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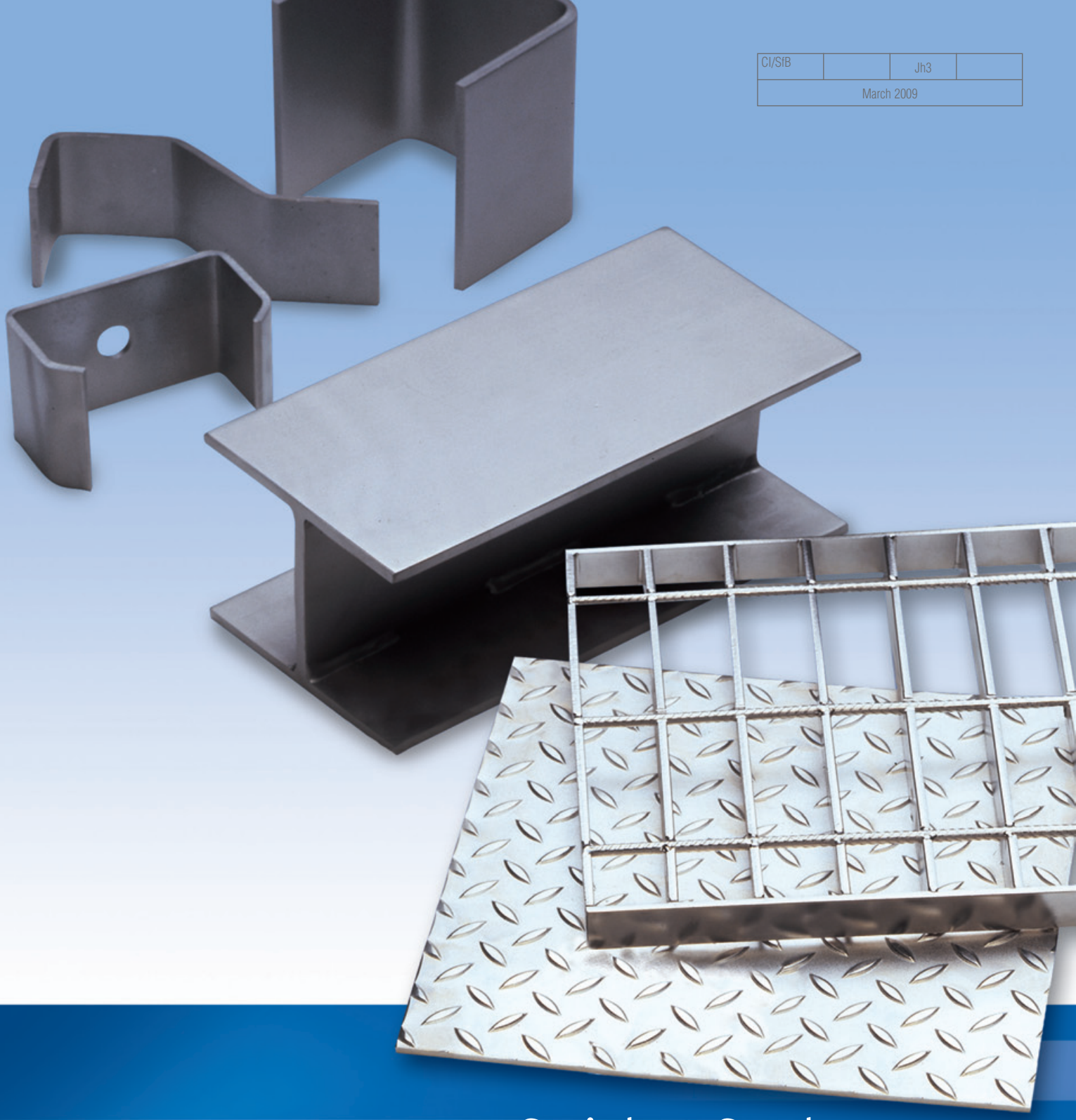


Stainless Steel Sections & Flooring

for the Engineering Industry

Ancon®

BUILDING PRODUCTS

Stainless Steel Sections & Flooring

COMPANY OVERVIEW

Ancon designs and manufactures high integrity steel components for a wide range of industries. Primarily, products are manufactured from stainless steel and Ancon is a member of the British Stainless Steel Association. Ancon employs 350 people, has three sites in the UK and nine overseas offices located in Mainland Europe, Middle East and Australia. Visit www.ancon.co.uk for more information.

