

Steel tube railings

Date
05.08.2026

Edition
1

Page
1 (8)

1. Introduction

Weland AB was founded in 1947 and has been manufacturing steel railings since the 1950s, with all production based in Sweden. Below are guidelines for the construction of fixed and removable steel tube railings in industrial environments, intended for floors and staircases in industrial buildings. They also serve as a basis for design and procurement, enabling stakeholders to receive information about applicable criteria at an early stage.

Please note, staircases that are connected to machines are also covered by the provisions of the Machinery Directive.

2. Design criteria

Railings are dimensioned and executed in accordance with the following:

- SS EN 1090-2. Technical requirements for steel structures.
- EKS. National regulations for the application of Euro codes. Dimensions of steel structures.

The railings are dimensioned for a line load of 1 kN/m perpendicular to the longitudinal direction of the railing (compliant with load category C3). The load is assumed to act horizontally. The line load is based on the area of use. Please note, other load requirements may also apply.

3. Guidelines for design

Railing height from finished floor or gangway shall be at least 1100 mm. No opening shall exceed 500 mm, provided that a kick strip is fitted. A railing height of 900 mm is only acceptable in exceptional circumstances.

A minimum clearance of 30 mm shall be maintained along the outside of the guardrail throughout its entire length in order to avoid crush injuries, impacts, and suchlike (in accordance with TS59).

3.1 Kick strip

A kick strip can be fitted to all landing and floor-edge railings. Scope to be determined by the customer. In instances where a kick strip is used, it should be fitted to the balusters.

Steel tube railings

Date
05.08.2026

Edition
1

Page
2 (8)

