

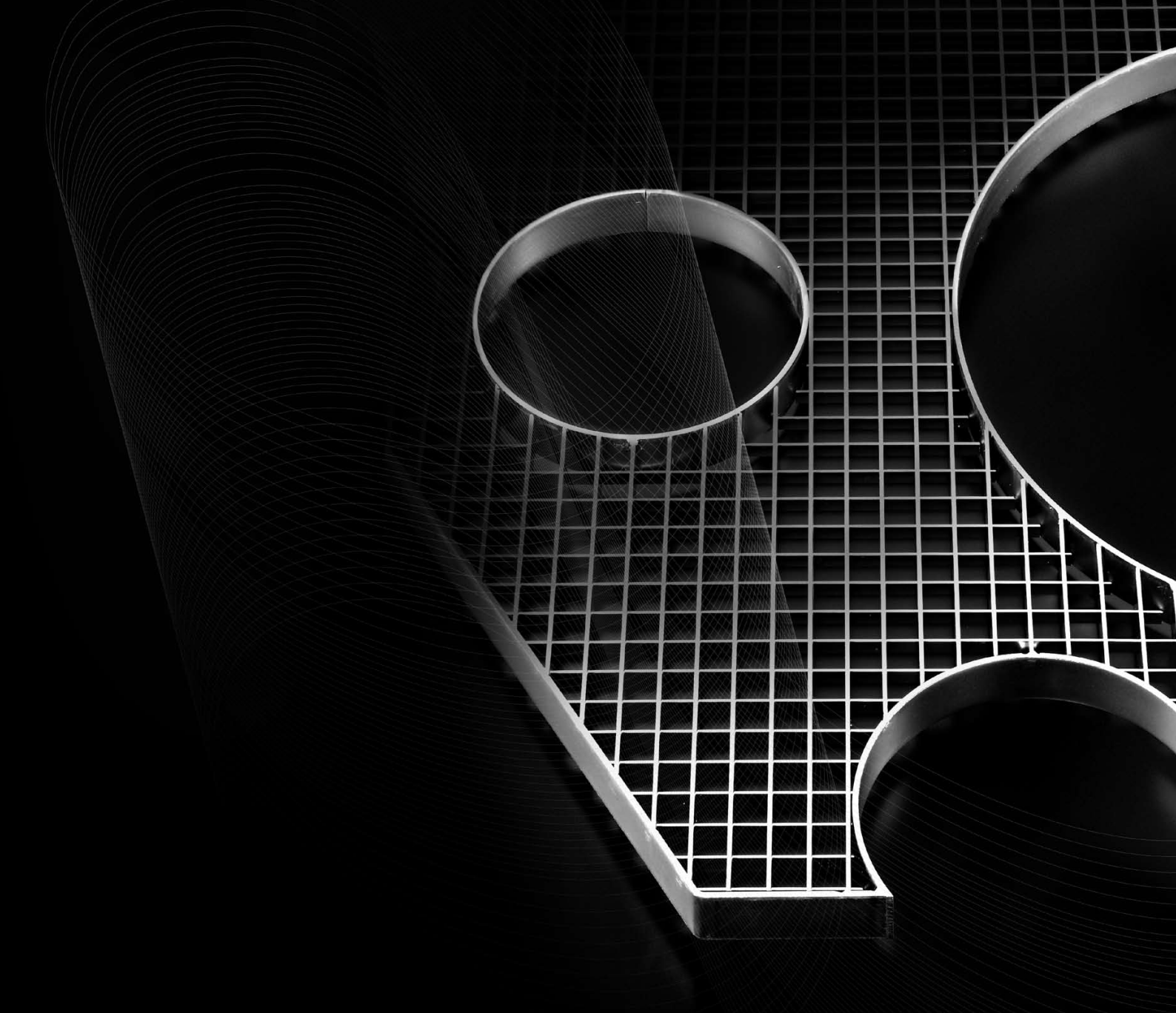
LANGFULTON

Stainless Steel
Gratings



10 GOOD REASONS FOR CHOOSING STAINLESS STEEL

- bright and attractive aesthetic
- corrosion resistant
- high mechanical resistance
- low surface roughness is easy to polish
- conforms with all hygiene regulations
- inert material
- stable within a wide temperature range
- nil maintenance costs
- long life-cycle provides value for money
- 100% recyclable



FRAMED PRESSURE LOCKED GRATINGS IN STAINLESS STEEL

Stainless steel delivers the highest quality grating material with an exceptional finish.

Horizontal applications

Prestigious flooring with specific markets in the food, pharmaceutical and chemical industries

Vertical applications

Balustrades, balconies, screening

Pressure locked gratings are constructed entirely from flat bars by pressing an arrangement of cross bars into notched bearing bars. The bars are further secured by a choice of flat wrap-around framing bar, producing a custom-sized grating panel with perfectly formed intersections.