BSSA

ISO 9001: 2000
FM 12226

ISO 14001: 2004
EMS 505377

Section Forming

CONTENTS

Austenitic Stainless Steel	2
Cold Formed Sections	2-3
Fabricated Sections	4
Staigrid Open Grid Flooring	5
Floorplate	6-9

AUSTENITIC STAINLESS STEEL

Austenitic Stainless Steels are high in chromium and therefore offer excellent resistance to corrosion. They are ductile and strong, and can be readily formed and welded.

Ancon holds considerable stocks of standard grade Austenitic stainless steel in order to meet urgent delivery deadlines.

Grade 1.4301 (304) is the most commonly used and is suitable for a broad range of applications. Grade 1.4401 (316) is recommended for highly corrosive environments such as marine locations.

Material can be supplied fully certificated if required.

RECYCLABLE STAINLESS STEEL

COLD FORMED SECTIONS

Ancon manufactures a diverse range of stainless steel cold formed sections using the latest high capacity computer controlled machinery.

Punching

Computer controlled press brakes, which are among the most advanced in the industry, enable the company to produce a wide range of section shapes up to 5m in length and from 2mm to 20mm in thickness.

Typical Section Properties

As an aid to the selection of appropriate cold formed sections the following page shows a small sample of section properties. A full list of properties is available from Ancon on request.

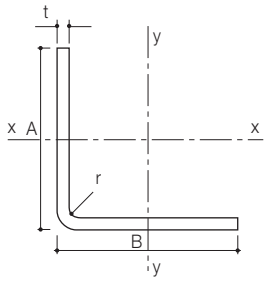
Other typical section shapes include:

Ancillary Operations

Sections can be offered with a range of ancillary operations including laser profiling, welded stiffeners, punched holes or slots and curves.

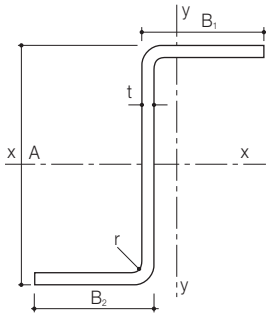
Products can be supplied with a specific surface finish to suit the requirements of the application. Services available include electro-polishing and bead blasting.

Angle Section



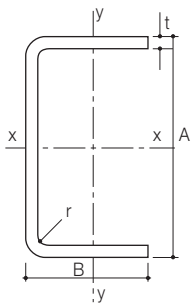
Angle Size A x B	Thickness t	Radius r	Moment of Inertia I (cm⁴)		Section Modulus Z (cm³)		Weight
mm	mm	mm	xx	yy	xx	yy	kg/m
25 x 25	3	3	0.79	0.79	0.46	0.46	1.07
50 x 50	3	3	1.42	1.42	0.67	0.67	1.31
130 x 120	5	8	208.03	171.27	22.21	19.29	9.50
100 x 120	6	16	117.69	183.12	15.90	21.89	9.76
150 x 140	6	16	380.64	322.12	35.33	31.31	13.08
140 x 120	8	15	389.54	267.49	39.75	30.28	15.41
190 x 200	8	15	1075.07	1217.56	76.97	84.22	23.63
110 x 100	10	21	223.70	177.20	29.59	25.00	14.92
140 x 130	10	21	484.83	404.66	49.36	43.30	19.66
140 x 200	10	21	559.31	1334.58	52.62	98.68	25.19
180 x 180	10	21	1092.62	1092.62	84.25	84.25	26.77
120 x 110	12	20	346.68	279.90	42.07	36.03	19.61
170 x 140	12	20	1005.93	625.14	85.98	60.94	27.19
130 x 100	15	20	502.51	262.08	58.84	36.77	24.08
150 x 130	15	20	835.59	586.74	81.71	63.27	30.00

