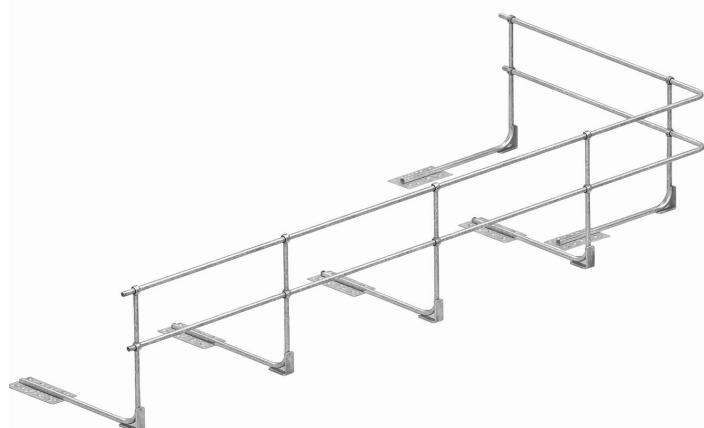


Free Standing Handrails



Product Features:

Our steel freestanding counterbalanced handrail systems provide safe, compliant edge protection for walkways, platforms, stairs and mezzanines. Available in mild steel, stainless steel, or aluminium, with tubular or solid construction and a range of durable finishes, they are modular for easy on-site assembly.

Matching gates and mesh infill panels are available for a complete, integrated solution.

Typical Applications:

Our steel handrail systems are suitable for areas with a potential fall over 0.5 m, including walkways, platforms, landings and staircases. Available in tubular or solid construction, they can be integrated with Steelway systems or installed independently, with clearly marked components for straightforward assembly.

Materials:

Finishes include mild steel (self colour, primed, hot-dip galvanised to BS EN ISO 1461, nylon coated* or powder coated), aluminium (mill finish or anodised) and stainless steel (mill or polished). Nylon coating not recommended for exposed conditions.

Compliance:

Designed in accordance with BS EN 1991-1-1, BS 5395-3, BS 4592-0 and BS 6180. Including BS 13700:2021 which includes wind load calculations.

Design Standards:

Minimum of two rails required: top and intermediate (knee) rail. Platform and walkway height minimum 1100 mm; stair height 900–1000 mm above pitch line. Wall-mounted handrails should have 50–75 mm clearance (100 mm recommended), be continuous with returned ends and avoid sharp corners or protrusions.



Handrail Sizes:

Options include tubular mild steel (33.7, 42.4 or 48.3 mm OD), solid mild steel (25 or 32 mm diameter), stainless steel tubular or fully welded systems, and aluminium tubular systems on request.

Gates & Infill Panels:

Tubular gates are available to match handrail systems, suitable for mezzanine loading points and stair or ladder openings. Infill panels can be supplied in 50 mm square welded mesh with a heavy-duty frame, complete with fixing clips.

Free Standing Handrails



Design Loadings (Industrial):

