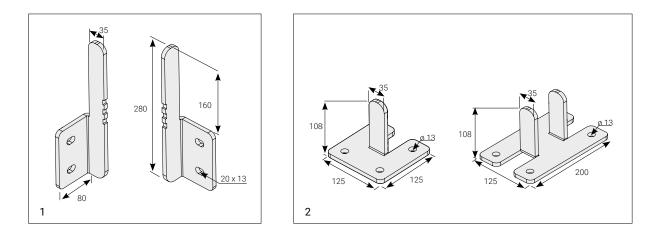
Designation	Part no.
Joint set, pipe 27 mm	SK2700*
Joint set, pipe 42 mm	SK4200*
*Ctool cod	

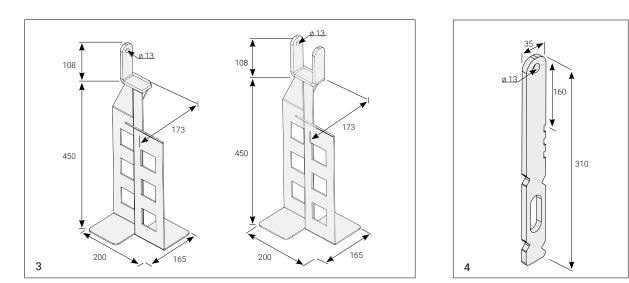
\*Stocked

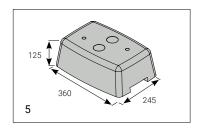
### 9. ATTACHMENTS, TOP AND SIDE INSTALLATION

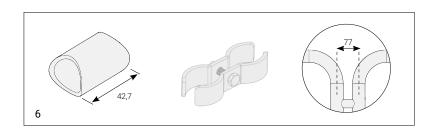
Supplied in 10-pack.

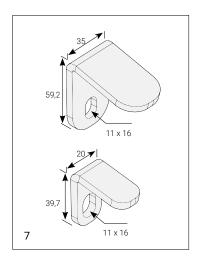
Designation	Part no.
Washer	UL4201
Bolt set	BU1201
Set of nuts	MU1001

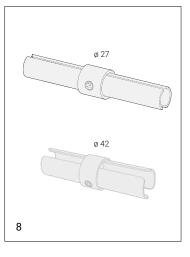


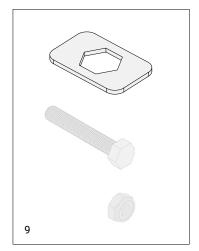


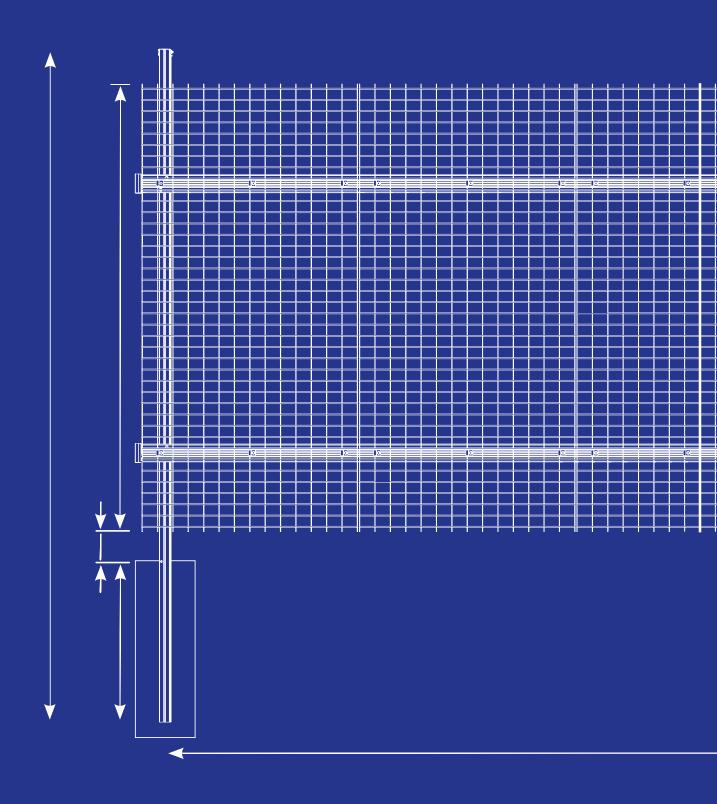








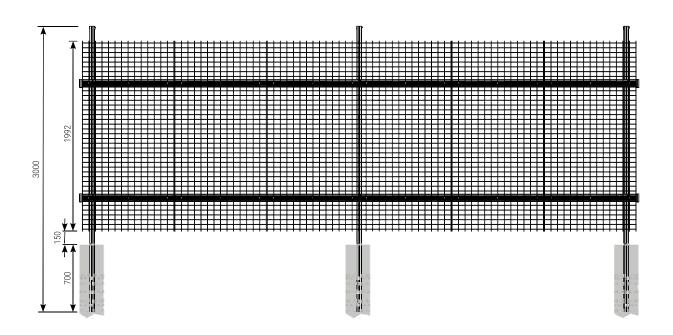




## FENCING

Our durable fencing has a unique structure and features one of the strongest constructions on the market. The fencing is suitable for use in all types of environment that need to be fenced in or demarcated in some way. All components are hot-dip galvanized.

We are happy to help you produce any custom solutions you may require. Contact our skilled sales team or visit weland.com for more information.



#### ATTACHMENT (casting)

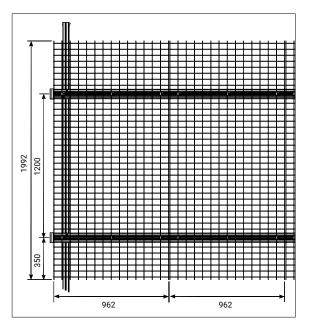
The length of the railing posts makes them particularly well suited for casting into the ground. It provides a stable and secure attachment. Drainage holes in the railing post must be drilled after casting.

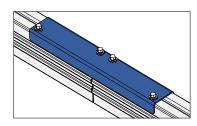
#### Post

Fence posts made from rolled profiles.

#### Support beam

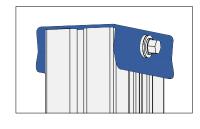
Support beams made from rolled profiles. Affords seamless handling and installation of grating.





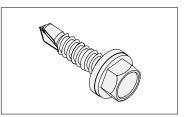
JOINT PROFILES

For quick installation and to simplify assembly adaptations, special joint profiles have been developed for use with support profiles.



#### SEALING COVERS

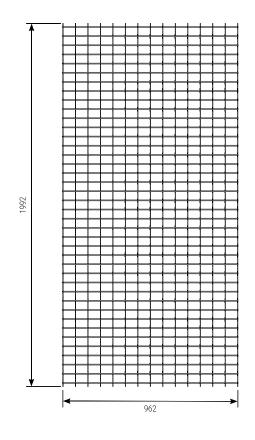
Sealing covers are to be put on in order to prevent the post from filling with water, which can otherwise lead to bursts during the winter.

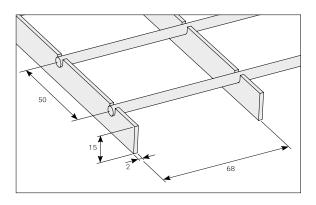


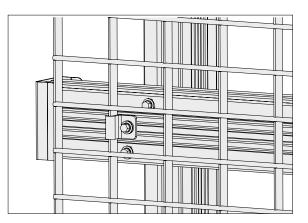
#### INSTALLATION SCREW

Installation screws are available in two different Staps lengths. 26 mm and 80 mm.





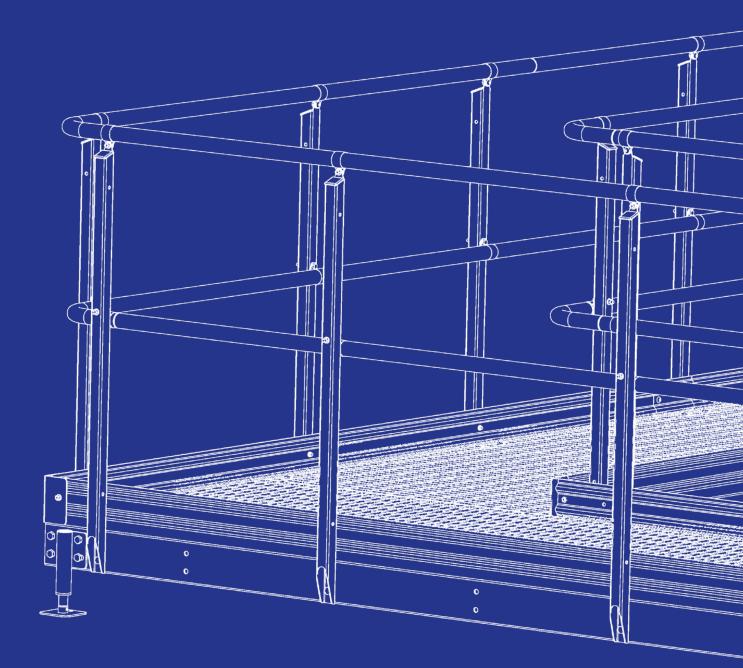




#### GRATING

I4 grating is strong, which produces a very robust fence. The grating is screwed directly into the suppor beam with an upper part and installation screw.

The dimensions of the grating are of standard format, and can either be adapted during installation or supplied customised.



## STEEL WALKWAY FLEX

Our steel walkway Flex are completely based on standard components that are easily installed at the installation site. By always keeping a solid range of components in stock, we can deliver within just a few days. For other walkways, please contact our knowledgeable sales team for help and advice. We have put together some information that you may find useful when requesting quotes and placing orders.

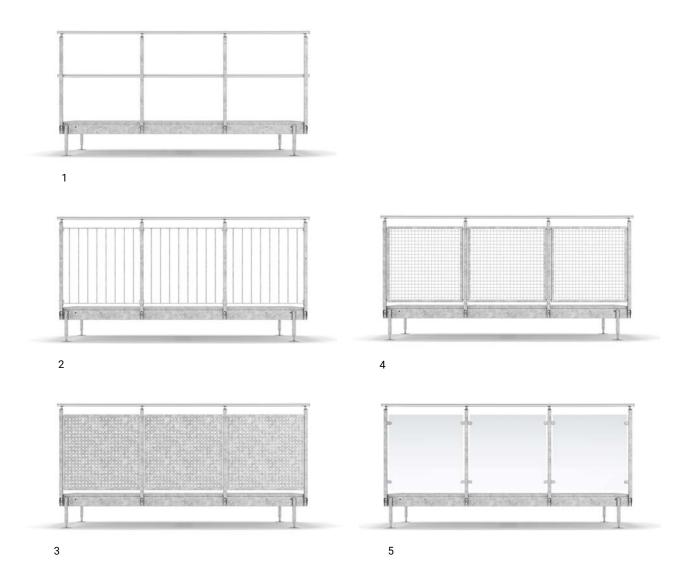
## FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- What will the walkway be used for?
- What lengths and widths am I interested in?
- Can I use a standard solution, steel walkway Flex, or should it be a customised variant?
- Does the project need childproof railing? There are several childproof railing alternatives available for steel walkway Flex.
- Recessed LED lighting is available for our sectional rails. Might it be appropriate in order to ensure a safer evacuation?
- We also offer customised solutions for footbridges. Contact our knowledgeable sales team for more information.

## FACTORS TO CONSIDER BEFORE ORDERING

- · Check any child safety requirements.
- If the bridge is on a sloping roof, an articulated foot part is probably required.
- For longer straight footbridges and higher support legs, footbridges may need lateral support.

### **DESIGN AND DIMENSIONS**



#### RAILINGS

The railing for the steel walkway is of the type sectional railing and is available in several versions. What railing you need depends on child safety, environment and your own requirements for the steel walkway's safety. Both handrails and intermediate rails are manufactured in stainless steel. You can read more about our sectional railing on page 365.

#### 1. Intermediate Rail

The railing is provided with a Indermediate rail and is an industrial railing. Not counted as childproof.

#### 2. Round Bar

A railing focusing on form and design. Childproof with maximum opening 100 mm.

#### 3. Sheet Metal

Railing in solid or perforated metal. Childproof with maximum opening 100 mm.

#### 4. Woven wire mesh

Railing in crenelated mesh plate. Childproof with maximum opening 100 mm.

#### 5. Glass

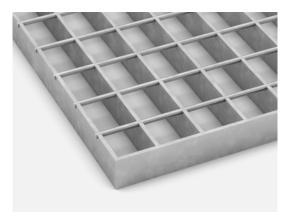
Railing filled with glass for an extra finish. Childproof with maximum opening 100 mm.

#### WALKWAY-LANDING

The walking surface to our flex bridges is made of grating. They are available in different mesh widths, depending on your requirements and desired functionality. We can also offer a dense material such as plank type flooring.

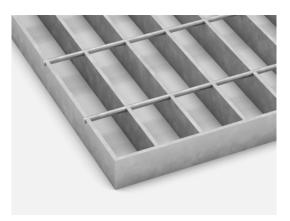
#### H3 Grating

Projection welded grating with mesh width 34 x 37 mm.



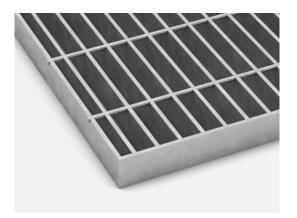
#### H6 Grating

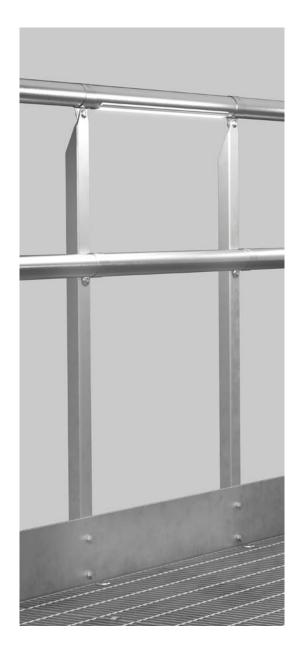
Projection welded grating with mesh width 34 x 75 mm.



#### N6 Grating

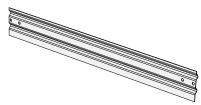
Projection welded grating with mesh width 17 x 75 mm.





#### LIGHTING

To create a decorative and pleasing environment, our footbridges can be equipped with lighting. Lighting from the handrail can also act as a functional addition to light up unsafe environments. The design is patent protected. Lighting fixture, Hydra LD. 394 mm long diode strips c/c 1000 mm. 380 lm/fixture.



#### **KICK STRIP**

Kick strip with a height of 130 mm can be installed on the steel walkway. The kick strip prevents objects from falling down from the steel walkway. Mounted with or without railing.