Zed Section



Zed Size A x B₁ x B₂	Thickness t	Radius r	Moment of Inertia I (cm⁴)		Section Modulus Z (cm³)		Weight
mm	mm	mm	xx	yy	xx	yy	kg/m
50 x 25 x 25	3	3	9.73	10.90	3.89	3.47	2.14
140 x 70 x 35	4	4	251.28	123.46	31.31	17.50	7.33
70 x 35 x 35	5	4	42.83	48.04	12.24	11.08	4.91
110 x 50 x 50	6	8	153.15	163.11	30.63	26.17	8.46
160 x 80 x 40	8	8	674.19	289.95	73.30	37.84	16.03
200 x 100 x 100	10	15	2125.48	2302.29	212.55	181.97	28.66
150 x 75 x 75	12	15	943.93	948.66	125.86	105.16	24.46
190 x 95 x 95	15	10	2078.96	2216.59	218.84	187.89	32.04

Equal Channel Section

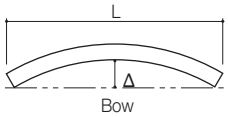


Channel Size A x B	Thickness t	Radius r	Moment of Inertia I (cm⁴)		Section Modulus Z (cm³)			Weight
mm	mm	mm	xx	yy	xx	yy max	yy min	kg/m
50 x 25	3	3	9.70	1.56	3.88	2.04	0.90	2.14
100 x 50	4	4	113.00	18.06	22.60	12.58	5.07	5.90
160 x 80	5	4	603.40	95.76	75.42	43.04	16.58	12.02
110 x 55	6	8	208.39	33.67	37.89	20.16	8.79	9.41
80 x 40	8	8	87.34	14.17	21.83	10.23	5.42	8.45
200 x 100	10	15	2118.70	342.27	211.87	113.98	48.92	28.66
150 x 75	12	15	935.18	151.80	124.69	61.47	30.18	24.46
190 x 95	15	20	2372.83	385.13	249.77	123.11	60.44	38.68

Note: *Properties listed vary from those for rolled sections due to cold forming and the effect of the formed radius.*

Tolerances

Unless otherwise agreed the tolerances applicable to cold formed sections are as below:



Element		Tolerance
Overall length (up to and including 4000mm)	L	±5mm
Leg Length - Angle	A/B	±3mm
Leg Length - Channel/Zed	A	±5mm
	B	±3mm
Thickness	t	±7.5%
Included Angle	ø	±2°
Hole or Slot Centres	c	±5mm
Bow, on both axis	Δ	±3mm per metre length

Notes: 1 *The manufacturing tolerances set out in the table will meet most applications. Should closer tolerances be required, please provide a drawing indicating your requirements.* **2** *The tolerances are not applicable to curved members.*

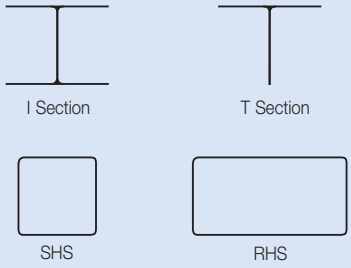
Stainless Steel Sections & Flooring

FABRICATED SECTIONS

In addition to cold formed sections, Ancon produces stainless steel fabricated sections.

Ancon's fabrication personnel are routinely coded to BS4872 and in addition are regularly approved to BS EN 287 to weld to the procedures specific to BS EN 288.

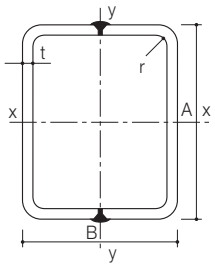
Sections available include:



Typical Fabricated Section Properties

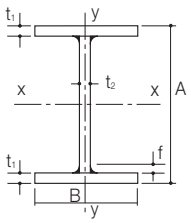
As an aid to the selection of appropriate fabricated sections the following is a small sample of section properties. A full list of properties is available from Ancon on request.