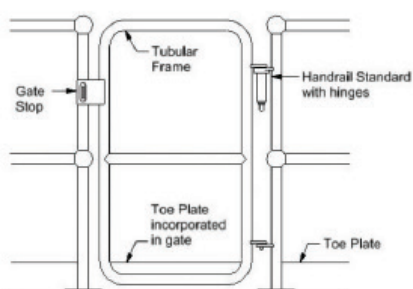
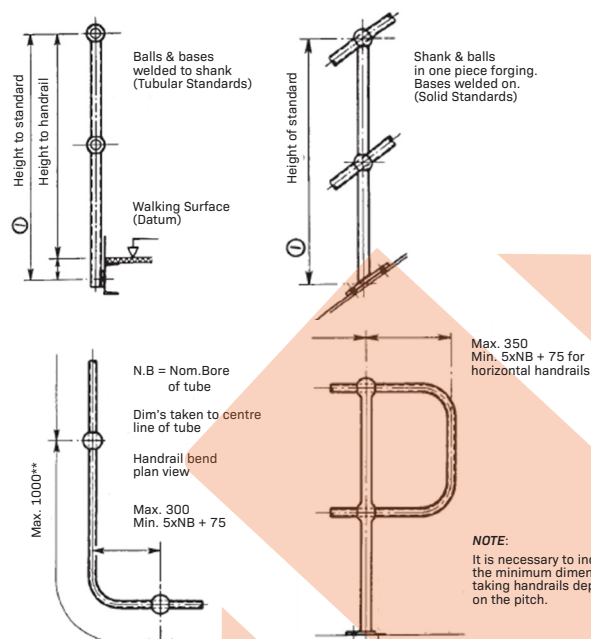
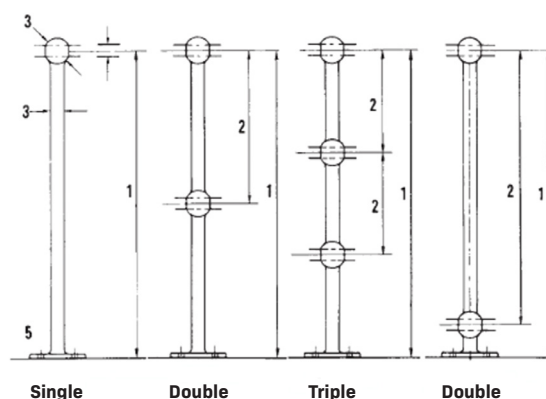
Application	Minimum Load
General Duty	0.3 kN/m
Heavy Duty	0.74 kN/m
Crowd Loading (1.5m - 3.0m width)	1.5 kN/m
Crowd Loading (>3.0m width)	3.0 kN/m
Light Access (<600mm wide)	0.22 kN/m

Handrail Standards:

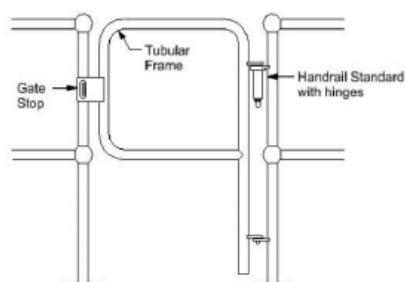
Steelway tubular and solid ball-type standards are available in various heights for single, double, or multi-line handrails. Balls are drilled for rails or fitted with chain eyes, with grub screws as standard. Do not support standards from toe plates unless they are structural.

When ordering, state: height, ball centres, ball/shank diameter, handrail OD, base type (p20), rake/pitch and handing for side-fix stair bases, and material/finish.

Select bases to suit the supporting structure; use larger bases for lower-density materials (e.g. concrete or masonry). Ensure fixing size and spacing are correctly specified, as excessive fixings can weaken the connection.