4. Design

4.1 Railing types

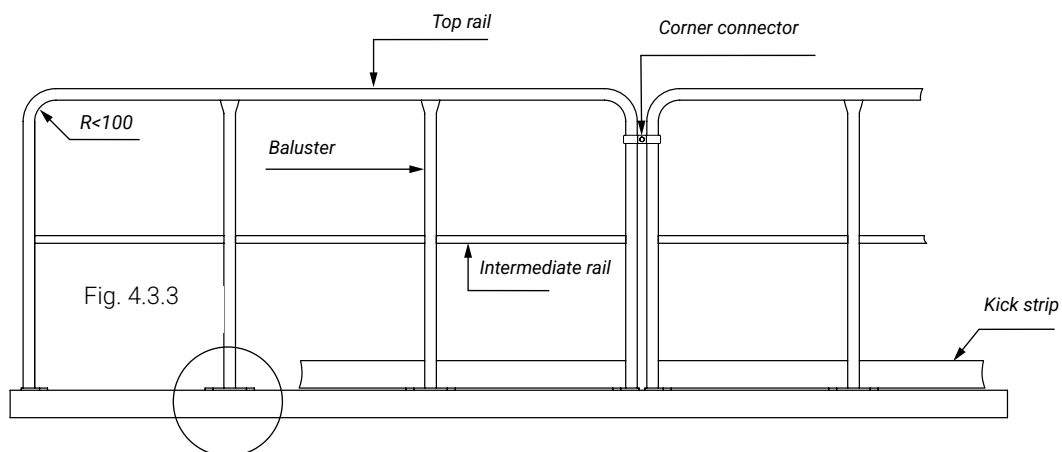


Fig. 1 – Top-mounted railing

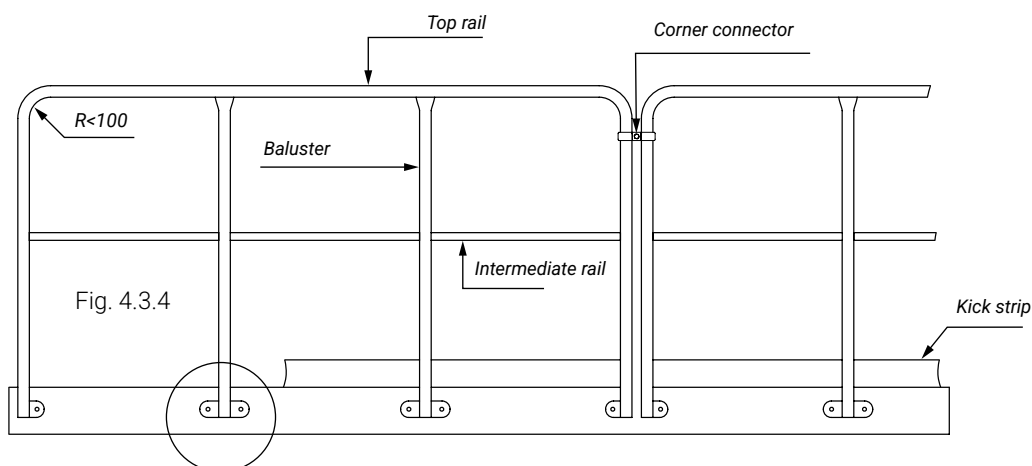


Fig. 2 – Side-mounted railing

Steel tube railings

Date
05.08.2026

Edition
1

Page
3 (8)

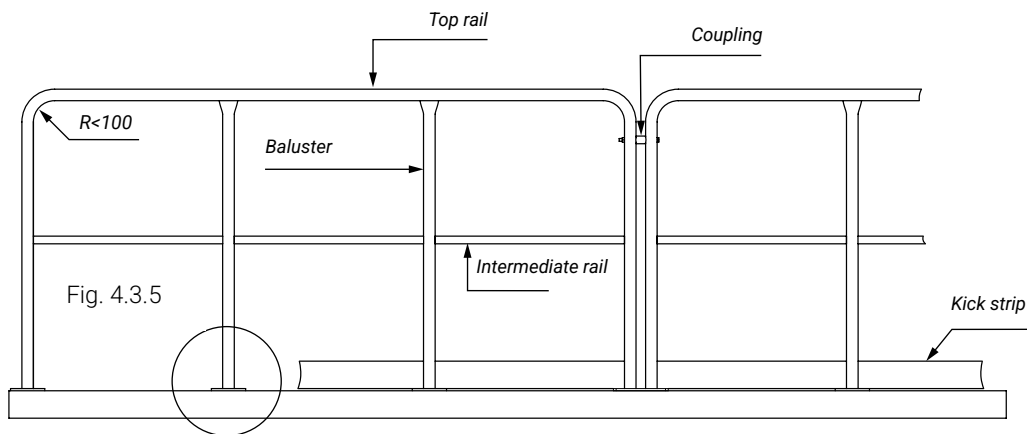


Fig. 3 – Top-mounted removable railing

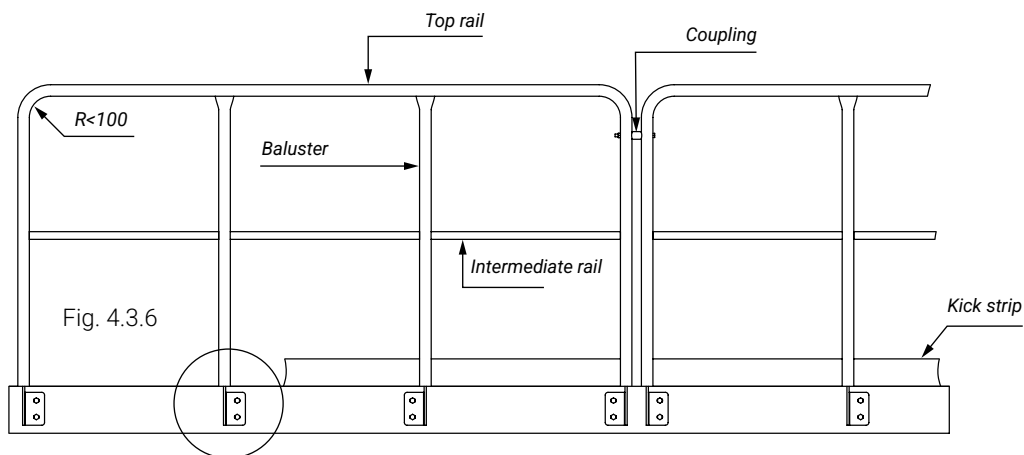


Fig. 4 – Side-mounted removable railing

Steel tube railings

Date
05.08.2026

Edition
1

Page
4 (8)