Fabricated Hollow Section



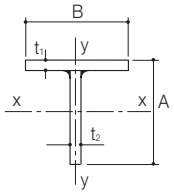
Box Section Size A x B	Thickness t	Radius r	Moment of Inertia I (cm⁴)		Section Modulus Z (cm³)		Weight
mm	mm	mm	xx	yy	xx	yy	kg/m
70 x 50	4	4	54.44	32.01	15.56	12.80	6.75
130 x 130	5	4	628.43	628.43	96.68	96.68	19.31
150 x 100	6	8	821.26	437.42	109.50	87.48	21.67
110 x 80	8	8	394.26	236.88	71.68	59.22	20.69
170 x 150	10	15	2232.86	1837.29	262.69	244.97	44.69
150 x 130	12	15	1641.79	1307.74	218.91	201.19	45.12
200 x 200	15	20	5650.88	5650.88	565.09	565.09	82.09

Fabricated I Section

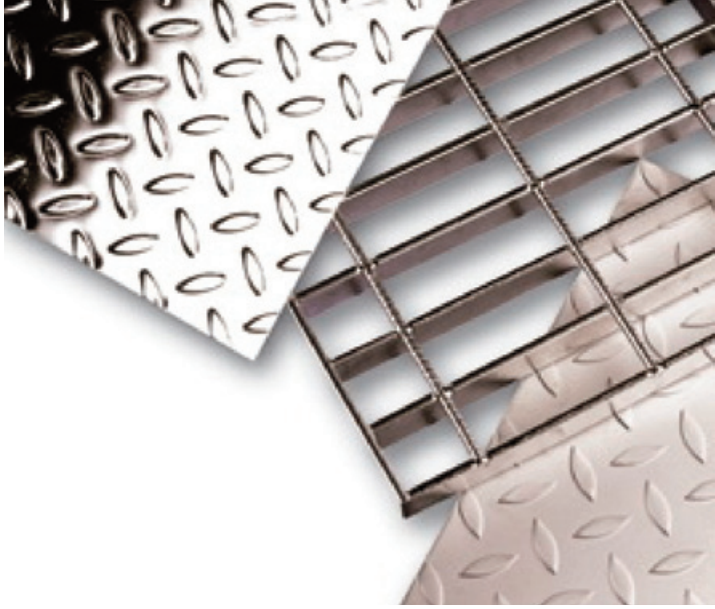


I Section Size B x A	Size of Fillet f	Thickness t1	Thickness t2	Moment of Inertia (cm⁴)	Section Modulus Z (cm³)	Radius of Gyration about yy axis		Weight
mm	mm	mm	mm	Ixx	Zxx	Ry (cm)	A/t1	kg/m
130 x 200	6	8	6	2229.5	223.0	3.03	25.0	25.72
150 x 300	6	10	6	7407.6	493.8	3.47	30.0	37.54
200 x 300	6	10	6	9510.9	634.1	4.85	30.0	45.44
250 x 450	10	16	10	43774.0	1946.0	5.85	28.1	97.80

Fabricated T Section



T Section Size B x A	Size of Fillet f	Thickness t1	Thickness t2	Moment of Inertia (cm⁴)	Section Modulus Zxx (cm³)		Radius of Gyration about yy axis	Weight
mm	mm	mm	mm	Ixx	Max.	Min.	Ry (cm)	kg/m
75 x 100	8	8	8	134.87	42.75	19.70	1.46	11.06
100 x 120	10	10	8	258.08	78.00	29.69	2.11	15.64
150 x 150	10	10	10	637.24	154.65	58.57	3.12	23.70
200 x 250	12	12	10	2992.47	438.68	164.69	4.10	38.90



STAIGRID OPEN GRID FLOORING

Staigrid stainless steel grid is a lightweight, corrosion resistant open grid flooring, ideal for use where hygiene, low maintenance and assured long life are required.