Full Height Gate

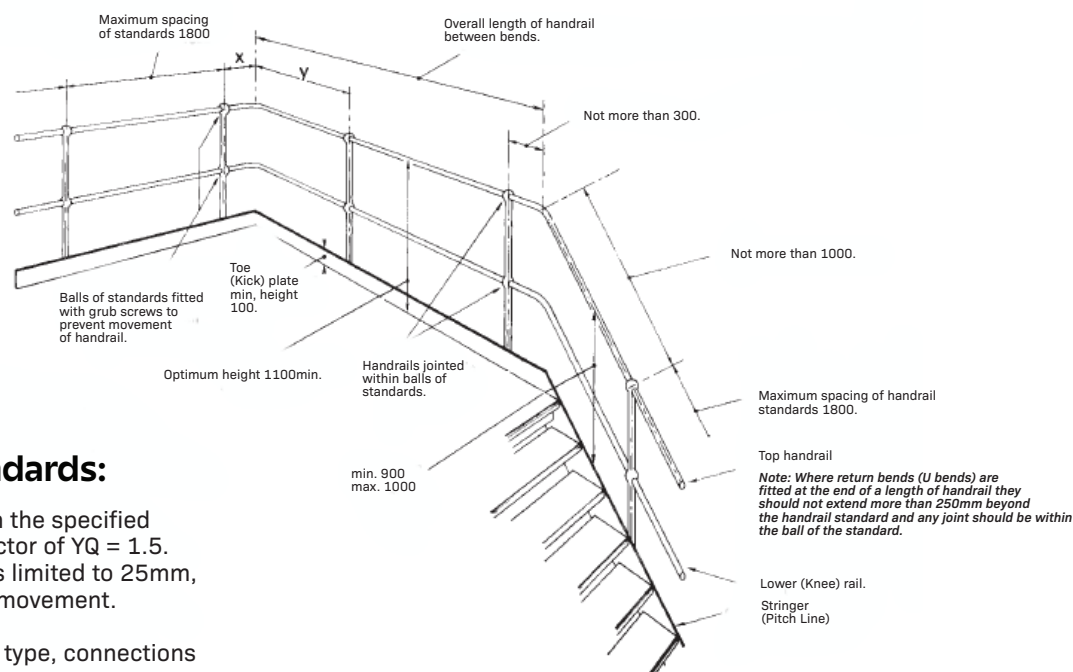


Half Height Gate

Free Standing Handrails



Typical Arrangement Of Handrails For Stairs, Platforms and Walkways:



Spacing Between Standards:

SWL Tables A and B are based on the specified steel grade with partial safety factor of $Y_Q = 1.5$. Maximum horizontal deflection is limited to 25mm, including handrail and standard movement.

Actual spacing depends on base type, connections and supporting infrastructure.

Max'm height (mm) Mild steel handrail standards where intensity of horizontal loading = 0.36kN/m										
	Specification of handrail standards	Specification of rail	Spacing of handrail standards (mm)							
			1000	1050	1100	1150	1200	1400	1600	1800
Tubular	42.4x 3mm CHS x 80mm dia. Ball	33.7 x 3mm CHS	1455	1430	1405	1380	1355	1265	1180	1085
	42.4x 3mm CHS x 80mm dia. Ball	42.4 x 3mm CHS	1460	1435	1410	1390	1370	1290	1220	1150
	48.3x 4mm CHS x 80mm dia. Ball	42.4 x 3mm CHS	1810	1780	1750	1725	1695	1600	1510	1425
	48.3x 4mm CHS x 80mm dia. Ball	48.3 x 4mm CHS	1815	1785	1755	1730	1705	1610	1530	1460
	60.3x 4mm CHS x 80mm dia. Ball	48.3 x 4mm CHS	2305	2265	2230	2195	2160	2045	1945	1855
Solid	32mm Dia x 70mm dia. Ball	33.7 x 3mm CHS	1295	1275	1250	1230	1210	1130	1050	965
	38mm Dia x 70mm dia. Ball	42.4 X 3mm CHS	1640	1610	1585	1560	1535	1445	1370	1290

Max'm height (mm) Mild steel handrail standards where intensity of horizontal loading = 0.74kN/m										
	Specification of handrail standards	Specification of rail	Spacing of handrail standards (mm)							
			1000	1050	1100	1150	1200	1400	1600	1800
Tubular	42.4x 3mm CHS x 80mm dia. Ball	33.7 x 3mm CHS	1130	1100	1050	1005	960			
	42.4x 3mm CHS x 80mm dia. Ball	42.4 x 3mm CHS	1145	1100	1050	1005	960			
	48.3x 4mm CHS x 80mm dia. Ball	42.4 x 3mm CHS	1415	1390	1365	1345	1320	1235	1150	1060
	48.3x 4mm CHS x 80mm dia. Ball	48.3 x 4mm CHS	1425	1400	1375	1355	1335	1255	1185	1080
	60.3x 4mm CHS x 80mm dia. Ball	48.3 x 4mm CHS	1805	1775	1745	1720	1690	1595	1505	1420
Solid	32mm Dia x 70mm dia. Ball	33.7 x 3mm CHS	1080	990	970	950	930			
	38mm Dia x 70mm dia. Ball	42.4 X 3mm CHS	1285	1260	1240	1215	1195	1115	1040	960

Queensgate Works, Bilston Road, Wolverhampton, West Midlands, WV2 2NJ

01902 451 733 sales@steelwayaccessandsafety.co.uk www.steelwayaccessandsafety.co.uk