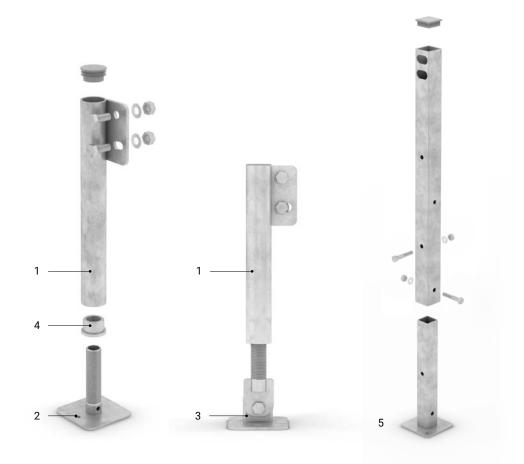
#### STEEL WALKWAY FLEX

Steel walkway Flex is constructed entirely of standard components. The whole steel walkway is screwed quickly and easily together on the installation site. The whole assembly is done without any welding. The width of the walkway is adjustable from 600 to 1300 mm, with an interval of 50 mm, and is available in lengths 2000, 3000 and 4000 mm. The length can be easily adjusted during installation. When standard components are used, Steel walkway Flex is delivered within a couple of working days. The steel walkway can also be adapted to fit your own desires and requirements, then with a longer delivery time.



Watch the video about installing a Steel walkway Flex





#### 1. ROUND SUPPORT LEG

Length 350 - 1000 mm. Support legs must be placed one 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 coupling, provides an adjustment of 30-100 mm. Support legs must be placed one every 3 metres. The square tube is cut to the requested length in connection with installation.

Size / side	Part no.
350 / Left	174035001*
350 / Right	174035011*
600 / Left	174060001*
600 / Right	174060011*
1000 / Left	174100001*
1000 / Right	174100011*

\*Stocked

#### 2. FOOTPLATE FOR SUPPORT LEG

For the round support leg, there are footplates available, size 100  $\times$  100 mm.

Designation	Part no.
Footplate	17410101*
*Stocked	

#### 3. FOOTPLATE, JOINTED FOR SUPPORT LEG

The jointed footplate makes the supporting leg flexible with respect to the ground or roof slope. The product is delivered complete.

Designation	Part no.
Articulated footplate	16530001*
*Stocked	

#### 4. THREADED COLLAR

Designation	Part no.
Threaded collar	174251*

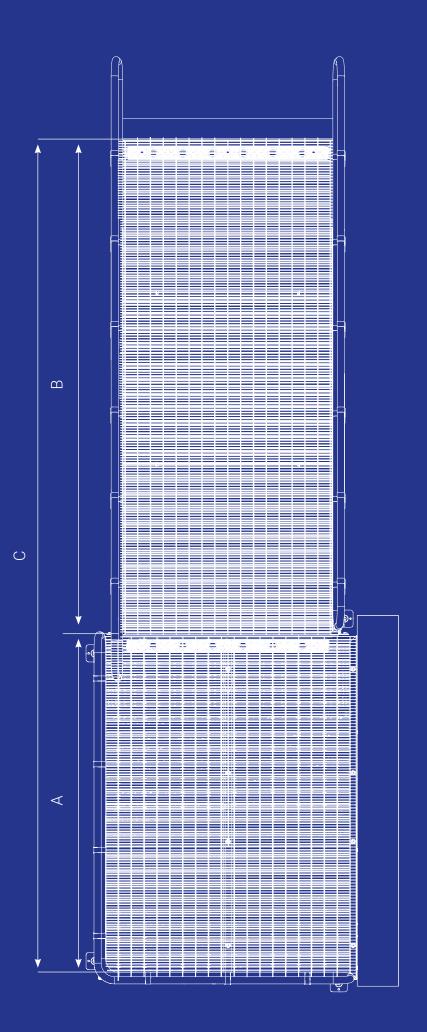
\*Stocked

#### 5. SQUARE SUPPORT LEG

A complete and adjustable support leg with an adjustable length of 480 - 1600 mm. The support leg is made from square tube, KKR 60 x 60 x 3 mm, and is 1450 mm long. The square tube is cut to the requested length in connection with installation.

The support leg is supplied complete with the required attachment components. The pipe is cut in situ. Support legs must be placed one every 3 metres.

	Adjustable height (mm)	Part no.
	480 - 1,600	1741650*
ę	*Stocked	



## WHEELCHAIR RAMPS

Our wheelchair ramps are compliant with building standard requirements in respect of public environments. Swedish law states that public environments must must have an entrance that can be accessed without stairs. Our Swedish-made wheelchair ramps are based on a simple, robust design in hot-dipped galvanized steel, which adds to the stability and ensures a long service life. We have put together some information that you may find useful when requesting quotes and placing orders.

#### FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- What will the ramp be used for?
- Is the purpose of the ramp to simplify the life of disabled people or is it more about moving materials from place to place?
- What width and lengths am I interested in?
- Does the length of the Wheelchair ramp satisfy the minimum 1:12 incline requirement?
- Does the project need childproof railing?
- · Can I adjust my request to stock sizes?
- Recessed LED lighting for the handrail can then be offered.

### FACTORS TO CONSIDER BEFORE ORDERING

- Check to make sure that the length of the ramp meets the minimum incline requirements.
- In addition to the stock width of 1300 mm, a 1500 mm width is also available and can be supplied with a short delivery time.
- · Check any child safety requirements.
- For ramps used in applications such as material transport, we have a large range available, all with a width of 900 mm.

Visit weland.com or contact us for further information.

### **DESIGN AND DIMENSIONS**

#### WHEELCHAIR RAMPS

Compact wheelchair ramps with grating, Type N6 mesh width 17 x 75 mm, designed in accordance with your criteria and requirements. We stock many different versions in order to provide prompt, reliable, and high quality deliveries. The standard width is 1300 mm and this is stocked in lengths from 1500 up to 6000 mm in intervals of 500 mm. All our wheelchair ramps are equipped with contrast marking and an extended handrail.

#### 1. Railing on two sides

Wheelchair ramp with railings on both sides of the ramp.

#### Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1300 x 1500	174151311*
1300 x 2000	174201311*
1300 x 2500	174251311*
1300 x 3000	174301311*
1300 x 3500	174351311*
1300 x 4000	174401311*
1300 x 4500	174451311*
1300 x 5000	174501311*
1300 x 5500	174551311*
1300 x 6000	174601311*

\*Stocked

#### 2. Railing on one side, banister on one side

Wheelchair ramp with rail on one side and banister fitted along adjoining wall.

#### Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1300 x 1500	174151321*
1300 x 2000	174201321*
1300 x 2500	174251321*
1300 x 3000	174301321*
1300 x 3500	174351321*
1300 x 4000	174401321*
1300 x 4500	174451321*
1300 x 5000	174501321*
1300 x 5500	174551321*
1300 x 6000	174601321*
*Stocked	

#### 3. Banister on two sides

Wheelchair ramp with banister fitted along the wall on both sides.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1300 x 1500	174151322*
1300 x 2000	174201322*
1300 x 2500	174251322*
1300 x 3000	174301322*
1300 x 3500	174351322*
1300 x 4000	174401322*
1300 x 4500	174451322*
1300 x 5000	174501322*
1300 x 5500	174551322*
1300 x 6000	174601322*
*Stocked	

\*Stocked

#### 4. Without railing and banister

If you choose to make the railing yourself, we offer a wheelchair ramp without railing and banister.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1300 x 1500	174151300*
1300 x 2000	174201300*
1300 x 2500	174251300*
1300 x 3000	174301300*
1300 x 3500	174351300*
1300 x 4000	174401300*
1300 x 4500	174451300*
1300 x 5000	174501300*
1300 x 5500	174551300*
1300 x 6000	174601300*
*Stocked	

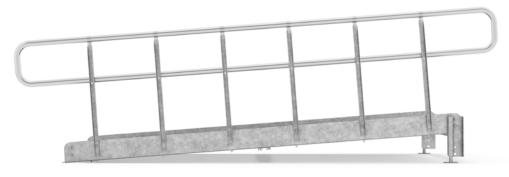












Railing, Standard



Railing, Round Bar



#### RAILINGS

In our standard assortment, we offer two different types of railing. The handrail in the railing is made of ø 42 mm stainless steel pipe in an industrial brushed untreated design.

#### Railing, Standard

A stocked standard railing with baluster c/c 500 mm. This is by far the most common type of railing used in our ramps.

#### Railing, Round Bar

Our Round Bar railing affords a childproof design. This is a stocked railing with a maximum opening of 100 mm.

#### Banister

Banisters are made of  $\phi$  42 mm stainless steel pipe in an industrial brushed untreated design.

#### **OPTIONS**

#### Extra handrail

Round Bar Railing can be equipped with an optional extra handrail. The extra handrail helps to increase the safety of the wheelchair ramp. The handrail is placed below the normal handrail.

#### Lighting, handrail

To create a decorative and pleasing milieu, our wheelchair ramps can be provided with lighting. Lighting from the handrail can also act as a functional addition to light up unsafe environments. The design is patent protected.



#### STAINLESS STEEL HANDRAIL

We have used stainless steel handrails in our railings since 2003. We believe that it affords a number of customer benefits, not least that it results in a more beautiful product that has more of a quality feel. Combined with our modern production park, using stainless steel in our handrails also helps significantly shorten delivery times.

Many years of experience with a tried and tested method, as well as a favourable relationship between anode and cathode where rust has never reared its ugly head, make us completely confident that the relationship between hot-dip galvanized and stainless steel does not produce corrosion.

#### LOADS

Our ramps are dimensioned for 3 kN /  $m^2$ . For other loads, we can offer other options.



Support frame incl. grating



Angled railing and kick strip

#### LANDINGS

We keep in stock standard landings in grating for our wheelchair ramps. These landings are also used as intermediate or turning landings between two ramps. In accordance with current regulations, intermediate landings have to be used when wheelchair ramps are higher than 0.5 metres. All material is hot-dip galvanized as standard.

#### Support frame incl. grating

The landing's structure and grating with mesh width c/c  $17 \times 75$  mm.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1510 x 2010	174151201*
1510 x 1510	174151151*

\*Stocked

#### Railing and kick strip

Railing in straight and angled versions as well as kick strip.

Finish: Hot-dip galvanized

Designation	Length (mm)	Part no.
Railing and kick strip	2000	174200*
Railing and kick strip	1500	174150*
Angled railing and kick strip	1500x1500	174150150*
*Stocked		



Railing and kick strip



Round support leg Square support leg

#### Round support leg

Length 350 - 1000 mm. Support legs of ø 42 mm steel pipe in a set of 4. 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 70 mm. The minimum height to the landing above is the length of the support leg + 55 mm, and the maximum height is + 125 mm. The support leg is supplied complete with the required attachment components. The pipe is cut in situ.

#### Finish: Hot-dip galvanized

Length (mm)	Part no.
350	1740350*
600	1740600*
1000	1741000*

\*Stocked

#### Square support leg

A complete and adjustable support leg with an adjustable length of 480 - 1600 mm. The support leg is made from square tube, KKR 60 x 60 x 3 mm, and is 1450 mm long. The square tube is cut to the requested length in connection with installation. The support leg is supplied complete with the required attachment components.

Finish: Hot-dip galvanized

Designation	Part no.
Square support leg	1741650*
*Stocked	



### GENERAL ADVICE AND EXAMPLES

#### SUMMARY OF THE CONSTRUCTION RULES ISSUED BY THE SWEDISH NATIONAL BOARD OF HOUSING, BUILDING AND PLANNING REGARDING DISABILITY (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 steel walkway 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 ramps may be acceptable.

#### Entrance and communication areas

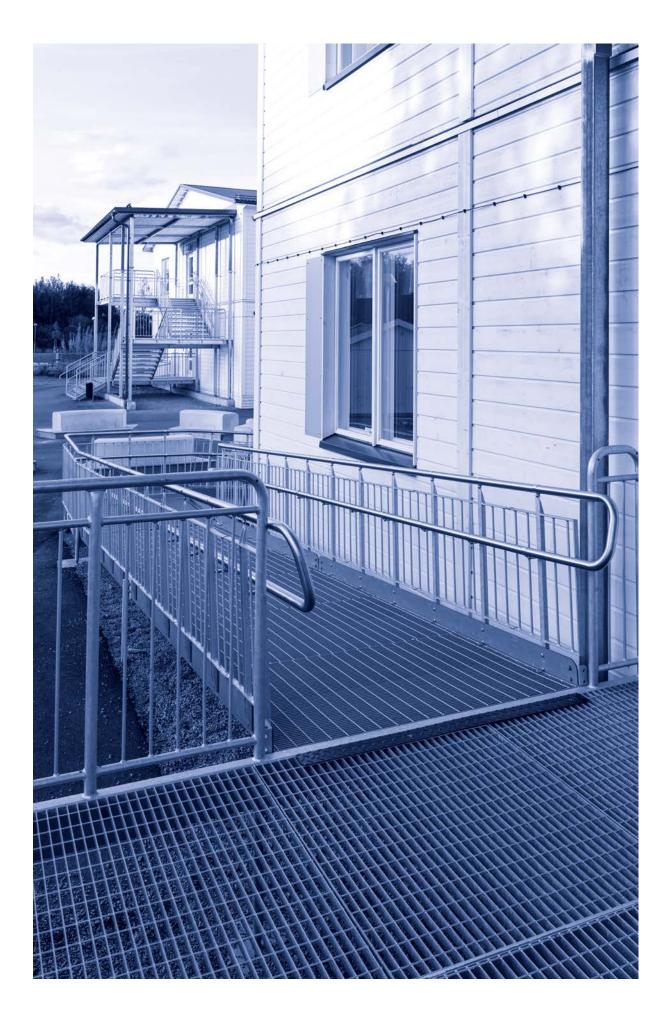
Ramps in premises or connecting routes should have a maximum incline of 1:12 and a maximum height difference of 0.5 metres between rest landings that are at least 2 metres long.

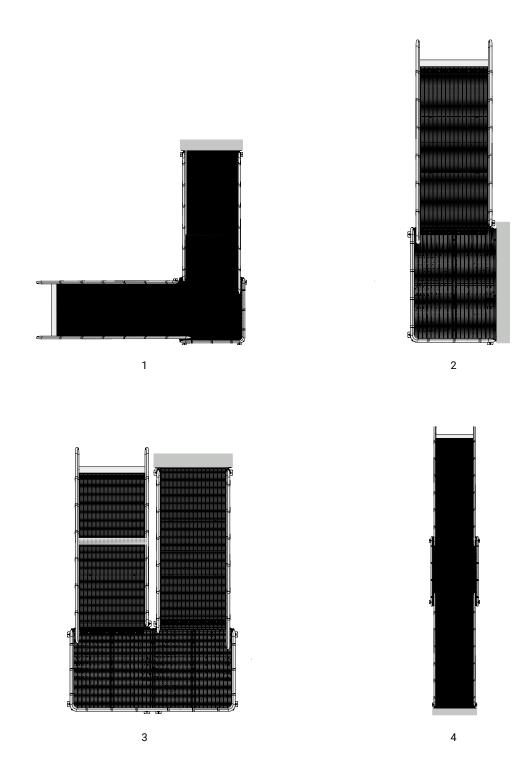
As a ramp, according to the provisions, should take up a height difference of max. 0.5 metres, a ramp that has an incline of 1:12 should be no longer than 6 metres. A level difference of more than 0.5 metres must be divided between two ramps with an intermediate rest landing.