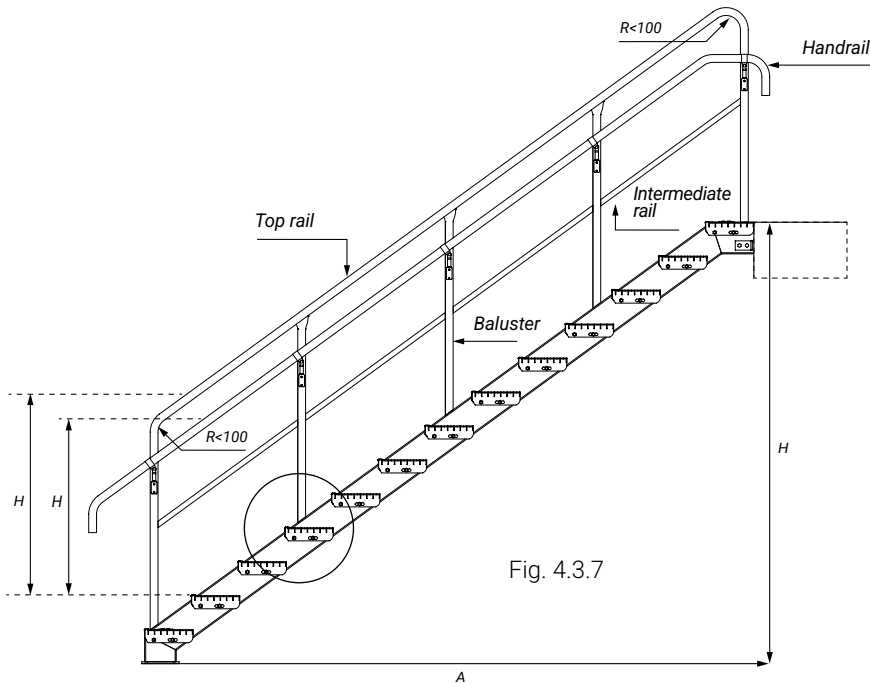


Fig. 4.3.7

Fig. 5 – Standard railing mounting (welded)