The combination of durability and high strength means Staigrid is a very cost-effective alternative to galvanised steel and aluminium grid floors. It is available in mill finish, pickled and passivated or electropolished finish.

Stainless Steel Staigrid open grid flooring is available in either grade 304 or 316 and manufactured in standard sized panels of 1000mm max span x 989mm max width for ease of site handling. Panels can be produced to customers' specific requirements within these dimensions using Ancon universal tooling.

Each panel consists of 25mm x 5mm bearer bars at 41mm centres and 6mm rebar restraints at 100mm centres.

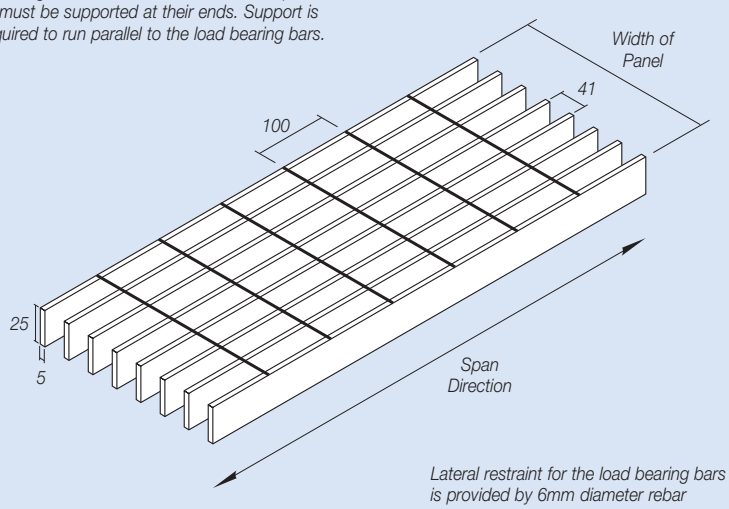
Staigrid panels are supplied fully bound and full mill certification is available if required.

When ordering please specify:

1. Grade of stainless steel required
2. Span, width and quantity of panels

Load Bearing Bar 25 x 5mm

Load bearing bars run in the direction of the span. These must be supported at their ends. Support is not required to run parallel to the load bearing bars.



Lateral restraint for the load bearing bars is provided by 6mm diameter rebar

	25 x 5 bars at 41 c/c Uniformly Distributed Load		25 x 5 bars at 41 c/c Load Concentrated on 150mm Square		25 x 5 bars at 41 c/c Load Concentrated on 300mm Square	
Clear Span (mm)	**Permissible Load (kN/m²)**	**Deflection (mm/kN/m²)**	**Permissible Load (kN)**	**Deflection (mm/kN)**	**Permissible Load (kN)**	**Deflection (mm/kN)**
300	163.731	0.003	4.028	0.128	14.097	0.039
350	120.292	0.006	3.295	0.210	10.573	0.070
400	92.099	0.010	2.788	0.320	8.458	0.110
450	72.769	0.017	2.417	0.461	7.049	0.170
500	58.943	0.026	2.132	0.639	6.042	0.242
550	48.713	0.038	1.908	0.857	5.286	0.331
600	40.933	0.053	1.726	1.118	4.699	0.440
650	34.878	0.073	1.576	1.428	4.229	0.569
700	30.073	0.098	1.450	1.790	3.845	0.720
750	26.197	0.130	1.343	2.207	3.524	0.895
800	23.025	0.168	1.250	2.685	3.253	1.096
850	20.396	0.214	1.169	3.227	3.021	1.324
900	18.192	0.269	1.098	3.836	2.819	1.581
950	16.328	0.334	1.036	4.518	2.643	1.870
1000	14.736	0.410	0.980	5.276	2.488	2.191

Note: *All loads listed are limited to: Bending Stress ≤ 145N/mm², Shear Stress ≤ 96.67N/mm², Deflection ≤ Span/100*

Stainless Steel Sections & Flooring

STAINLESS STEEL FLOORPLATE

Ancon is one of the UK's leading suppliers of stainless steel floorplate and offers a comprehensive range of full, cut and formed plates direct from stock. Stainless steel floorplate is available in a range of sizes and thicknesses in either cold pressed or hot rolled form.