#### **Railings and banisters**

Ramps that are not bordered by walls must have railings that limit the risk for personal injury. Ramps must have banisters or equivalent on both sides.

You can read more about accessibility on the Swedish National Board of Housing, Building and Planning's website.





#### EXAMPLE OF RAMPS, LANDINGS AND INTERMEDIATE LANDINGS

Example 1 Ramps with 90° landing, no adjacent walls.

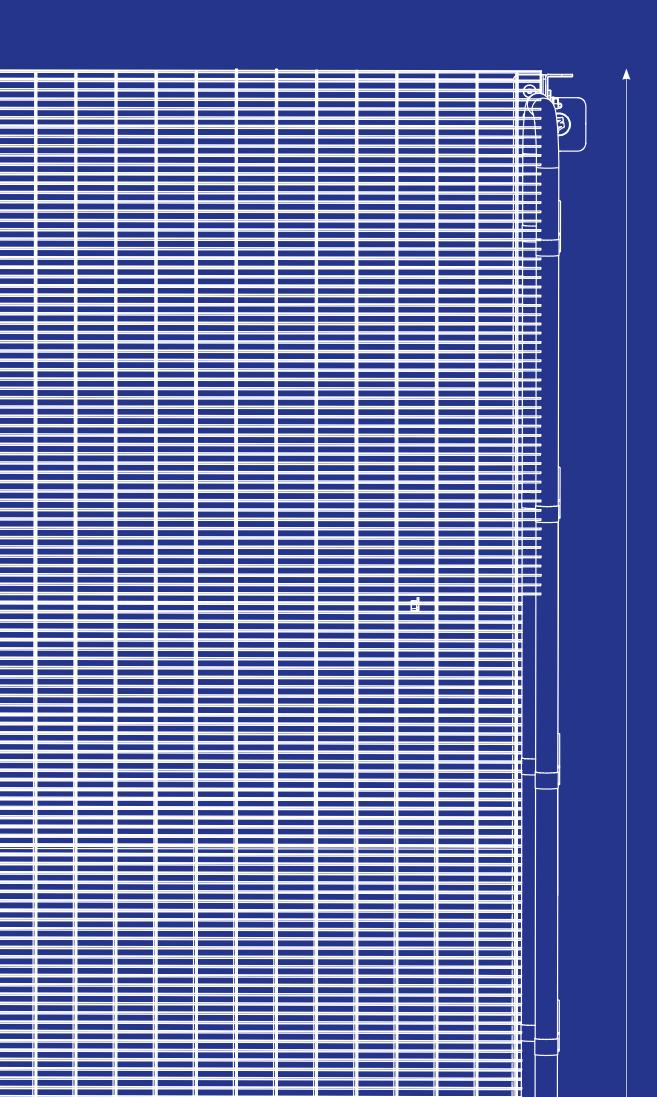
Example 2 Ramps with 90° landing.

#### Example 3

Ramps with 180° intermediate landing, no adjacent walls.

#### Example 4

Ramps with a height greater than 0.5 m are provided with intermediate rest landing 2 m and continue straight forwards.



## RAMPS

Our grating ramps are based on a simple, robust design in hot-dip galvanized steel, which adds to the stability and affords a long service life. If you need a resting or turning landing between two ramps, we keep these in stock for immediate delivery.

#### **COMPLETE RAMPS**

Complete ramps with grating, Type N6 mesh width 17 x 75 mm, designed in accordance with your criteria and requirements. We stock many different versions in order to provide prompt, reliable and high quality delivery. The standard width is 900 mm and this is stocked in lengths from 1500 up to 6000 mm in intervals of 500 mm.

#### 1. Railing on two sides

Ramp with railings on both sides of the ramp.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
900 x 1500	174150911*
900 x 2000	174200911*
900 x 2500	174250911*
900 x 3000	174300911*
900 x 3500	174350911*
900 × 4000	174400911*
900 x 4500	174450911*
900 x 5000	174500911*
900 x 5500	174550911*
900 x 6000	174600911*

\*Stocked

#### 2. Railing on one side, banister on one side

Ramp with rail on one side and banister fitted along adjoining wall.

#### Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
900 x 1500	174150921*
900 x 2000	174200921*
900 x 2500	174250921*
900 x 3000	174300921*
900 x 3500	174350921*
900 x 4000	174400921*
900 x 4500	174450921*
900 x 5000	174500921*
900 x 5500	174550921*
900 x 6000	174600921*
*Stocked	

3. Railing on one side

Ramp with railings on one side of the ramp.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
900 x 1500	174150901*
900 x 2000	174200901*
900 x 2500	174250901*
900 x 3000	174300901*
900 x 3500	174350901*
900 x 4000	174400901*
900 x 4500	174450901*
900 x 5000	174500901*
900 x 5500	174550901*
900 x 6000	174600901*
*C+	

\*Stocked

#### 4. Banister on two sides

Ramp with banister fitted along the wall on both sides.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
900 x 1500	174150922*
900 x 2000	174200922*
900 x 2500	174250922*
900 x 3000	174300922*
900 x 3500	174350922*
900 x 4000	174400922*
900 x 4500	174450922*
900 x 5000	174500922*
900 x 5500	174550922*
900 x 6000	174600922*

\*Stocked











#### 5. Without railing or banister

Ramp excluding railing and banister.

#### Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
900 x 1500	174150900*
900 x 2000	174200900*
900 x 2500	174250900*
900 x 3000	174300900*

Dimension W x L (mm)	Part no.
900 x 3500	174350900*
900 x 4000	174400900*
900 x 4500	174450900*
900 x 5000	174500900*
900 x 5500	174550900*
900 x 6000	174600900*
*Stocked	



Support frame incl. grating



Angled railing and kick strip

Railing and kick strip



Round support leg Square support leg

#### LANDINGS

We keep in stock standard landings in grating for our ramps. These landings are also used as intermediate or turning landings between two ramps. In accordance with current regulations, intermediate landings have to be used when ramps are higher than 0.5 metres. All material is hot-dip galvanized as standard.

#### Support frame incl. grating

The landing's structure and grating with mesh width c/c  $17 \times 75$  mm.

Finish: Hot-dip galvanized

Dimension W x L (mm)	Part no.
1110 x 2010	174111201*
1110 x 1110	174111111*

\*Stocked

#### Railing and kick strip

Railing in straight and angled versions as well as kick strip.

Finish: Hot-dip galvanized

Designation	Length (mm)	Part no.
Railing and kick strip	2000	174200*
Railing and kick strip	1100	174110*
Angled railing and kick strip	1100x1100	174110110*
*Stocked		

#### Round support leg

Length 350 - 1000 mm. Support legs of ø 42 mm steel pipe in a set of 4. 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 70 mm. The minimum height to the landing above is the length of the support leg + 55 mm, and the maximum height is + 125 mm. The support leg is supplied complete with the required attachment components. The pipe is cut in situ.

Finish: Hot-dip galvanized

Length (mm)	Part no.
350	1740350*
600	1740600*
1000	1741000*
*Stocked	

Square support leg

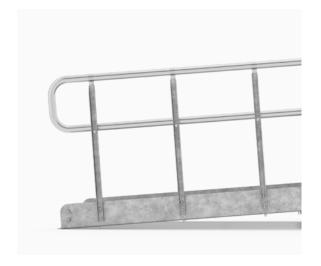
A complete and adjustable support leg with an adjustable length of 480 - 1600 mm. The support leg is made from square tube, KKR 60 x 60 x 3 mm, and is 1450 mm long. The square tube is cut to the requested length in connection with installation. The support leg is supplied complete with the required attachment components.

Finish: Hot-dip galvanized

Designation	Part no.
Square support leg	1741650*
*Stocked	

# RAILINGS

In our standard assortment, we offer two different types of railing. The handrail in the railing is made of Ø 42 mm stainless steel pipe in an industrial brushed untreated design.





# Railing, Standard

A stocked standard railing with baluster c/c 500 mm. This is by far the most common type of railing used in our ramps.

# Railing, Round Bar

Our Round Bar railing affords a childproof design. This is a stocked railing with a maximum opening of 100 mm.



Extended handrail



Banister



Contrast Marking

### **OPTIONS**

### Extended handrail

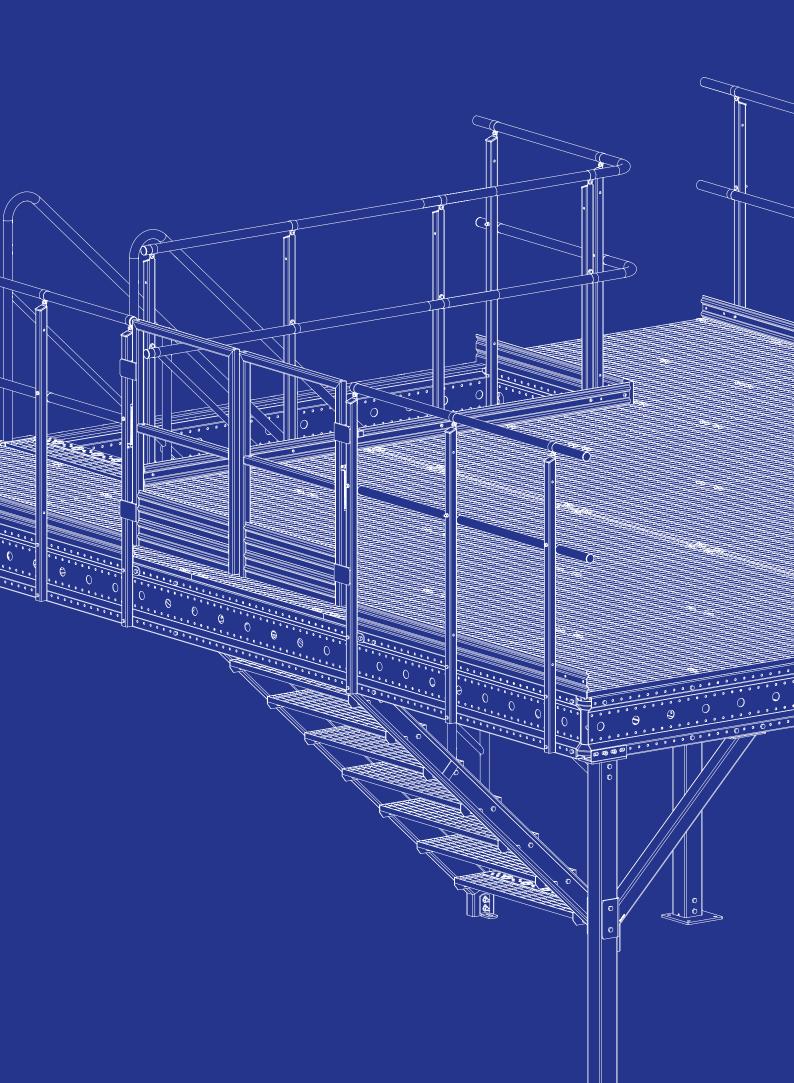
To increase the accessibility and safety of the ramps, they can be provided with extended handrails. The handrails can be extended by 300 mm at the stand and finish of the ramp.

#### Banister

To increase the accessibility and safety of the wheelchair ramps, they can be provided with a banister. The banister is fitted on the wall.

## **Contrast Marking**

Contrast marking in black lacquered punched sheet metal. The profile is easy to fit on our steel ramps.



# MEZZANINE

We will be pleased to answer any queries you might have concerning dimensioning, drawing and planning of mezzanines. We have put together some information that you may find useful when requesting quotes and placing orders.

# FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- For what purpose does the mezzanine need to be dimensioned? Pedestrian traffic, storage area, offices, etc.
- Will hand trucks be used?
- In what environment will the mezzanine be located? Indoors or outdoors?
- Which sides connect to a wall? Can the mezzanine be braced against a wall?
- Where can any support legs and cross bars be placed?
- · Height to the top or bottom edge of the mezzanine?
- Is a gate needed for lifting objects on to the mezzanine?

# FACTORS TO CONSIDER BEFORE ORDERING

- It makes things easier if you can provide a simple sketch with measurements and dimensions describing the design you want to order.
- Be clear about the load requirements. For pedestrian traffic, this is usually 3.0 kN/m<sup>2</sup>. At light bearings 5.0 kN / m<sup>2</sup>. Report any point loads.
- Ensure the mezzanine's bracing. If you are unsure, please check with our experienced sales team.
- · Check any child safety requirements.
- Make sure that the free height under the mezzanine matches your wishes.
- Do any railings need to be supplemented with gates?

# SIGMA BEAMS

# SIGMA BEAMS

Sigma beams are manufactured with a yield strength of 350 N/mm<sup>2</sup> in a number of different standard heights, material thicknesses and lengths, and they can be used both indoors and outdoors without any further surface treatment.

The beams have punched holes with a separation of 50 mm, which match 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. For Sigma beam cross-sectional data, visit weland.com.

Beam height (mm)	Material thickness (mm)
200	2.0
200	3.0
200	4.0
200	5.0
300	2.0
300	3.0
300	4.0
300	5.0
400	2.0
400	3.0
400	4.0
400	5.0

# Fixed lengths

We stock Sigma beams in lengths of 6000 and 8000 mm for immediate delivery. The beams are 200 - 400 mm high with a material thickness of 2– 5 mm. The yield strength is 350 N / mm<sup>2</sup>. We also offer a cutting service.

Height (mm)	Material thickness (mm)	Length (mm)	Part no.
200	2.0	6000	195110520206000*
200	2.0	8000	195110520208000*
200	3.0	6000	195110530206000*
200	3.0	8000	195110530208000*
200	4.0	6000	195110540206000
200	4.0	8000	195110540208000
200	5.0	6000	195110550206000*
200	5.0	8000	195110550208000*

Height (mm)	Material thickness (mm)	Length (mm)	Part no.
300	2.0	6000	195110540206000*
300	2.0	8000	195110520308000*
300	3.0	6000	195110530306000*
300	3.0	8000	195110530308000*
300	4.0	6000	195110540306000*
300	4.0	8000	195110540308000*
300	5.0	6000	195110550306000*
300	5.0	8000	195110550308000*
400	2.0	6000	195110520406000*
400	2.0	8000	195110520408000*
400	3.0	6000	195110530406000*
400	3.0	8000	195110530408000*
400	4.0	6000	195110540406000*
400	4.0	8000	195110540408000*
400	5.0	6000	195110550406000*
400	5.0	8000	195110550408000*

\*Stocked

### **BEAM JOINTS**

All our beam joints are stocked in lengths of 500 mm and are easily fitted to a Sigma beam.