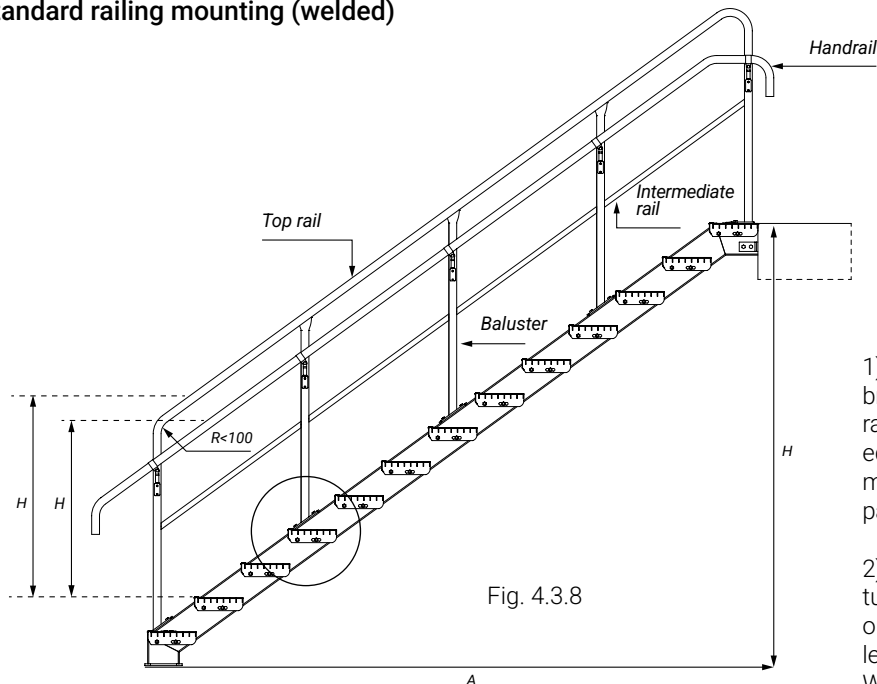


Fig. 4.3.8

Fig. 6 – Removable railing (bolted)

1) As standard, the top rail breaks between the stair railing and the landing/floor-edge railing. Extra handrails may be offered as part of a package.

2) The handrail is manufactured as a single continuous piece along the entire length of the flight of stairs. Where an extended handrail is required, the additional handrail extends 300 mm beyond the beginning and end of the stair flight.