The selection of the grade of floorplate depends on the end use and appearance required. Two grades of stainless steel floorplate are available as standard:

Grade 304 (1.4306)
Austenitic and normally non-magnetic, this grade is used for both internal and external applications where good corrosion resistance is required.

Grade 316 (1.4404)
Also austenitic and normally non-magnetic, this grade has a higher corrosion resistance than grade 304 because it contains molybdenum. It is used in aggressive atmospheres where corrosion or pitting attack may be high.

THIN GAUGE FLOORPLATE

Thin gauge floorplate is available in 1, 2 and 3mm thicknesses and provides an alternative to aluminium flooring and cladding.

The benefits of stainless steel floorplate over aluminium include increased durability and corrosion resistance, improved high and low temperature performance and an increased strength with thinner, lighter sections.

This chequer plate is the ideal material for vehicles, food preparation areas, breweries etc where a hard wearing, corrosion resistant and aesthetically pleasing floor or cladding is required.

Thin gauge floorplate can be supplied in plain plates or can be cold formed, drilled and profiled to individual requirements. It can be used as overcladding on corroded floors.

Ancon Stainless Steel Floorplate Size Range Grade 304 (1.4306)

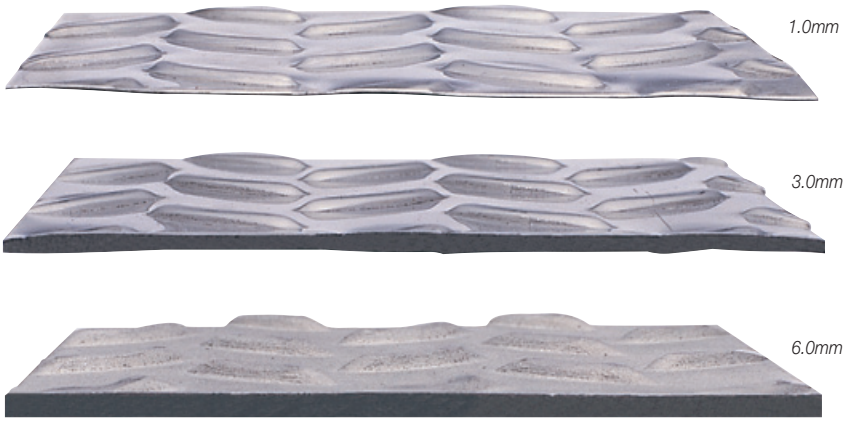
	Thickness					
Grade 304	1.0mm	2.0mm	3.5mm	4.5mm	6.0mm	8.0mm
1250mm wide	•	•	•	•	•	•

Ancon Stainless Steel Floorplate Size Range Grade 316 (1.4404)

	Thickness				
Grade 316	1.0mm	2.0mm	3.0mm	4.5mm	6.0mm
1250mm wide	•	•	•	•	•

• cold pressed product • hot rolled product

Note: *Other thicknesses are available on request. Please contact Ancon with your requirements.*



BENEFITS OF ANCON FLOORPLATE

Corrosion Resistance

Ancon Stainless Steel Floorplate offers excellent corrosion resistance in most industrial environments. Grade 316 is recommended for heavily polluted or marine environments.

Hygiene

Ancon Stainless Steel Floorplate has a free draining teardrop pattern which allows clearance of waste liquids and facilitates cleaning and hosing down. In clean room environments this floorplate is free from problems which can be caused by the flaking of surface protection which is applied to other flooring materials.

Non-Magnetic

Ancon Stainless Steel Floorplate is non-magnetic which is particularly important where equipment sensitive to magnetic fields is used, such as hospitals with magnetic scanners.

Wear Resistance

Stainless steel is far more hard-wearing than mild steel or aluminium floorplate.

Slip-Resistance

Stainless steel floorplate provides a high degree of slip resistance to both pedestrian and wheeled traffic due to its raised teardrop pattern.