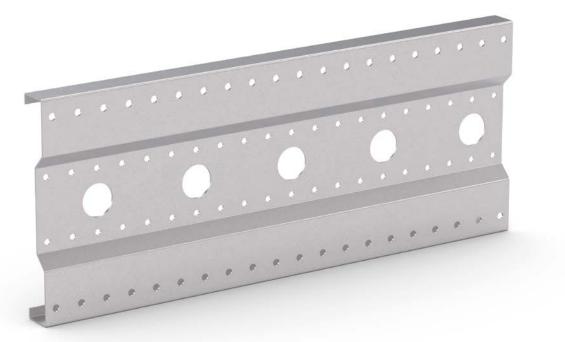
### For material thickness 2 - 3 mm

Designation	Height (mm)	Part no.
Model 200	188	19511040018*
Model 300	288	19511040020*
Model 400	388	19511040022*
*Stocked		

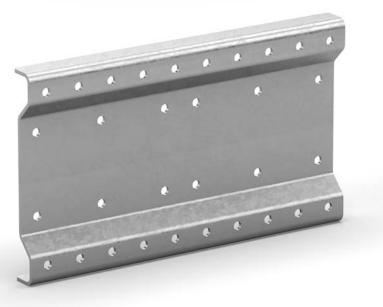
Stocked

# For material thickness 4 - 5 mm

Designation	Height (mm)	Part no.
Model 200	188	19511040019*
Model 300	288	19511040021*
Model 400	388	19511040023*
*Stocked		



Sigma beams





Corner joint

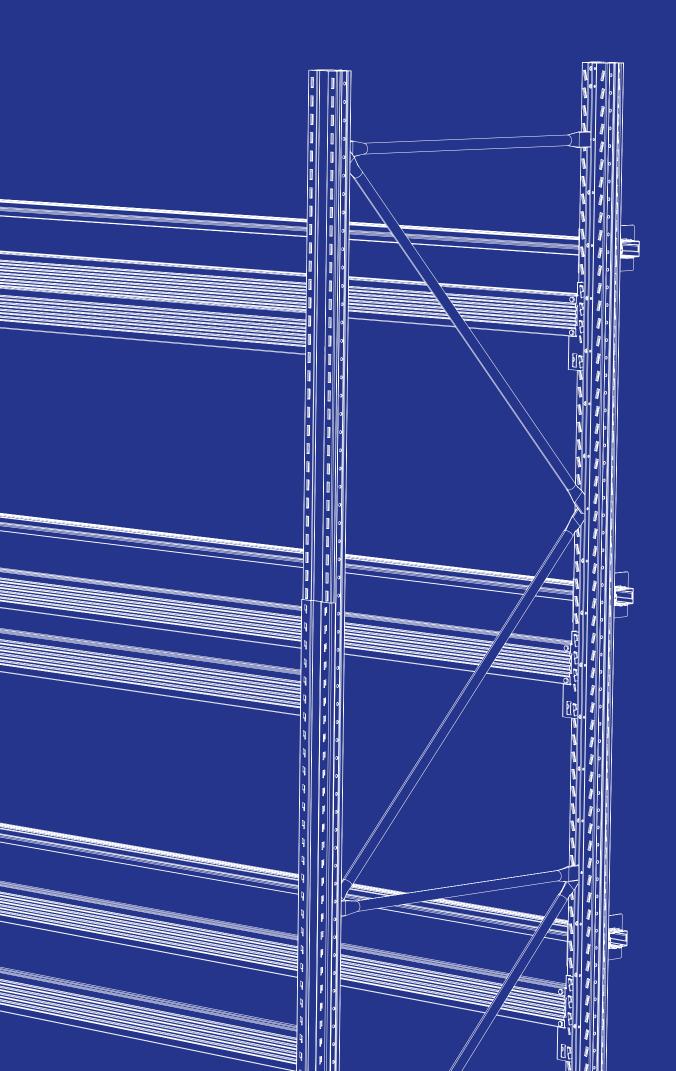
Beam joint

# **CORNER JOINT**

Used for right-angled corners and other right-angle joins of Sigma beams at the same height. Everything is based on screwing them together using existing holes in Sigma beams and corner joints.

Finish: Hot dip galvanized.

Designation	Height (mm)	Part no.
Model 200	200	19511040015*
Model 300	300	19511040016*
Model 400	400	19511040017*
*Stocked		



# STORAGE EQUIPMENT

We provide most of the products needed for efficient and rational stock handling, both indoors and outdoors. Our products optimise the flow and create a well organised work environment. We will be pleased to answer any queries you might have concerning dimensioning, drawing and project planning involving our various warehouse products. We have put together some information that you may find useful when requesting quotes and placing orders.

# FACTORS TO BEAR IN MIND DURING YOUR PROJECT PLANNING

- How high will the pallet rack be?
- How deep will the pallet rack be? For whole pallet, half pallet or long-side handling?
- How heavy are the goods that are to be stored?
- What are the dimensions of the goods to be stored?
- On what type of surface will the pallet rack be placed?
- Are accessories, in the form of, for example, collision protection, end protection, collapse protection or end stop, required?
- How many pallets must be accommodated in each section?

# FACTORS TO CONSIDER BEFORE ORDERING

- · Check that all specified loads are correct.
- Check, for example, whether collision protection or collapse protection is required.
- Specify maximum height of the goods for easier sizing of the pallet rack.

We comply with the most up-to-date standards and official requirements. Backed by many years' experience, we will be delighted to help you with guidance and advice during your planning process.

Contact us for further information.



# PALLET RACKS

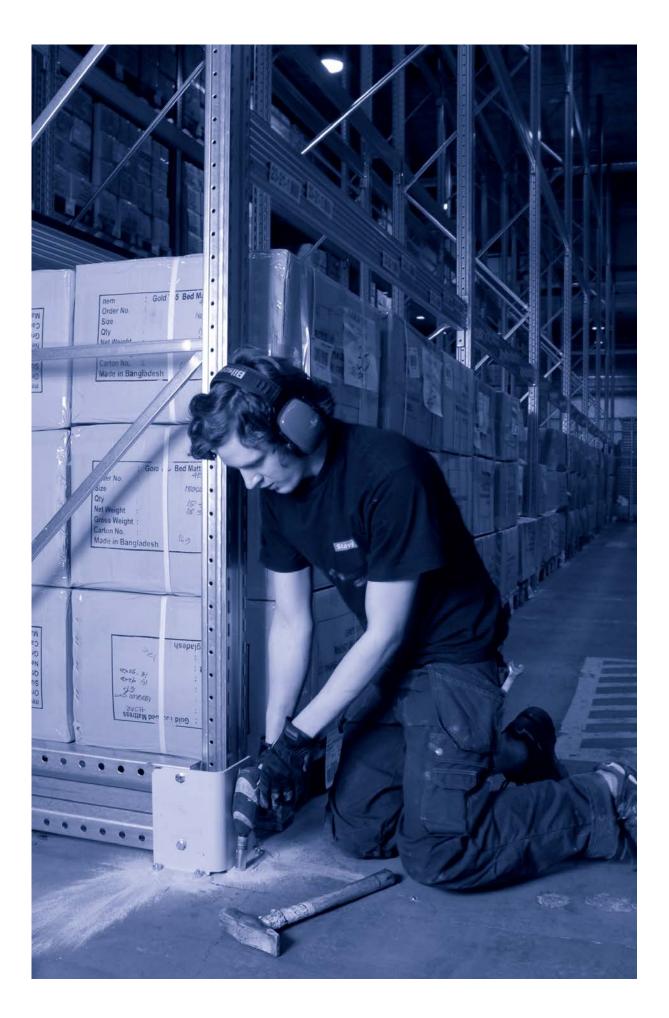
# INSTALLATION

The installation must be performed in a professional manner according to Weland's installation instructions in order to assure the quality of the installation because this has a major effect on the pallet rack's strength and function.

All parts and components are screwed together during assembly and installation. No welding is required during installation. To increase the safety of the pallet rack even further, accessories are available in the form of post protection, collision protection, fall protection, etc.

Installation instructions can be downloaded from our website, weland.com.









# **COLLISION PROTECTION**

# **COLLISION PROTECTION**

The collision protection is manufactured with a base made from Sigma beams. The installation is easy because the entire protection consists of separate standard components that can be easily bolted together during assembly. This means that no welding is needed. The base is extremely strong and light, as it only weighs 12.7 kg/metre. The profile has a material thickness of 3 mm and is 400 mm high. The collision protection is anchored to the surface or the ground and is easily built up with the components' support, end and corner.

#### 1. Sigma beam base

We stock Sigma base in fixed length according to the list below. The stock beam is 400 mm high and has a material thickness of 3 mm. We can also cut the beam to another length based on your wishes.

Length (mm)	Part no.
2000 mm	195110730402000*
4000 mm	195110730404000*
6000 mm	195110730406000*

\*Stocked

### 2. Railings

The railing is used as a complement to further increase safety and, at the same time, to more clearly mark the location of the collision protection. Easily assembled at the installation site. Our railing is supplied hot-dip galvanized as standard.

#### 3. Corner

Corner joint 90° is used when you want to create a 90° corner for the collision protection. The corner bracket is stocked with a lacquered finish, standard colour blue, RAL 5002.

Designation	Part no.
Corner 90°	195121900186*
Stocked	

## 4. End-piece

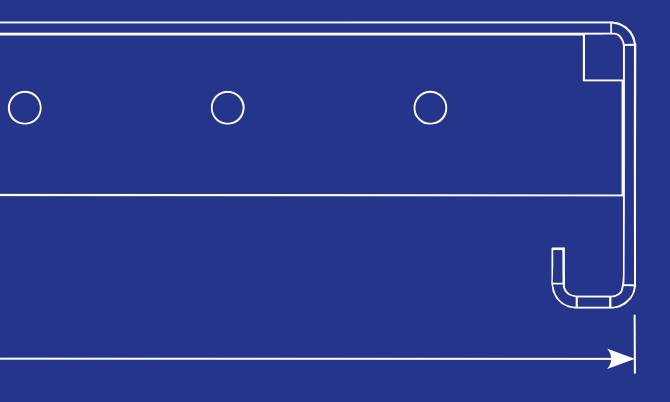
Primarily used as end of the Sigma beam. Can also be used when you want to create a 45° corner for the collision protection. The end-piece is stocked with a lacquered finish, standard colour blue, RAL 5002.

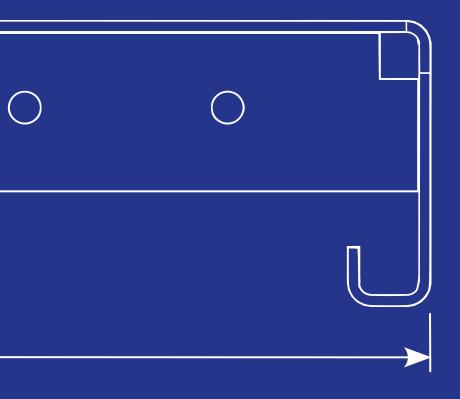
Designation	Part no.
End-piece	195121900226*
*Stocked	

# 5. Support

Primarily used as a support to reinforce the Sigma beam on long sections and in instances where you want to join the Sigma beams. The support is stocked with a lacquered finish, standard colour blue, RAL 5002.

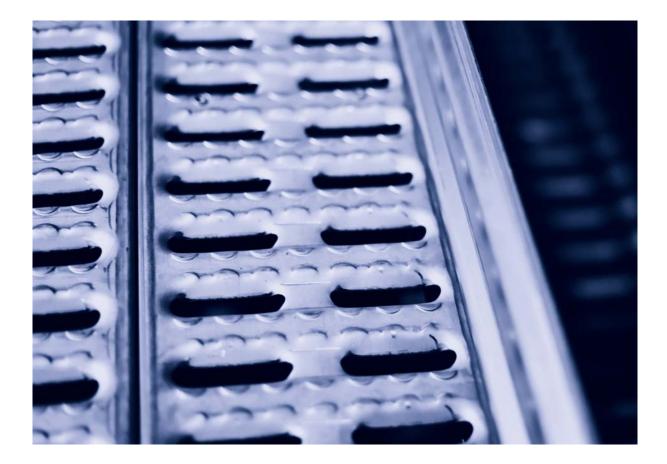
Designation	Part no.
Support	195121900156*
*Stocked	

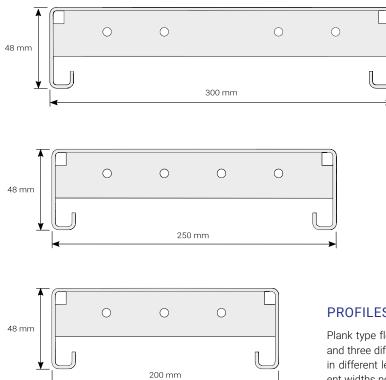




# PLANK TYPE FLOORING

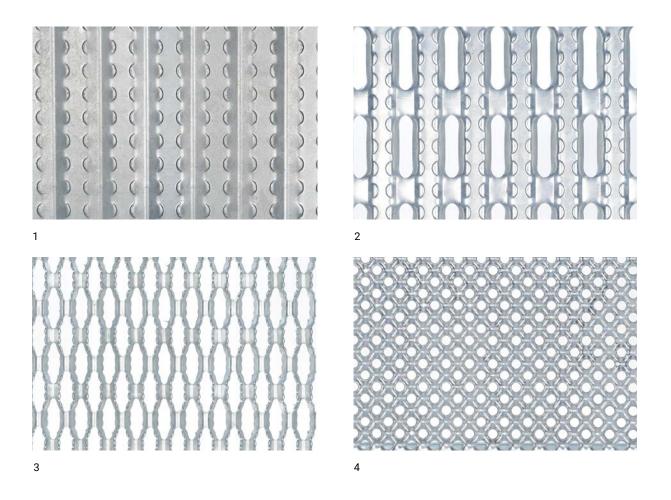
Plank type flooring is used for all types of industrial flooring, mezzanine floor structures, and walkways. Plank type flooring can cross spans up to 2 metres, which allows the beam supporting structure to be placed wider apart and allows installation to go faster.





# PROFILES, PLANK TYPE FLOORING

Plank type flooring is manufactured in four different profiles and three different widths. We can supply plank type flooring in different lengths, up to 6000 mm. Laying planks of different widths next to each other, you can get the total width you require. All our plank type flooring is 48 mm tall.



# PLANK TYPES, PLANK TYPE FLOORING

Plank type flooring is manufactured in four different patterns with unique characteristics and applications.

#### 1. Dense, LDT

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

**Application:** 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.

Profiles are available in widths of 200, 250, and 300 mm.

#### 2. Perforated, LDH

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

**Application:** Whenever a relatively smooth, yet permeable floor is required. The 6000 mm length is held in stock.

Profiles are available in widths of 200, 250, and 300 mm.

#### 3. Slit, LDS

**Characteristics:** Just like LDH, a plank type with great permeability for dirt and liquids. The unique top surface affords extremely good anti-slip protection.