This manufacturing method is extremely adaptable and the production process can promptly provide grating panels in custom sizes and to non-standard specifications of weight, aperture and performance.

Alternative grades of stainless steel:

AISI 304 for general purpose

AISI 316 for exposure to harsh substances or marine conditions



TREATMENTS FOR STAINLESS STEEL

All gratings are generally subject to finishing treatments such as de-greasing, pickling and polishing to reduce surface roughness, eliminate burrs from processing and maximise resistance to corrosion.

Corrosion

Austenitic stainless steels have a characteristic layer of chrome oxide on the surface (created by air or produced artificially) which is very thin and invisible and which protects the material from environmental damage: this resistance mainly depends on the percentage of chrome and nickel.

When the formation of this layer of chrome oxide is prevented or when this layer is continually destroyed, austenitic stainless steels will corrode.

To achieve good resistance to corrosion it is therefore necessary to know the types of corrosion possible and their causes, choose the suitable alloys for each application and carefully produce a design. Finally, appropriate surface treatments need to be performed.

De-Greasing

An essential operation before applying any heat treatment or surface finishes (such as pickling or electro-polishing) to remove any traces of grease or dirt which could damage the material itself or could lead to spotting.

De-greasing is normally done by immersion or by spraying a de-greasing agent such as FS10. When the treatment has been completed, the panels are thoroughly rinsed with cold water under pressure, which also provides a mechanical cleaning action.

Pickling

Pickling of the surfaces is always carried out prior to electropolishing or passivation to eliminate oxidise crusts that form on the surface during processes such as hot rolling, annealing, or welding.

Pickling is done by immersion or by the application of a pickling gel. Normally the treatment is done by immersion in a chemical bath consisting of sulphuric acid (20-25%), hydrofluoric acid (2.4%) and phosphoric acid (1-4%). Panels are again thoroughly rinsed with cold water under pressure.

Electropolishing

Electro-chemical polishing (DIN8590) creates a homogeneously polished surface by combining electrolyte solutions of phosphoric acid (30-50%) and sulphuric acid (30-50%) with electricity.

The panel forms the anode of an electrolytic cell, while the cathode is usually formed by a plate in the stainless steel AISI 304. The principle is to remove material by selectively dissolving the surfaces to be treated in an electrolytic bath, under the action of the appropriate electrical current: a direct current at a voltage of 50-15V with a density usually between 0.2 and 0.5 A/sq cm.

Benefits of electropolishing

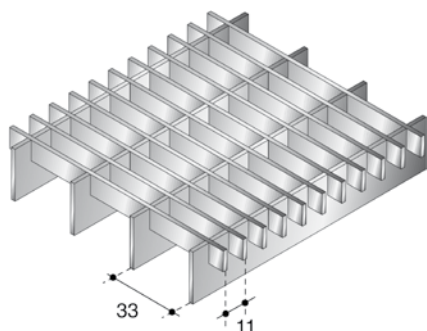
- reduction of surface roughness
- elimination of burrs from processing
- increase of the resistance to corrosion
- enhancement of dirt repelling properties and aid to cleaning

MADE TO MEASURE FRAMED PANELS

Lang+Fulton provides a bespoke service:

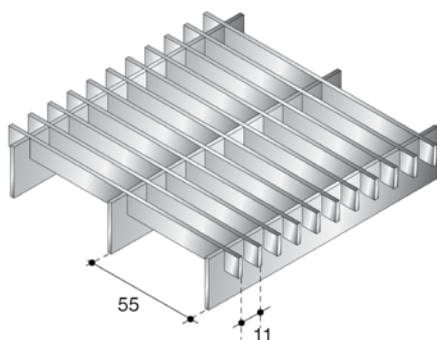
- specialist supplier of non-standard panels, cut and shaped to individual requirements.
- alternative apertures can be designed for a particular project with the bearing bars and transverse bars set at intervals of 11mm e.g. 22x66 or 44x44mm
- AISI 304 is used as the standard grade of stainless steel. AISI 316 should be specified, if required.
- non-slip gratings - all gratings are available with serrated bars for environments with oily or slippery substances.