Low Maintenance

The properties of stainless steel floorplate provide the end user with floors requiring very little maintenance. The potential maintenance cost savings over the life of an installation are considerable.

FABRICATION SERVICES

A full range of cutting, punching and fabrication services are available from Ancon. These include:

Forming

Stainless steel floorplate can be cold formed to produce treads, upstands etc.

Profiling

The floorplate is available in profiled shapes to allow easy installation around plant and equipment.

Punching

Floorplate can be supplied with holes and slots.

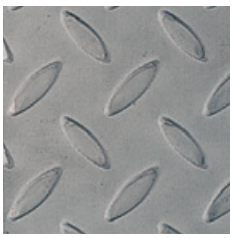
Cutting

Stainless steel floorplate can be supplied cut by shearing, laser or plasma arc cutting to customers' individual requirements. Ancon's cutting optimiser ensures the most efficient use of materials.

SURFACE FINISH

Ancon Stainless Steel Floorplate is normally supplied with a hot rolled and descaled finish. Electro-polished surface finish is also available.

Electro-polished surface finish



Hot rolled & descaled surface finish

SAFE WORKING LOADS

Hot Rolled Ancon Stainless Steel Floorplate

Floorplate supported on all four edges
Uniformly distributed load.
Design stress = 180 N/mm²

Note: *The loads marked in **bold** text cause deflections greater than span/100.*

Maximum Safe Working Load in kN/m²

Thickness (mm)	Width (mm)	Span (mm) 200	400	600	800	1000	1200
	200	**91.4**	56.7	54.5	54.2	54.1	54.0
	400		**22.9**	**15.5**	**14.2**	13.8	13.6
3	600			**10.2**	**7.4**	**6.6**	**6.3**
	800				**5.7**	**4.4**	**3.9**
	1000					**3.7**	**2.9**
	1200						**2.5**
	200	124.5	77.2	74.2	73.7	73.6	73.5
	400		**31.1**	**21.2**	19.3	18.8	18.6
3.5	600			**13.8**	**10.1**	**9.0**	**8.6**
	800				**7.8**	**6.0**	**5.3**
	1000					**5.0**	**4.0**
	1200						**3.5**
	200	205.7	127.5	122.7	121.9	121.7	121.6
	400		**51.4**	35.0	31.9	31.0	30.7
4.5	600			**22.9**	**16.7**	**14.9**	**14.2**
	800				**12.9**	**9.9**	**8.7**
	1000					**8.2**	**6.6**
	1200						**5.7**
	200	365.8	226.7	218.2	216.7	216.3	216.1
	400		**91.4**	62.2	56.7	55.1	54.5
6	600			**40.6**	**29.7**	**26.4**	25.2
	800				**22.9**	**17.6**	**15.5**
	1000					**14.6**	**11.7**
	1200						**10.2**

Hot Rolled Ancon Stainless Steel Floorplate

Floorplate encastre on all four edges
Uniformly distributed load.
Design stress = 180 N/mm²

Note: *Loads in this table do not cause deflections greater than span/100.*

Maximum Safe Working Load in kN/m²

Thickness (mm)	Width (mm)	Span (mm) 200	400	600	800	1000	1200
	200	124.9	84.3	81.7	81.2	81.1	81.0
	400		31.2	22.7	21.1	20.6	20.4
3	600			13.9	10.7	9.7	9.4
	800				7.8	6.3	5.7
	1000					5.0	4.1
	1200						3.5
	200	170.0	114.8	111.2	110.5	110.4	110.3
	400		42.5	30.9	28.7	28.0	27.8
3.5	600			18.9	14.6	13.3	12.8
	800				10.6	8.5	7.7
	1000					6.8	5.6
	1200						4.7
	200	281.0	189.8	183.8	182.7	182.4	182.3
	400		70.2	51.1	47.4	46.3	45.9
4.5	600			31.2	24.1	21.9	21.1
	800				17.6	14.1	12.8
	1000					11.2	9.3
	1200						7.8
	200	499.5	337.4	326.7	324.9	324.4	324.2
	400		124.9	90.9	84.3	82.4	81.7
6	600			55.5	42.8	39.0	37.5
	800				31.2	25.1	22.7
	1000					20.0	16.5
	1200						13.9