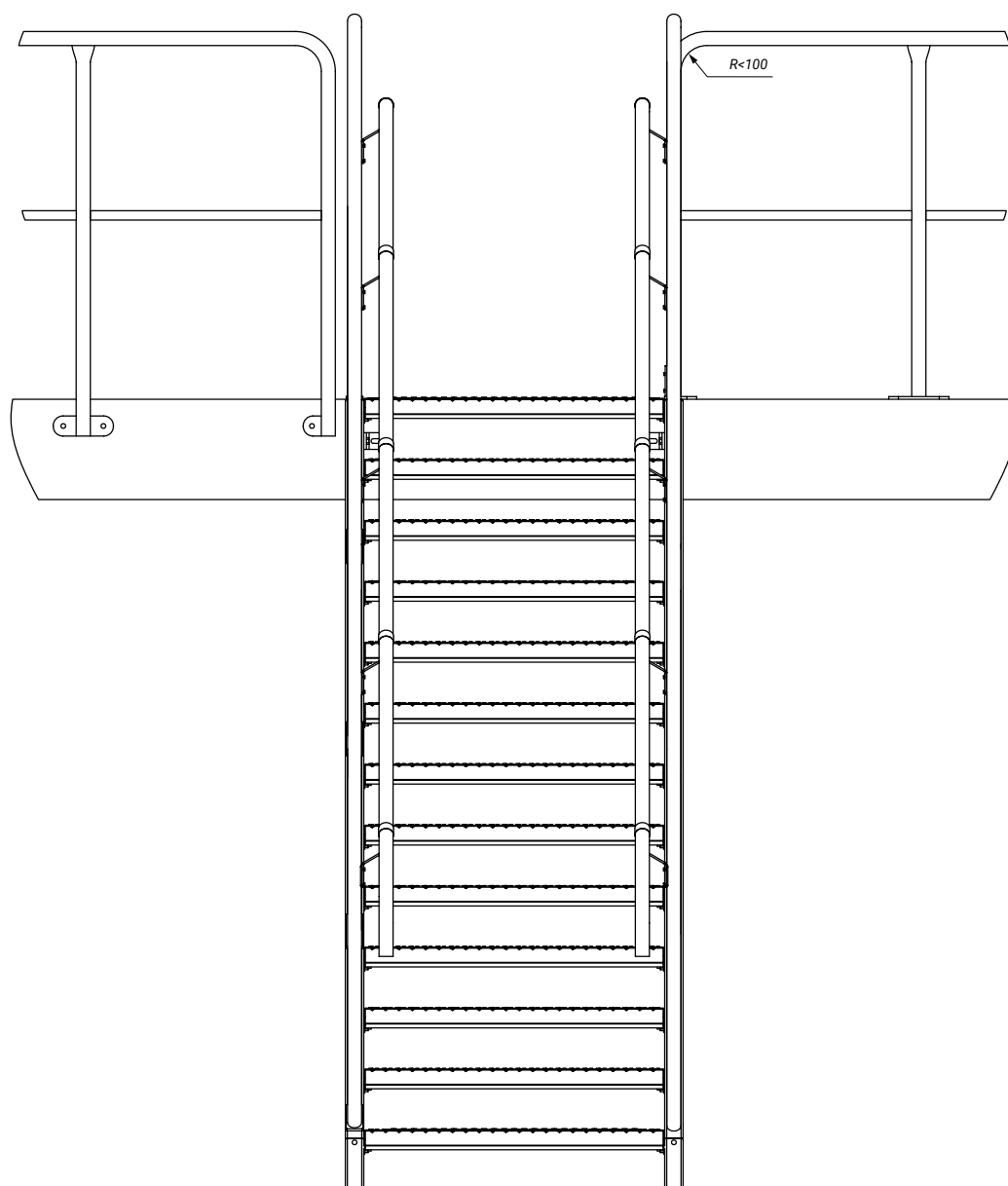
Steel tube railings

Date
05.08.2026

Edition
1

Page
5 (8)

4.2 Connection to landing



Steel tube railings

Date
05.08.2026

Edition
1

Page
6 (8)

4.3 Components

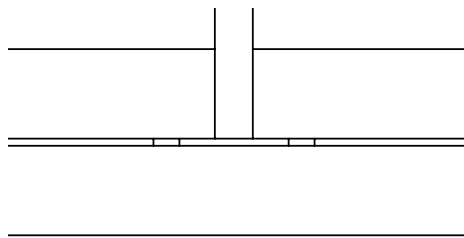
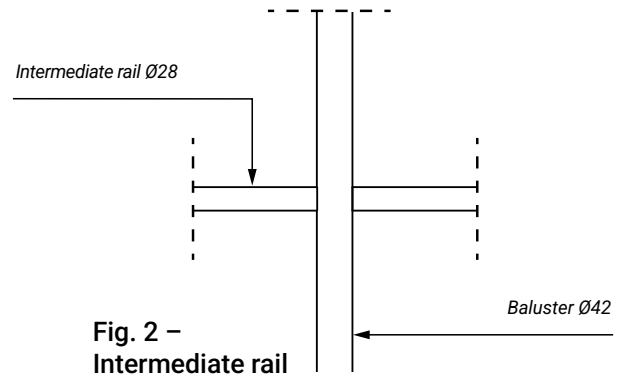
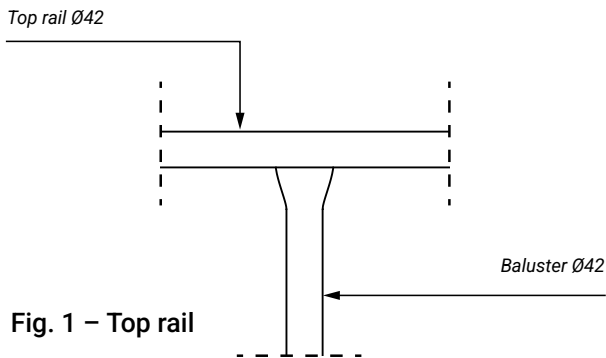