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

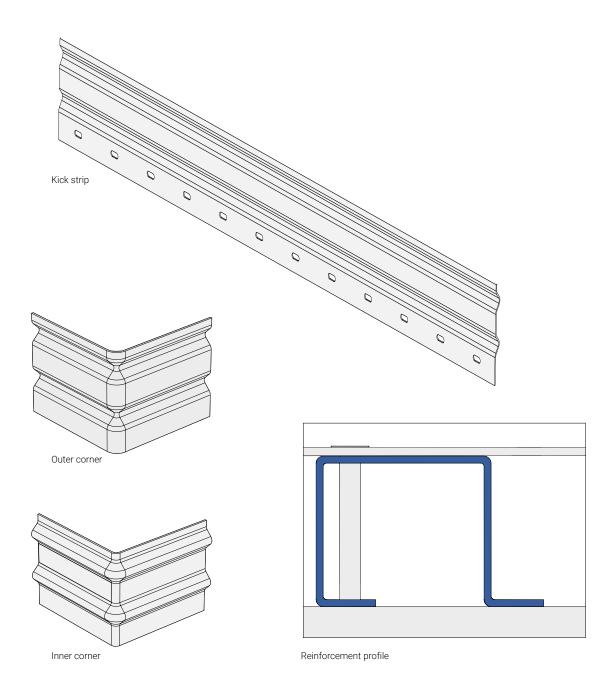
Profiles are available in widths of 200, 250, and 300 mm.

#### 4. Perforated, LDP

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

**Application:** Wherever there are strict requirements for anti-slip protection and where it is not permitted for objects to fall through the openings. The 6000 mm length is held in stock.

Profiles are available in widths of 200, 250, and 300 mm.



# ACCESSORIES, PLANK TYPE FLOORING

As accessories, there are a number of different parts that facilitate the installation as well as the use of the plank type flooring.

### Kick strip

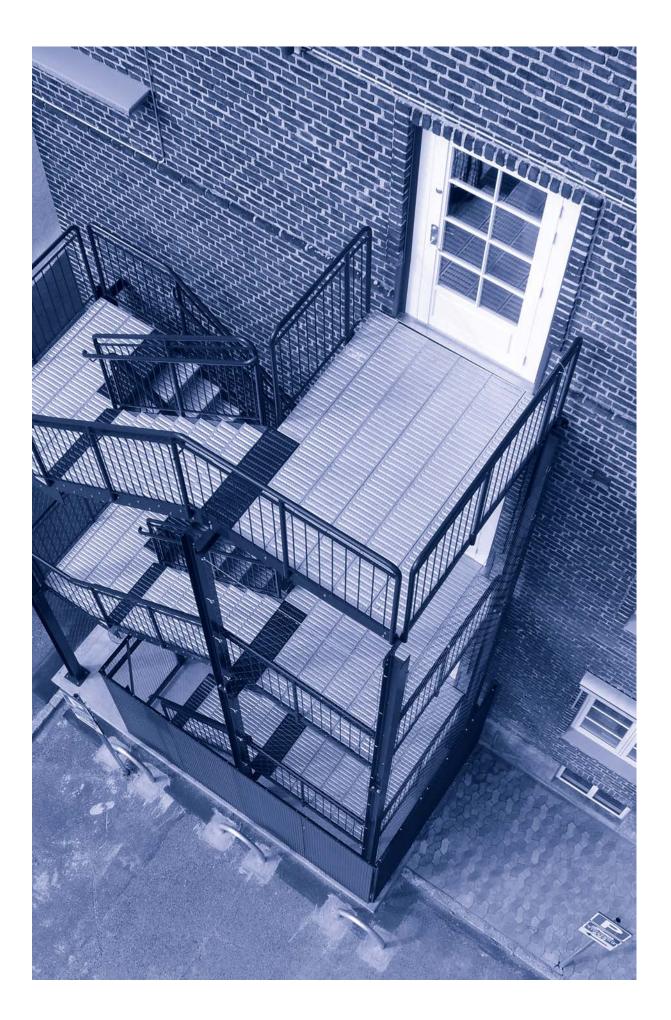
Kick strip LK140 is a special profile, located at all openings and all outer edges of the plank. Fastened to the plank type flooring using screws.

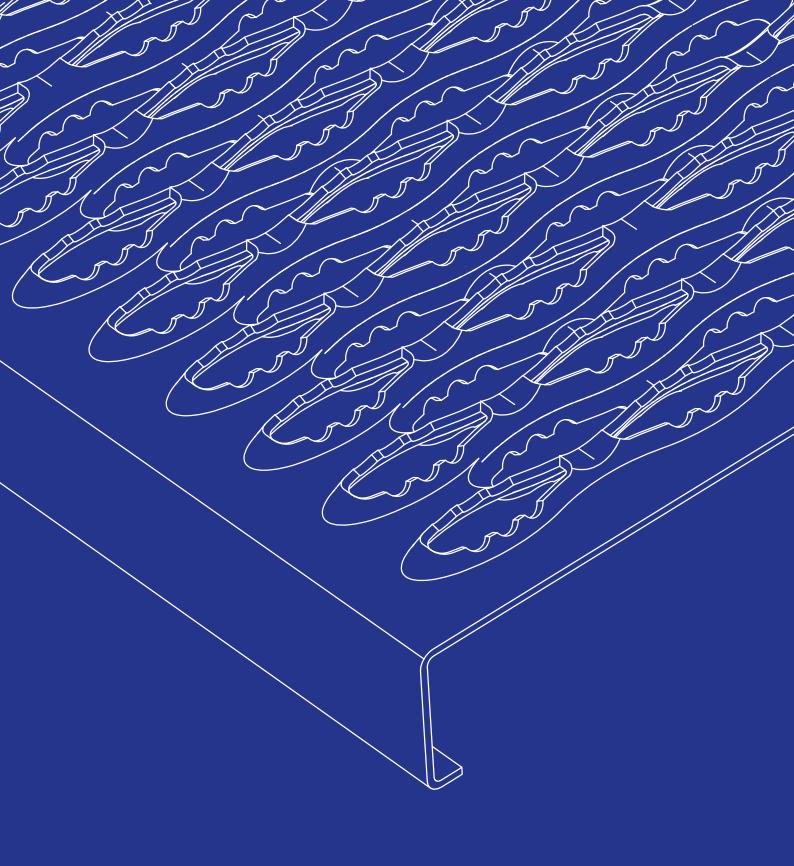
#### Corner for kick strip

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

#### Reinforcement profile

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





# SLIT PLANK TYPE FLOORING

Slit plank type flooring can be used for most types of industrial floors, walkways, steps, etc. The serrated top side of the slit plank type flooring is highly non-slip and allows dirt, oil, and other spills to pass through. 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 is more cost-effective.

# SLIT PLANK TYPE FLOORING

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.

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

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.

In certain environments, e.g. the offshore industry, there is a requirement that a 15 mm diameter ball cannot fall through the mesh. Slit type plank flooring has a mesh opening of  $45 \times 14$  mm.

### 1. 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). Slit plank type flooring can be supplied untreated for welding in place by the customer or for subsequent surface treatment, usually hot-dip galvanising.

When ordering, you can specify whether you want your slit plank type flooring cut and supplied with edging bars. The maximum length that can be formed is 4000 mm.

W x H (mm)	Surface treatment	Part no.
130 x 40	Untreated	SD1304020*
130 x 40	Hot-dip galvanized	SD13040201*
130 x 70	Untreated	SD1307020*
130 x 70	Hot-dip galvanized	SD13070201
190 x 40	Untreated	SD1904020*
190 x 40	Hot-dip galvanized	SD19040201*
190 x 70	Untreated	SD1907020*
190 x 70	Hot-dip galvanized	SD19070201
250 x 40	Untreated	SD2504020*
250 x 40	Hot-dip galvanized	SD25040201*
250 x 70	Untreated	SD2507020*
250 x 70	Hot-dip galvanized	SD25070201
310 x 40	Untreated	SD3104020*
310 x 40	Hot-dip galvanized	SD31040201*
310 x 70	Untreated	SD3107020*
310 x 70	Hot-dip galvanized	SD31070201

W x H (mm)	Surface treatment	Part no.
370 x 40	Untreated	SD3704020*
370 x 40	Hot-dip galvanized	SD37040201*
370 x 70	Untreated	SD3707020*
370 x 70	Hot-dip galvanized	SD37070201
430 x 40	Untreated	SD4304020*
430 x 40	Hot-dip galvanized	SD43040201*
430 x 70	Untreated	SD4307020*
430 x 70	Hot-dip galvanized	SD43070201
500 x 40	Untreated	SD5004020*
500 x 40	Hot-dip galvanized	SD50040201*

\*Stocked, length 3000 mm

### 2. Slit Plank Type Flooring, Stainless

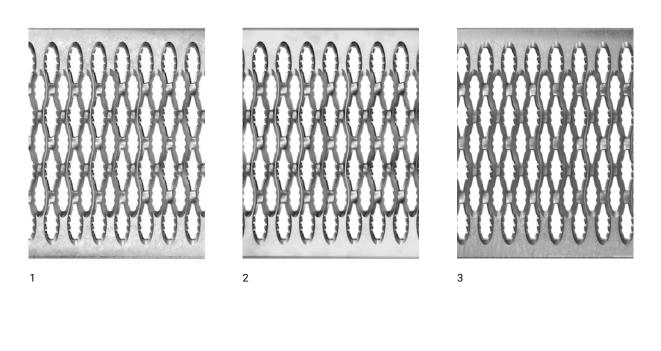
Slit plank type flooring in EN 1.4404 stainless steel is manufactured in 1.5-mm thick material, in plank widths of up to 250 mm.

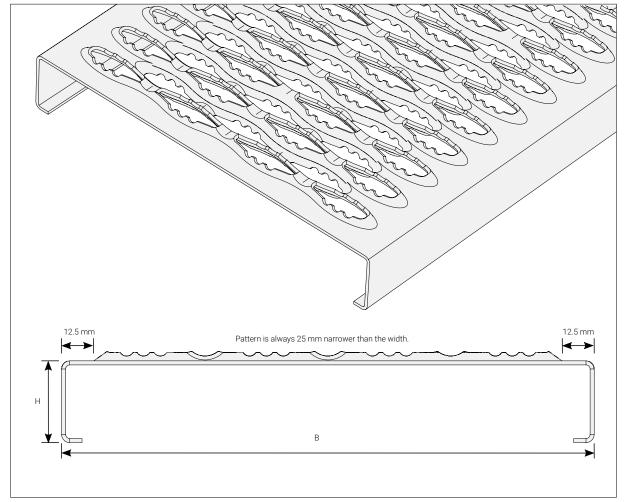
W x H (mm)	Part no.
130 x 40	SDR13040
130 x 70	SDR13070
190 x 40	SDR19040
190 x 70	SDR19070
250 x 40	SDR25040
250 x 70	SDR25070

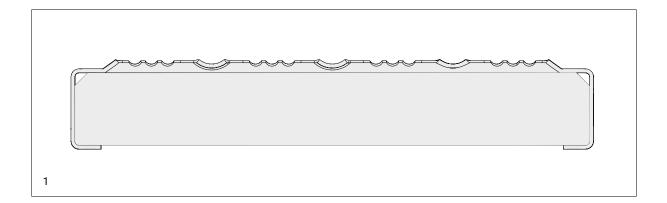
### 3. Slit Plank Type Flooring, Aluminium

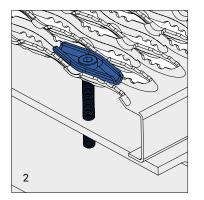
Slit type plank flooring in aluminium is manufactured in 3-mm thick material in widths of up to 370 mm.

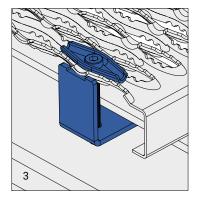
W x H (mm)	Part no.
130 x 40	SD13040
130 x 70	SD13070
190 x 40	SD19040
190 x 70	SD19070
250 x 40	SD25040
250 x 70	SD25070
310 x 40	SD31040
310 x 70	SD31070
370 x 40	SD37040

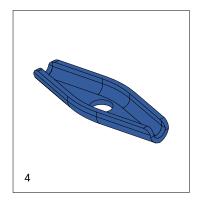












### ACCESSORIES, SLIT PLANK TYPE FLOORING

In addition to edge bars, a number of different attachment components are available for use with our slit plank type flooring. For example, you can choose either a 3-part or 4-part mounting bracket.

#### 1. Edge Bar, Standard

When ordering, you can specify whether you want your slit plank type flooring cut and supplied with edging bars.

Grating height (mm)	Part no.
40	SDK40
70	SDK70

### 2. Clamp, slit plank type flooring - 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 galvanized 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, height 40 and 70 mm

Finish: Hot-dip galvanized

For grating height (mm)	Part no.
40	1634002*
70	1637002*

\*Stocked

#### 3. Clamp, slit plank type flooring - 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 galvanized 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, height 40 and 70 mm

Finish: Hot-dip galvanized

For grating height (mm)	Part no.
40	1634001*
70	1637001*

\*Stocked

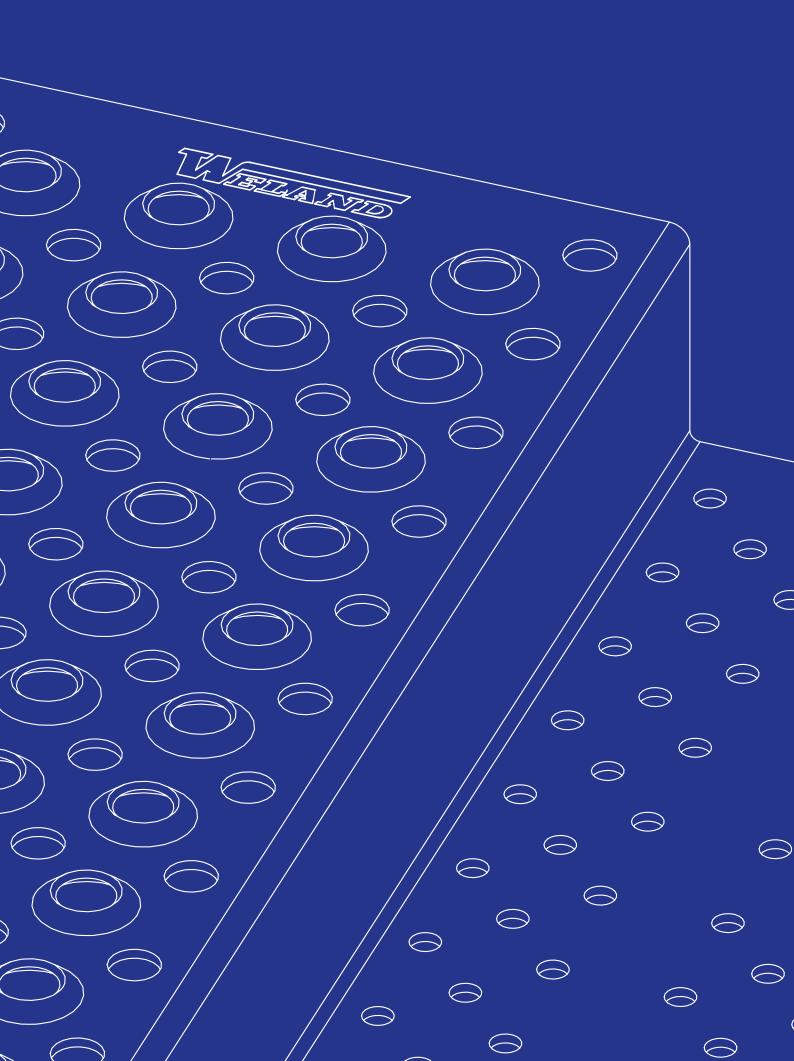
### 4. Separate fixings

Top part for slit plank type flooring.