Safe Working Loads - Hot Rolled Ancon Stainless Steel Floorplate

Floor Plate Encastre on Two Opposite Edges - Design stress = 180 N/mm²

Encastre Thickness (mm)	Span (mm)	Safe Load (kN/m²)	Deflection (mm/kN load)
	200	81.0	0.01
	300	36.0	0.05
	400	20.3	0.15
	500	13.0	0.36
	600	9.0	0.75
	700	6.6	1.39
3	800	5.1	2.37
	900	4.0	3.80
	1000	3.2	5.79
	1100	2.7	8.47
	1200	2.3	12.00
	1300	1.9	16.53
	1400	1.7	22.23
	1500	1.4	29.30
	200	110.3	0.01
	300	49.0	0.03
	400	27.6	0.09
	500	17.6	0.23
	600	12.3	0.47
	700	9.0	0.88
3.5	800	6.9	1.49
	900	5.4	2.39
	1000	4.4	3.64
	1100	3.6	5.34
	1200	3.1	7.56
	1300	2.6	10.41
	1400	2.3	14.00
	1500	2.0	18.45
	200	182.3	0.003
	300	81.0	0.01
	400	45.6	0.04
	500	29.2	0.11
	600	20.3	0.22
	700	14.9	0.41
4.5	800	11.4	0.70
	900	9.0	1.13
	1000	7.3	1.71
	1100	6.0	2.51
	1200	5.1	3.56
	1300	4.3	4.90
	1400	3.7	6.59
	1500	3.2	8.68
	200	324.0	0.001
	300	144.0	0.006
	400	81.0	0.02
	500	51.8	0.05
	600	36.0	0.09
	700	26.4	0.17
6	800	20.3	0.30
	900	16.0	0.47
	1000	13.0	0.72
	1100	10.7	1.06
	1200	9.0	1.50
	1300	7.7	2.07
	1400	6.6	2.78
	1500	5.8	3.66

Floor Plate Simply Supported on Two Opposite Edges - Design stress = 180 N/mm²

Simple Thickness (mm)	Span (mm)	Safe Load (kN/m²)	Deflection (mm/kN load)
	200	54.0	0.05
	300	24.0	0.23
	400	13.5	0.74
	500	8.6	1.81
	600	6.0	3.75
	700	4.4	6.95
3	800	3.4	11.85
	900	2.7	18.98
	1000	2.2	28.94
	1100	1.8	42.36
	1200	1.5	60.00
	1300	1.3	82.64
	1400	1.1	111.16
	1500	1.0	146.48
	200	73.5	0.03
	300	32.7	0.15
	400	18.4	0.47
	500	11.8	1.14
	600	8.2	2.36
	700	6.0	4.38
3.5	800	4.6	7.46
	900	3.6	11.96
	1000	2.9	18.22
	1100	2.4	26.68
	1200	2.0	37.78
	1300	1.7	52.04
	1400	1.5	70.00
	1500	1.3	92.25
	200	121.5	0.01
	300	54.0	0.07
	400	30.4	0.22
	500	19.4	0.54
	600	13.5	1.11
	700	9.9	2.06
4.5	800	7.6	3.51
	900	6.0	5.63
	1000	4.9	8.57
	1100	4.0	12.55
	1200	3.4	17.78
	1300	2.9	24.49
	1400	2.5	32.94
	1500	2.2	43.40
	200	216.0	0.006
	300	96.0	0.03
	400	54.0	0.09
	500	34.6	0.23
	600	24.0	0.47
	700	17.6	0.87
6	800	13.5	1.48
	900	10.7	2.37
	1000	8.6	3.62
	1100	7.1	5.30
	1200	6.0	7.50
	1300	5.1	10.33
	1400	4.4	13.89
	1500	3.8	18.31

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