Fig. 3 – Top-mounted railing (welded)
View showing railing with kick strip

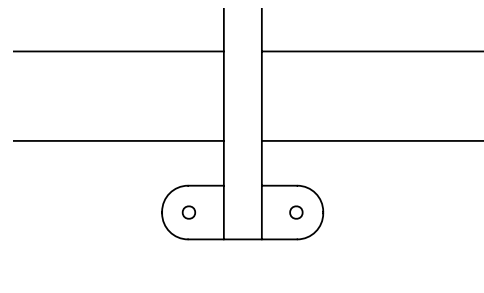


Fig. 4 – Side-mounted railing (welded)
View showing railing with kick strip

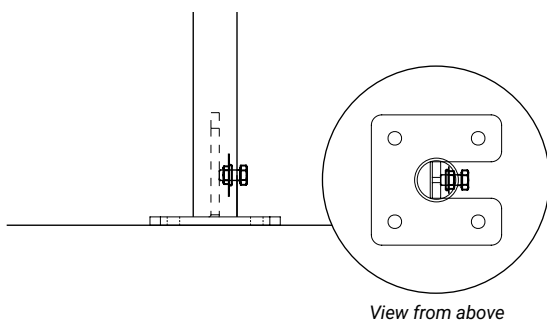


Fig. 5 – Top-mounted removable railing

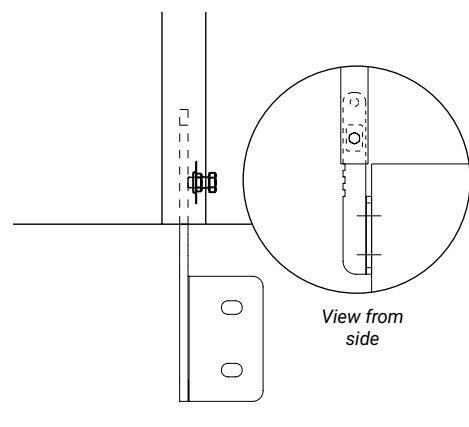


Fig. 6 – Side-mounted removable railing

Steel tube railings

Date
05.08.2026

Edition
1

Page
7 (8)

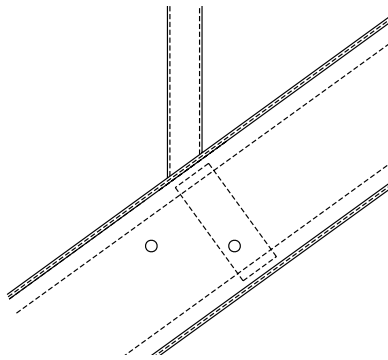


Fig. 7 – Standard railing mounting (welded)
Railing mounted to inclined stair stringer

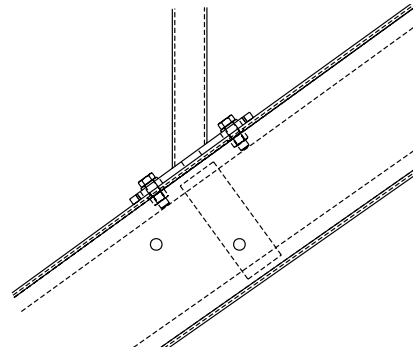


Fig. 8 – Removable railing mounting (bolted)
Railing mounted to inclined stair stringer

Steel tube railings

Date
05.08.2026Edition
1Page
8 (8)

5. Materials and dimensions

Railings are produced in the following alternative materials and dimensions

Material	Baluster	Top rail, extra handrail	Intermediate rail
Steel tube compliant with EN10204-3.1. EN10305-3, S370H.	Ø42x2.5	Ø42x2.5	Ø28x2.5

6. Surface treatment and colour

We offer a total of four different surface treatment variants as standard.

- Hot-dip galvanized, in accordance with SS-EN-ISO 1461 (C3)
- Hot-dip galvanized, in accordance with SS-EN ISO 1461FE/ZN 115 (C4)
- Hot-dip galvanized, in accordance with SS-EN-ISO 1461 + finished in accordance with SS-EN-ISO 12944-5 2019 C4.A7.10
- Painted for interior use, in accordance with SS-EN ISO 12944-5 2019 C2.A2.06

7. References

Standard	Title
SS-EN 1090-2:2018	Execution of steel structures and aluminium structures. Part 2: Steel structures. (2018)
SS-EN ISO 1461:2009	Inorganic coatings - Hot-dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods. (2009)
SS-EN 1993-1- 1:2005/A1:2014	Eurocode 3: Design of steel structures. Part 1-1 General rules and rules for buildings. (2005)
BBR	Swedish Board of Housing, Building and Planning's Building Regulations
BFS 2024:9	Swedish Board of Housing, Building and Planning Code of Statutes