Finish: Hot-dip galvanized

Dimensions (mm)	Part no.
22 x 60	16360221*
*Stocked	





# FIRE EXTINGUISH GRATINGS

Weland Fire Extinguish Grating is a grating with the ability to suffocate a fire and can extinguish an oil fire in three seconds. The grating has been specially developed for fire extinguish pits, for example, in transformer substations.





Watch a video of how fire extinguish grating can put out an oil fire in three seconds.

#### FIRE EXTINGUISH GRATINGS

Weland Fire Extinguish Grating is extremely corrosion resistant and is suitable for industrial areas with an aggressive climate. In addition to the most common area of use, transformer stations, fire extinguish grating is also suitable for use in the offshore and petrochemical industries. Thanks to its lightweight section, fire extinguish grating is easy to install and remove, for example, during repairs and maintenance. The grating is non-slip, R11 slip resistance class, and all openings are 10 mm or less, which means small objects cannot fall through. The grating is dimensioned for a point load of 1.5 kN or a distributed load of 5 kN/m<sup>2</sup>.

Tests performed by the Danish Institute of Fire and Security Technology show very good results with an extinction time of just three seconds. The results also show that there is no damage or discolouration on the product after a fire. You can get a copy of the report from our sales team.

Weland Fire Extinguish Grating is pattern protected (no. 005650389) and patent pending (app. no. 18195722.6).

#### Profile width and length

As standard, fire extinguish gratings are manufactured in a profile width of 150 mm, but they can also be adapted to the dimensions of the pit. The maximum length is 3980 mm.

#### End profiles

With our start and end profiles, we adjust the total width of the fire extinguish grating.

#### Seating and support line

Angle bar seating profiles and support line with square tube supports legs are included.

#### Mount for earthing

Our fire extinguish grating is equipped with threaded holes for e.g. earthing braid.

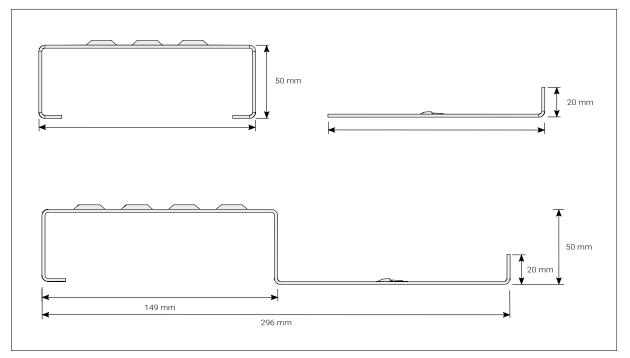
# OPTIONS, FIRE EXTINGUISH GRATING

A number of different components are available as accessories, simplifying operation and examination in the pit.

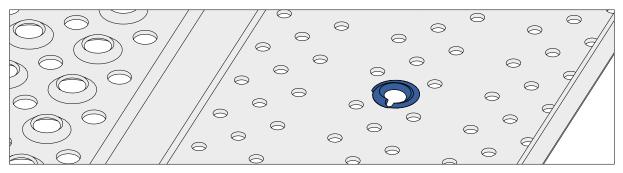
#### Inspection hatch

To gain easy access below the extinguish grating, we offer an inspection hatch. During assembly, additional support lines are delivered and, in those cases where the pit is deep, a ladder is also delivered for easier accessibility.

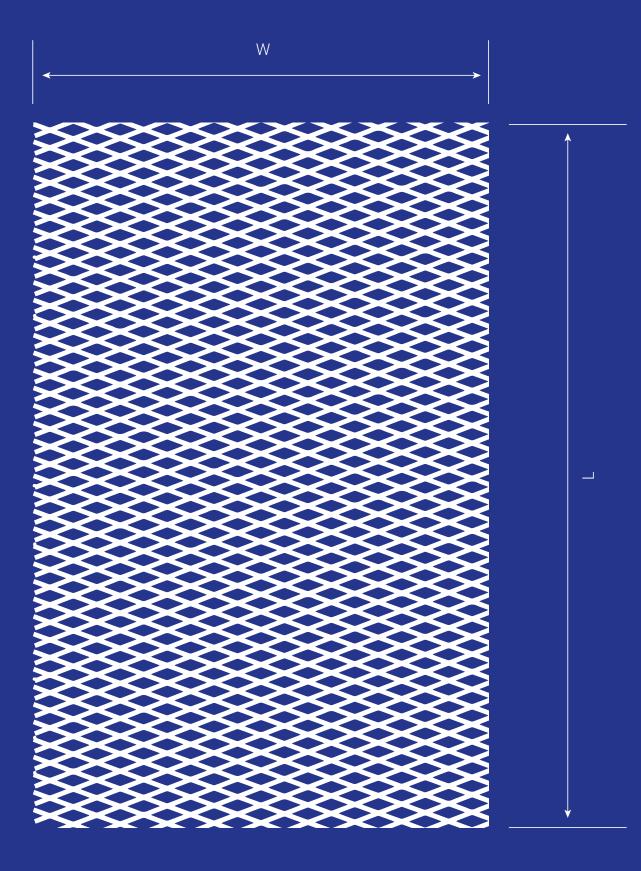




End profiles

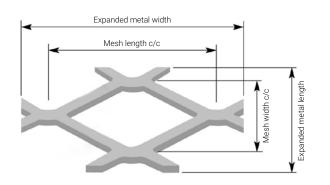


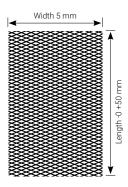
Mount for earthing



# EXPANDED METAL

Expanded metal is a product with almost limitless areas of application. For this reason, expanded metal is also manufactured in special dimensions, other materials or other formats. Contact us, and we will come up with the answer for your request.





# EXPANDED METAL

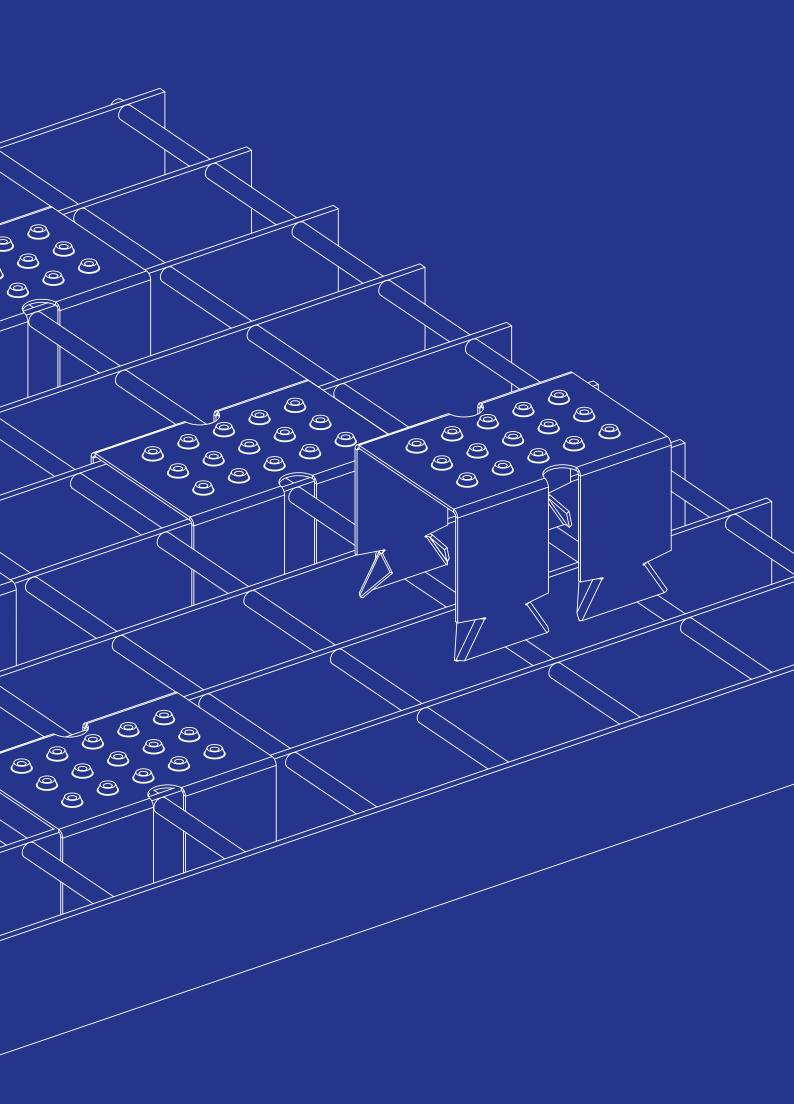
Expanded metal is manufactured in many different mesh widths, material sizes and sheet formats. Normally, expanded metal is supplied untreated in standard formats, but can also be hot-dip galvanized prior to delivery.

Designation	Mesh width (mm)	W x L (mm)	Surface treatment	Part no.	Stocked
168/1510	16x8/1/5x1.0	1000 x 2400	Untreated	16815101	Х
2010/2015	20x10/2.0x1.5	1000 x 2250	Untreated	201020151	Х
2010/2015	20x10/2.0x1.5	1000 x 2250	Hot-dip galvanized	2010201511	
2812/2010	28x12/2.0x1.0	1500 x 1500	Untreated	281220105	Х
2812/2515	28x12/2.5x1.5	1500 x 1600	Untreated	281225154	Х
2812/2515	28x12/2.5x1.5	1500 x 1600	Hot-dip galvanized	2812251541	
2812/2515	28x12/2.5x1.5	1500 x 2200	Untreated	281225153	Х
2812/2515	28x12/2.5x1.5	1500 x 2200	Hot-dip galvanized	2812251531	
2812/3015	28x12/3.0x1.5	1500 x 2200	Untreated	281230153	Х
2812/3015	28x12/3.0x1.5	1500 x 2200	Hot-dip galvanized	2812301531	
4218/2020	42x18/2.0x2.0	1500 x 1700	Untreated	4218202011	Х
4218/2020	42x18/2.0x2.0	1500 x 1700	Hot-dip galvanized	42182020111	
4218/2020	42x18/2.0x2.0	1500 x 2000	Untreated	421820209	Х
4218/2020	42x18/2.0x2.0	1500 x 2000	Hot-dip galvanized	4218202091	
4218/2520	42x18/2.5x2.0	1000 x 2500	Untreated	421825205	Х
4218/2520	42x18/2.5x2.0	1000 x 2500	Hot-dip galvanized	4218252051	
4218/4030	42x18/4.0x3.0	1000 x 2000	Untreated	421840308	Х
4218/4030	42x18/4.0x3.0	1000 x 2000	Hot-dip galvanized	4218403081	
4218/4030	42x18/4.0x3.0	1500 x 2000	Untreated	421840309	Х
4218/4030	42x18/4.0x3.0	1500 x 2000	Hot-dip galvanized	4218403091	
4218/4530	42x18/4.5x3.0	1000 x 2000	Untreated	4218453010	Х
4218/4530	42x18/4.5x3.0	1000 x 2000	Hot-dip galvanized	42184530101	
4218/4530	42x18/4.5x3.0	1500 x 2000	Untreated	421845309	Х
4218/4530	42x18/4.5x3.0	1500 x 2000	Hot-dip galvanized	4218453091	
4218/4530	42x18/4.5x3.0	1200 x 2000	Untreated	4218453013	Х
4218/4530	42x18/4.5x3.0	1200 x 2000	Hot-dip galvanized	42184530131	

Designation	Mesh width (mm)	W x L (mm)	Surface treatment	Part no.	Stocked
6228/2020	62x28/2.0x2.0	2000 x 2000	Untreated	622820202	Х
6228/2020	62x28/2.0x2.0	2000 x 2000	Hot-dip galvanized	6228202021	
6228/4030	62x28/4.0x3.0	1000 x 2500	Untreated	622840308	Х
6228/4030	62x28/4.0x3.0	1000 x 2500	Hot-dip galvanized	6228403081	
6228/4030	62x28/4.0x3.0	1500 x 2000	Untreated	6228403013	Х
6228/4030	62x28/4.0x3.0	1500 x 2000	Hot-dip galvanized	62284030131	
6228/4530	62x28/4.5x3.0	1500 x 1600	Untreated	622845309	Х
6228/4530	62x28/4.5x3.0	1500 x 1600	Hot-dip galvanized	6228453091	
6228/4530	62x28/4.5x3.0	1000 x 2500	Untreated	6228453010	Х
6228/4530	62x28/4.5x3.0	1000 x 2500	Hot-dip galvanized	62284530101	
6228/4530	62x28/4.5x3.0	1500 x 2000	Untreated	6228453013	Х
6228/4530	62x28/4.5x3.0	1500 x 2000	Hot-dip galvanized	62284530131	
6228/6030	62x28/6.0x3.0	1200 x 2250	Untreated	6228603011	Х
6228/6030	62x28/6.0x3.0	1200 x 2250	Hot-dip galvanized	62286030111	
6228/6030	62x28/6.0x3.0	1500 x 2250	Untreated	6228603012	Х
6228/6030	62x28/6.0x3.0	1500 x 2250	Hot-dip galvanized	62286030121	
6228/6030	62x28/6.0x3.0	2000 x 2250	Untreated	6228603015	Х
6228/6030	62x28/6.0x3.0	2000 x 2250	Hot-dip galvanized	62286030151	
6228/6040	62x28/6.0x4.0	1500 x 2300	Untreated	6228604014	Х
6228/6040	62x28/6.0x4.0	1500 x 2300	Hot-dip galvanized	62286040141	
7532/5530	75x32/5.5x3.0	1250 x 2250	Untreated	753255301	Х
7532/5530	75x32/5.5x3.0	1250 x 2250	Hot-dip galvanized	7532553011	
7532/5530	75x32/5.5x3.0	1500 x 2250	Untreated	753255303	Х
7532/5530	75x32/5.5x3.0	1500 x 2250	Hot-dip galvanized	7532553031	
11544/3030	115x44/3.0x3.0	2400 x 1500	Untreated	1154430308	Х
11544/3030	115x44/3.0x3.0	2400 x 1500	Hot-dip galvanized	11544303081	
11544/4530	115x44/4.5x3.0	2000 x 2400	Untreated	1154445309	Х
11544/4530	115x44/4.5x3.0	2000 x 2400	Hot-dip galvanized	11544453091	
11544/6040	115x44/6.0x4.0	1500 x 2000	Untreated	1154460405	Х
11544/6040	115x44/6.0x4.0	1500 x 2000	Hot-dip galvanized	11544604051	
11544/9040	115x44/9.0x4.0	1500 x 2500	Untreated	1154490406	Х
11544/9040	115x44/9.0x4.0	1500 x 2500	Hot-dip galvanized	11544904061	
20076/6040	200x76/6.0x4.0	1500 x 2400	Untreated	2007660401	Х
20076/6040	200x76/6.0x4.0	1500 x 2400	Hot-dip galvanized	20076604011	

# Stainless steel

Designation	Mesh width (mm)	W x L (mm)	Surface treatment	Part no.	Stock
4218/2520RF	42x18/2.5x2.0	1000 x 2000	Untreated	421825208RF	Х



# ANTI-SLIP PROTECTION & CONTRAST MARKINGS

To increase the safety and accessibility in various environments, we have developed products such as, for example, anti-slip protection for gratings, combined contrast marking and anti-slip protection for ramps, staircases etc.

The products are available in different versions for varying areas of use.



# 1. CONTRAST MARKING, NON-SLIP

Contrast marking in black lacquered punched sheet metal. The profile is easy to fit to our staircases and steel ramps.

L x W (mm)	Part no.
580 x 80	174805801*
680 x 80	174806801*
700 x 80	174807801*
880 x 80	174808801*
980 x 80	174809801*
1080 x 80	1748010801*
1180 x 80	1748011801*
1380 x 80	1748013801*
1480 x 80	1748014801*

\*Stocked

# 2. METAL ANTI-SLIP STRIP

Slippery staircases and surfaces can be supplemented with this sheet metal anti-slip strip. The strip has punched holes for increased anti-slip protection. The strip can also be used as contrast marking on stair treads where this is lacking. The strip is screwed to the underlying surface. We recommend c/c 300 mm spacing between the anti-slip strips.

L x W (mm)	Part no.
791 x 40	HS0801*
991 x 40	HS1001*
1191 x 40	HS1201*
*Stocked	

# 3. ANTI-SLIP PROTECTION FOR GRATING

Anti-slip protection in pressed stainless steel that can be pressed into place on the grate without any tools. The upper side has holes with upward pressed edges, providing very good anti-slip protection. The anti-slip protection is suitable for grates with H and N mesh widths. (c/c 33 and 17 mm) and A grates with 33 x 11 mm mesh. Available for 20, 25, and 30 mm high gratings. We recommend 40 anti-slip inserts per m<sup>2</sup>.

For plank type	L x W (mm)	Part no.
Grating A33x11	60 x 40	HS10*
Grating height 20 mm	60 x 40	HS20*
Grating height 25 mm	60 x 40	HS25*
Grating height 30 mm	60 x 40	HS30*

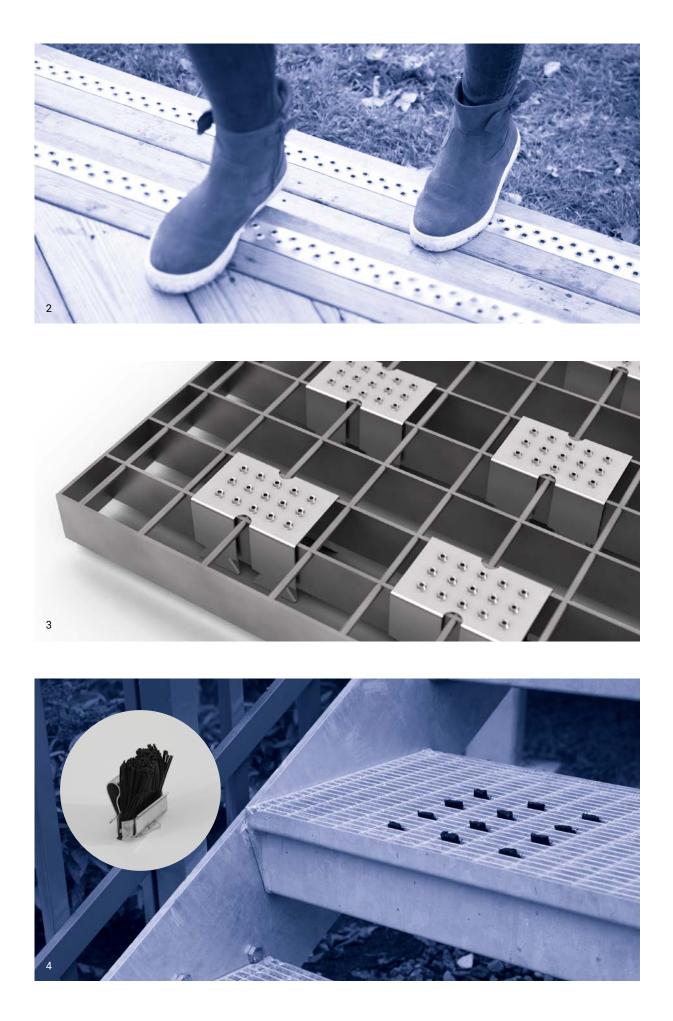
\*Stocked

## 4. ANTI-SLIP PROTECTION, BLACK BRUSH

Suitable for mesh opening  $25 \times 9$  with load bearing steel dimensions 2 to 3 mm. Dimension of brush  $23 \times 7$  mm. We recommend 400-700 brushes per m<sup>2</sup>, depending on the type of grating. This variant of anti-slip protection is not dependent on any specific mesh size.

L x W (mm)	Part no.
23 x 7	HSBRUSH *

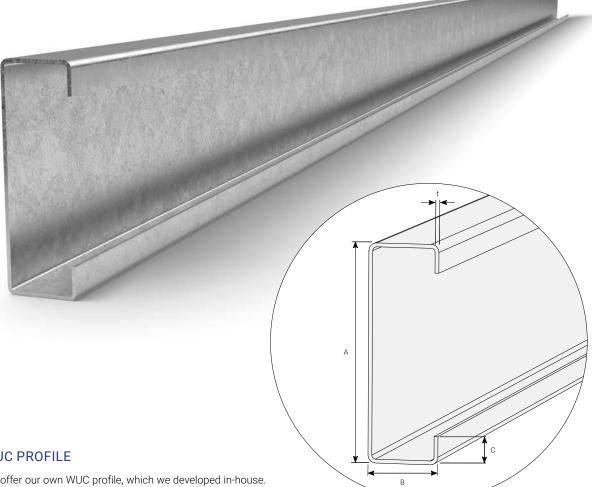
\*Stocked





# PROFILES

We provide many different types of profiles for diverse applications. We stock, for example, WUC profiles in most dimensions, wall brackets, angle bars and edge cones.



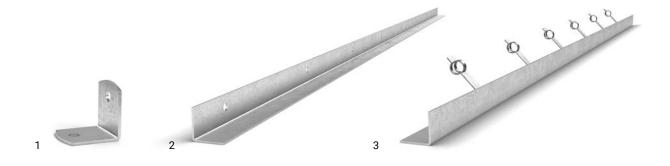
### WUC PROFILE

We offer our own WUC profile, which we developed in-house. It has a low weight and high strength and it is extremely suitable for our straight flight staircases. It is stocked in length of 5 metres for immediate delivery.

Designation	Surface treatment	Length (mm)	Dimensions (A x B x C) (mm)	Material thick- ness (t) (mm)	Deflection resistance Wy cm <sup>3</sup>	Part no.
WUC 120/3	Untreated	5000	120 x 55 x 22	3	28.1	WUC1203
WUC 120/3	Hot-dip galvanized	5000	120 x 55 x 22	3	28.1	WUC12031
WUC 170/3	Untreated	5000	170 x 55 x 25	3	46.1	WUC1703*
WUC 170/3	Hot-dip galvanized	5000	170 x 55 x 25	3	46.1	WUC17031*
WUC 170/4	Untreated	5000	170 x 55 x 25	4	59.0	WUC1704
WUC 170/4	Hot-dip galvanized	5000	170 x 55 x 25	4	59.0	WUC17041
WUC 170/5	Untreated	5000	170 x 55 x 25	5	70.6	WUC1705
WUC 170/5	Hot-dip galvanized	5000	170 x 55 x 25	5	70.6	WUC17051
WUC 200/5	Untreated	5000	200 x 55 x 25	5	89.3	WUC2005
WUC 200/5	Hot-dip galvanized	5000	200 x 55 x 25	5	89.3	WUC20051

\*Stocked





### 1. WALL MOUNT

Wall mounts can be used as mounting lugs for WUC profiles.

Dimensions (mm)	Part no.
70 x 70 x 4	6576041*
*Stocked	

#### 3. FERRULE

Ferrule is a hot rolled profile with embedment ties welded on.

Length: 2000 mm

Dimensions (mm)	Part no.		
50 x 50 x 3	1615050521*		
*Stocked			

#### 2. ANGLE BAR

Bent angle bar with holes ø 14 mm, c/c 400 mm.

Length: 3000 mm

Dimensions (mm)	Part no.
50 x 50 x 3	16150531*

\*Stocked



## COMMITMENT SINCE 1947

WELAND





## A FAMILY-OWNED GROUP

The Weland Group is family-owned and the majority of our companies are geographically located in southern Sweden. The common feature of the all companies is that they produce and sell Swedish-made products. We take great pride in that. CHANN I

The majority of our companies work with steel - a material that lasts for generations and can also be recycled over and over again. Most also offer completely unique products from their own production to meet the market's needs and demands. Other companies are proficient in materials such as aluminium, while some are at the vanguard in terms of expertise in injection moulded products, logistics solutions, surface treatment, or can offer cutting-edge expertise in printing. Although most of our customers are located in Europe, we also have companies within the Group that have the whole world as their workplace and market. Together we are the Weland Group.

You can read more about our companies on the following pages.

Weland AB Weland Design<sup>™</sup> Weland Plastic AB Weland Solutions AB Weland Medical AB Weland Industricentrum AB Weland Welded Components AB Weland Aluminium AB Weland Utemiljö™ Weland Golf™ Weland Trafikmiljö™ Weland Stål AB Maku Stål AB Per Wikstrand AB Weland Plåt AB Momec Plåt AB Floby Durk AB Zinken Weland i Ulricehamn AB AT Installation AB Industrireklam i Halmstad AB Kåbe-Mattan AB Bendex AB Hylte Tryck AB Eurovema Mobility AB AB Ivar Petterssons Järnmanufaktur Hogstad Aluminium AB Andon Robotics AB Svets & RobotTeknik i Småland AB Svetsexperten i Kalmar AB

ſ

Weland & Sønner A/S

Weland AS

Weland OY

Weland GmbH





Weland Design<sup>™</sup> designs and manufactures high quality steel products for outdoor use in aesthetically tasteful, stripped-down, and modern forms.

The company works continuously to develop its range so that it meets the varying needs of different customers. From the small garden to larger public spaces such as parks, city centres, and other public outdoor environments. The high quality and attention to detail, combined with modern design are the main characteristics of the brand.

Weland Design™ Malmgatan 34 SE-333 30 Smålandsstenar Tel.: +46 (0)371 344 00 welanddesign.se



Weland Plastic AB is a full-service company in thermoplastics and one of Sweden's major players in injection moulding. A reliable partner that, using its own resources and in collaboration with the customer, develops a concept to its finished form.

The company is a certified direct supplier both to the major vehicle manufacturers and to system suppliers. They also work with material replacement, tool manufacturing, prototype production, casting, and finishing. The company is certified in accordance with IATF-16949 and environmentally certified in accordance with ISO 14001.

Weland Plastic AB Dalsgatan 19 SE-333 30 Smålandsstenar Tel.: +46 (0)371 348 00 welandplastic.se







Weland Solutions AB is a leading supplier of solutions for warehouse management and logistics. Through its offering of customised, optimised vertical storage lifts, and warehouse furnishings, the company streamlines warehouse management for its customers.

Weland Solutions is a global company that is represented by partners all over the world, but all development, design, and manufacturing continues to take place in the Swedish town of Gislaved.



Weland Solutions AB Anderstorpsvägen 24 SE-332 36 Gislaved Tel.: +46 (0)371 52 30 40 welandsolutions.se



Originalet – sedan 1983

Innovation, function, and high quality have been characteristic features of Weland Medical since its founding in 1983. Demands for a liquid-tight closure of a laminate bag in a special medical test product gave birth to the innovative "Weland clamp", which is marketed globally under the WeLoc brand.

The company now offers a wide range of products for the sustainable resealing of various flexible packaging in areas such as medicine, foodstuffs, animal feed, and industry. All production takes place in Smålandsstenar.

Weland Medical AB - WeLoc Dalsgatan 17 SE-333 30 Smålandsstenar Tel.: +46 (0)371 348 10 weloc.com

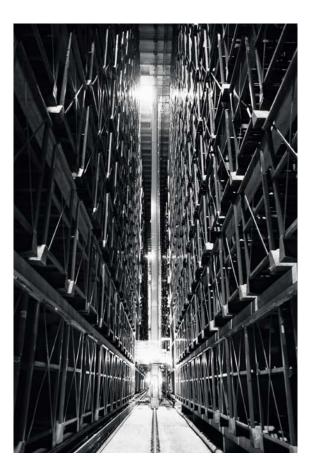




Weland Industricentrum AB offers production facilities, warehousing, office space, and conference premises to external companies and companies within the Weland Group. The facility covers a total area of 72,000  $m^2$  and employs around 400 people. Most premises have a reasonable ceiling height and good loading and unloading opportunities.

The property has traverses, column cranes, good ventilation, modern fire protection equipment, and in the high warehouse, there are 11,200 pallet spaces. The offices are usually adjacent to production or warehouse premises, but there are also completely separate offices of varying sizes.

Weland Industricentrum AB Anderstorpsvägen 24 SE-332 36 Gislaved Tel.: +46 (0)371 344 00 welandindustricentrum.se





Weland Welded Components AB provides services for the complete manufacture of industrial large sheet metal structures. The production facility in Lidhult comprises a premises of 28,000m<sup>2</sup> with equipment for handling large and heavy objects.

The company offers cutting, bending, welding, machining, and painting services, and is aimed at industries such as heavy goods vehicle production, agricultural machinery, wind power, infrastructure, and construction. Their niched turnkey offering is unique on the Swedish market.

Weland Welded Components AB Singeshultsvägen 6 SE-340 10 Lidhult Tel.: +46 (0)371 344 00 welandwc.se





Weland Aluminium AB supplies quality products in aluminium and offers functional solutions for both new build and property renovation projects. The company is a turnkey supplier of things such as balconies, aluminium railings, aluminium ramps, and doors. All production takes place in Alvesta, using a team of in-house designers and building mechanics. The company monitors the entire manufacturing process, ensuring that the high quality of the products is maintained.

All products are CE-approved in accordance with EN 1090, as well as Byggvarubedömningen, Sunda Hus and Svanen.







Weland Utemiljö<sup>™</sup> specialises in aluminium structures for balconies, railings, and weather protection for public transport. For more than two decades, the company has been manufacturing durable and maintenance-free products for various types of outdoor environment.

Manufacturing takes place in the company's own factory in Alvesta, where product developers, designers, and building mechanics work together to ensure that the products satisfy the high quality requirements that are the hallmark of the company.

Weland Utemiljö<sup>™</sup> Björnstorpsvägen 2 SE-342 30 Alvesta Tel.: +46 (0) 472 445 00 welandutemiljo.se





Weland Golf<sup>™</sup> is one of the foremost suppliers of Swedish-made, maintenance-free, and easy to install products for golf courses. The range includes weather protection for driving ranges, golf benches, and information boards. The products can be easily be assembled and the number of possible variants is largely unlimited.

The company's product development benefits from close and intimate relationships with golf clubs throughout Sweden. The products can easily be provided with sponsorship messages. Weland Golf is part of Weland Aluminium AB, which has its production facilities in Alvesta.







Weland Trafikmiljö<sup>™</sup> manufactures Swedish-made street furniture for public transport. The range includes everything from stop signs to weather protection and smaller terminal buildings. The company's strength lies in combining modern design with robust and durable constructions that require minimal maintenance.

All products are manufactured in Sweden and are characterised by their long service life. The high level of prefabrication used affords short assembly and installation times. Weland Trafikmiljö<sup>™</sup> is a supplier to Länstrafiken companies and municipalities throughout Sweden.

Weland Trafikmiljö™ Björnstorpsvägen 2 SE-342 30 Alvesta Tel.: +46 (0)470 127 10 welandtrafikmiljo.se





Weland Stål AB is a market-leading supplier of products for roof safety and evacuation. The range also includes railings, solar panel mounts, and sheet metal working services. The products are made in hot-dip galvanized stainless steel and copper. In its test facility, new products are developed and tested to ensure that they satisfy the requirements of applicable standards. Significant focus is placed on simplicity for the fitter and reliability in use.

Roof safety products are certified and approved by SP, the Technical Research Institute of Sweden.





Maku Stål AB is one of Sweden's foremost manufacturers of framework trusses. Behind its success lies 50 years of experience and expertise. The range also includes pipe, pedestrian, and transport bridges.

The company's truss beams and steel frames are dimensioned in accordance with EKS 10 and Eurocode 0, 1, and 3. Maku Stål manufactures constructions up to design class EXC3. The company is certified in accordance with EN 1090-1:2009 and A1:2011, and all products are CE-marked.

Maku Stål AB Verkstadsgatan 15 SE-504 62 Borås Tel.: +46 (0)33 23 70 80 **maku.se** 







Per Wikstrand AB manufactures roof safety products and timber processing machinery.

They offer a complete stocked range of roof safety products in hot-dip galvanized and painted steel. Their range also includes woodcutters, splitters, combined cutting and splitting machines, and wood conveyors.

The company is located in Mora and has been active in roof safety since the mid 1980s. Their roof safety products are P-certified in accordance with Swedish standards, and CE-marked where possible.







Weland Plåt AB is a manufacturing company geared to industry. Their strength is proven experience as a one-stop shop for contract production of shop fittings, recycling stations, and custom pieces in stainless steel and aluminium. They work on both small and large batches, and also produce a number of unique "oneoff" items.

Weland Plåt punches, bends, and welds sheet metal, and also helps with surface treatment services. The company's production facility is located in Taberg, just outside Jönköping.

Weland Plåt AB Taklasvägen 46 SE-562 41 Taberg Tel.: +46 (0)36 645 80 welandplat.se

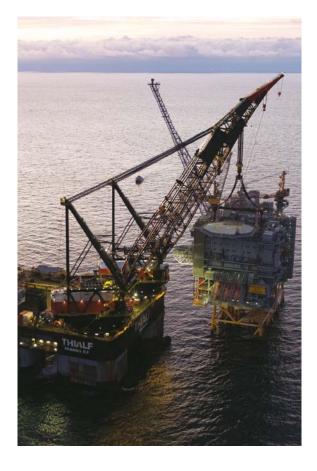




Momec Plåt AB has more than fifty years of experience in the development, manufacture, and delivery of safe, certified steel doors. The company manufactures all types of steel door, from sound-insulated elegant cab doors to weatherproof / fireproof sliding doors and high security doors.

Customers include shipyards, shipping companies, and offshore all over the world, as well as Nordic construction companies. Momec's steel doors are tested for fire resistance and noise reduction and certified by international classification bodies and authorities.

Momec Plåt AB Stråkenvägen 2 SE-565 76 Bottnaryd Telephone: +46 (0)36 203 00 **momec.se** 





Floby Durk AB is a solid company with a factory and offices in Floby. The well-known slot floor, Floby slot floor, is the backbone of the business. The company manufactures spiral staircases, straight flight staircases, special stairs, construction stairs, ramps, and attic corridors. The spiral staircase is manufactured for evacuation and industry, as well as for use as exclusive indoor stairs.

The wide range of staircases makes company unique. Since its founding in 1979, all sales, design, and manufacturing have taken place in Floby.

Floby Durk AB Ullenevägen 2 SE-521 52 Floby Tel.: +46 (0)515 408 20 **flobydurk.se** 





Zinken Weland AB is one of Sweden's most modern hot-dip galvanisation companies and one of the leading suppliers in the area in western Sweden.

Hot-dip galvanising is the most effective method for protecting steel against corrosion. The initial cost of hot-dip galvanising is low, the maintenance-free service life is very long, and the material is highly recyclable. This makes it a good environmental choice. The company is located in Ulricehamn.



Zinken Weland AB Industrivägen 3 • SE-523 90 Ulricehamn Telephone: +46 (0)321 129 80 **zinkenweland.se** 



AT Installation AB is a leading installer and installation partner in fibre/network, door telephony, access control systems, AV technology, and urban networks. The company offers holistic solutions and is involved in the entire process, from design to final installation and servicing.

By collaborating closely with its customers, which include companies, tenant-owner associations, property companies, and IT infrastructure companies, they have acquired solid knowledge about the needs of the market.

The company was founded in 1956 and is headquartered in Mölndal.

AT Installation AB Kråketorpsgatan 24 SE-431 53 Mölndal Tel.: +46 (0)31 776 85 00 **atinstallation.se** 



### INDUSTRI**REKLAM**

Industrireklam AB develops strategic marketing and communication in close collaboration with companies within the Weland Group. Something it has been doing since 1989. This web and advertising agency has a mix of different skills - everything from advertising creators and copywriters, to UX designers, photographers, and experts in digital media.

We have a shared belief that good cooperation leads to more effective communication - and stronger brands. The agency is located in Halmstad and works closely with Hylte Tryck AB.

Industrireklam i Halmstad AB Skolgatan 8 SE-302 32 Halmstad Tel.: +46 (0)35 15 61 70 **industrireklam.se** 





Kåbe-Mattan AB offers a complete programme of entrance mats and scraper gratings for all types of entrances. Since the company's founding in 1944, crafts, product development, and quality have been in focus. Many years of expertise and experience have been combined with modern technology and today the company is the market leader in Sweden in respect of entrance solutions.

The carpets come with a 10-year guarantee and are 100% recyclable. The company offers to take in carpets for recycling once they have reached the end of their service life.

Kåbe-Mattan AB Sågverksgatan 10 A SE-716 93 Fjugesta Tel.: +46 (0)585-255 50 **kabe-mattan.se** 





Bendex AB is a turnkey partner when it comes to cost-effective welded structures. This includes fixture and item design, production technology, prototype production, and rational series production.

A comprehensive manufacturer and leading subcontractor of welded pipe and sheet metal constructions in small and medium-sized series. The company's main processes are pipe processing, sheet metal processing, and joining.

End customers are in the heavy vehicle industry, agricultural industry, and medical devices industry.

Bendex AB Alexanders Väg 1 SE-314 93 Hyltebruk Tel.: +46 (0)345 406 60 **bendex.se** 

### HYLTE TRYCK

Hylte Tryck AB is a reliable printer that has been in the industry since 1938. The printing works' modern machine park handles most of the printed matter production and offers everything from fast jobs to larger brochures and catalogue productions that must be addressed and sent out.

The printing works is environmentally certified in accordance with ISO 14001, holds the Nordic Swan Ecolabel, and is affiliated to the FSC.

Hylte Tryck AB Landerydsvägen 72 SE-314 32 Hyltebruk Tel.: +46 (0)345 409 90 **hyltetryck.se** 







Eurovema Mobility AB develops, manufactures and markets Euroflex (work chairs and electric indoor wheelchairs), Alvema (children's products and pushchairs), and Volaris (rollators). The products, which are manufactured in the company's own premises in Gislaved, have been developed in close collaboration with users, researchers, and professionals throughout the care chain.

The company's goal is to improve sitting and mobility for people of all ages with special needs. The company was founded in 1977 and has a subsidiary in Norway, Eurovema Mobility AS.

Eurovema Mobility AB Baldersvägen 38 SE-332 35 Gislaved Tel.: +46 (0) 371-390 100 **eurovema.se** 

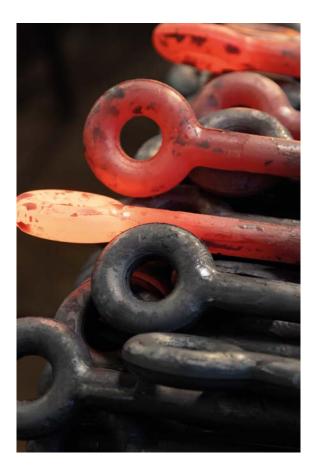




Ivar Petterssons Järnmanufaktur is a turnkey engineering company that manufactures line forging and welded steel structures. They offer a wide range of stay material for attachment in soil and rock, as well as casting in concrete.

All production and design takes place in the factory in Smålandsstenar, which means that the company can both offer complete solutions and guarantee high quality throughout the entire production phase. The company was founded in 1923 and is now the market leader in line forging and welded steel structures for power lines.

AB Ivar Petterssons Järnmanufaktur Västergatan 23 SE-333 30 Smålandsstenar Tel.: +46 (0)371 300 16 **ivarpetterssons.se** 





For more than 50 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 for balconies. The product range includes balcony railings, glazing systems, aluminium window coverings, and concrete balconies.

The company is responsible for the entire delivery, from development and manufacturing to installation on site. Hogstad Aluminium is a member of Balkongföreningen (the Nordic balconies association) and is certified by Nordcert in accordance with EN 1090. Production takes place in the company's own factory in Mjölby.

Hogstad Aluminium AB Transformatorgatan 4, SE-595 35 Mjölby Tel.: +46 (0)142 29 31 00 hogstadaluminium.se





Andon Robotics is a skilled and long-term partner offering bespoke solutions within the field of robotic handling and welding. The company has extensive knowledge of material handling, robots and external shafts, software, and welding processes, as well as comprehensive production expertise.

Andon Robotics AB Radiatorvägen 2 SE-702 27 Örebro Tel.: +46 (0)19 20 72 00 **andonrobotics.se** 





Svets & Robotteknik i Småland AB is a turnkey supplier to welding industries. The company sells welding machines, filler materials and welding-related products from leading suppliers and offers servicing, validation, repair, and consultation on welding issues.

The company's employees have a high level of knowledge in welding, with several being certified welding specialists. Svets & Robotteknik i Småland AB is quality assured in accordance with ISO 9001:2015.

Svets & RobotTeknik i Småland AB Minkvägen 2 SE-352 45 Växjö Tel.: +46 (0)470 70 19 90 svetsrobotteknik.se

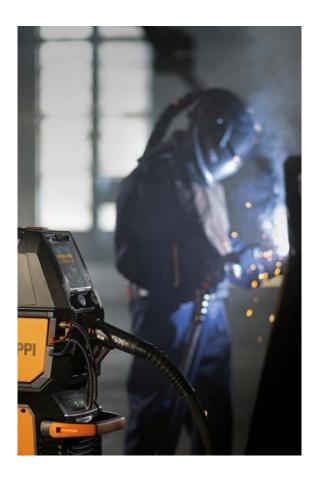


Svetsexperten i Kalmar AB is a one-stop welding house. The company sells welding machines, gas, additives, and accessories from leading suppliers. Through a combination of its own expertise and carefully selected suppliers in each product area, the company is in a position to offer customers the best solutions for efficient production.

The company also offers preventive servicing of power sources, repairs, and validations - on site or in its own workshop. Svetsexperten i Kalmar also acts as a Gas Depot for Linde, as well as being a dealer and service workshop for Kärcher industrial machines.

Svetsexperten i Kalmar AB Polhemsgatan 22 SE-392 39 Kalmar Tel.: +46 (0)480 42 22 66 svetsexperten.se





### SUBSIDIARIES

The Weland Group is a family-owned conglomerate with the majority of its companies located in the south of Sweden. We also have a presence outside Sweden's borders, with four subsidiaries located in Denmark, Finland, Norway, and Germany.

### Weland & Sønner A/S

Weland & Sønner A/S was founded in 1981 as a subsidiary of Weland AB. The company has offices and warehouses in Taastrup, Denmark. The range includes, among other things, lattice floor products, stairs, railings, mezzanines, and walkways.

Weland & Sønner A/S Rugvænget 32, DK-2630 Taastrup, Denmark Telephone: +45 43 99 75 55 weland.dk

### Weland AS

Subsidiary Weland AS has offices and warehouses in Oslo. The company was founded in 1979. The range includes, among other things, grating products, staircases, railings, walkways, mezzanines, roof security, solar panel mounts, entrance mats/carpets, and balconies.

Weland AS Svennerudveien 34, NO-2016 Frogner Telephone: +47 46 93 91 00 weland.no

### Weland Oy

Weland Oy was founded in 1970 in Finland and has been part of the Weland Group since 1992.

The company has offices and warehouses in Ulvila, Finland. The range includes, among other things, lattice floor products, stairs, railings, mezzanines, and walkways. Weland Oy is also active in sheet metal working.

Weland Oy Peltotie 31, FI-28400 Ulvila Telephone: +358 2 634 39 00 weland.fi

### Weland GmbH

Weland GmbH is the oldest subsidiary of Weland AB, being founded in 1967. The company has offices in Lübeck, Germany. The company's core business is the sale of spiral staircases, straight flight staircases, and ladders.

Weland GmbH Spenglerstr. 89-91, DE-23556 Lübeck, Germany Telephone: +49 451 89 94 10 weland.de











ONE STEP AHEAD SINCE 1947

٢

Swix

Suiz



## **CONTACT US**

Weland AB is grouped into two sales areas: products and sheet metal working.

Our goal is to always give you, our customer, the best possible service. Therefore, we have collected contact information and descriptions of our business areas on **weland.com** so that you can easily and quickly get in touch with us.

If you do not find what you are looking for, please contact our switchboard on **+46 (0)371 344 00** and we will point you in the right direction.

Notes	

Notes	



+46 (0) 371-344 00 | info@weland.com | weland.com