33x11



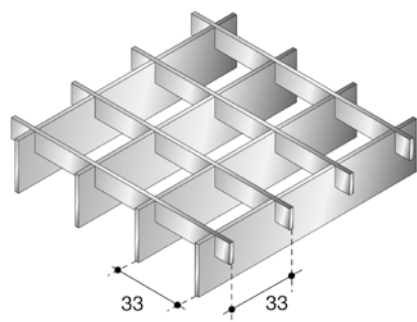
Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	25.07
25x2	10x2	25x3	27.80
25x3	10x2	25x3	33.46
30x2	10x2	30x3	30.53
30x3	10x2	30x3	37.32
35x2	10x2	35x3	33.27
35x3	10x2	35x3	41.19
40x2	10x2	40x3	36.00
40x3	10x2	40x3	45.05

55x11



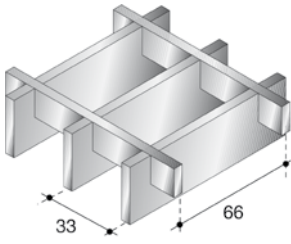
Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	21.32
25x2	10x2	25x3	23.12
25x3	10x2	25x3	26.43
30x2	10x2	30x3	24.91
30x3	10x2	30x3	28.89
35x2	10x2	35x3	26.71
35x3	10x2	35x3	31.36
40x2	10x2	40x3	28.51
40x3	10x2	40x3	33.82

33x33



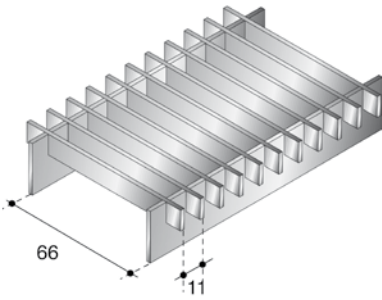
Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	13.29
25x2	10x2	25x3	16.02
25x3	10x2	25x3	21.68
30x2	10x2	30x3	18.76
30x3	10x2	30x3	25.55
35x2	10x2	35x3	21.49
35x3	10x2	35x3	29.41
40x2	10x2	40x3	24.23
40x3	10x2	40x3	33.28
40x4	10x3	40x4	44.69
50x3	10x2	50x3	44.01
50x4	10x3	50x4	54.98
60x3	10x2	60x3	48.85
70x3	10x3	70x3	57.72

33x66



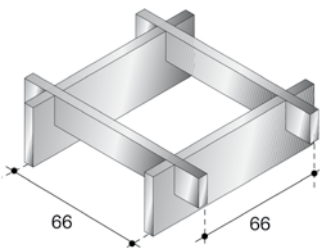
Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	13.29
25x2	10x2	25x3	16.02
25x3	10x2	25x3	21.68
30x2	10x2	30x3	18.76
30x3	10x2	30x3	25.55
35x2	10x2	35x3	21.49
35x3	10x2	35x3	29.41
40x2	10x2	40x3	24.23
40x3	10x2	40x3	33.28
40x4	10x3	40x4	44.69
50x3	10x2	50x3	41.01
50x4	10x3	50x4	54.98
60x3	10x2	60x3	48.85
70x3	10x3	70x3	57.72

66x11



Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	20.38
25x2	10x2	25x3	21.95
25x3	10x2	25x3	24.68
30x2	10x2	30x3	23.51
30x3	10x2	30x3	26.79
35x2	10x2	35x3	25.07
35x3	10x2	35x3	28.90
40x2	10x2	40x3	26.64
40x3	10x2	40x3	31.01

66x66



Bearing Bar (mm)	Transverse Bar (mm)	Framing Bar (mm)	Weight (kg/m ²)
20x2	10x2	20x3	8.61
25x2	10x2	25x3	10.17
25x3	10x2	25x3	12.90
30x2	10x2	30x3	11.74
30x3	10x2	30x3	15.01
35x2	10x2	35x3	13.30
35x3	10x2	35x3	17.12
40x2	10x2	40x3	14.86
40x3	10x2	40x3	19.23



STANDARD PANELS 25X25

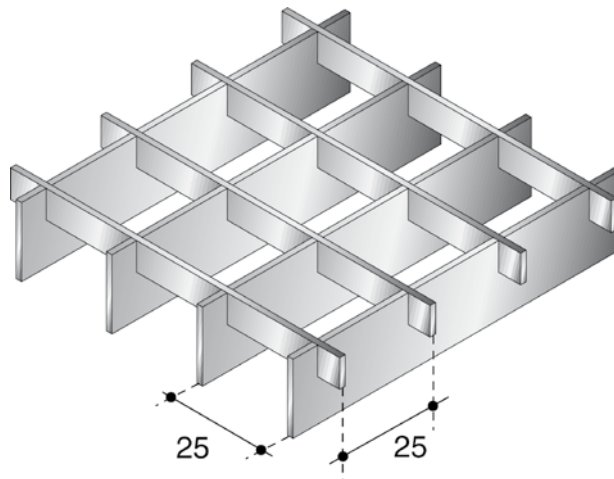
Standard stainless steel gratings are made in a wide range of panel sizes which are available from stock.


Standard Panel Specification:

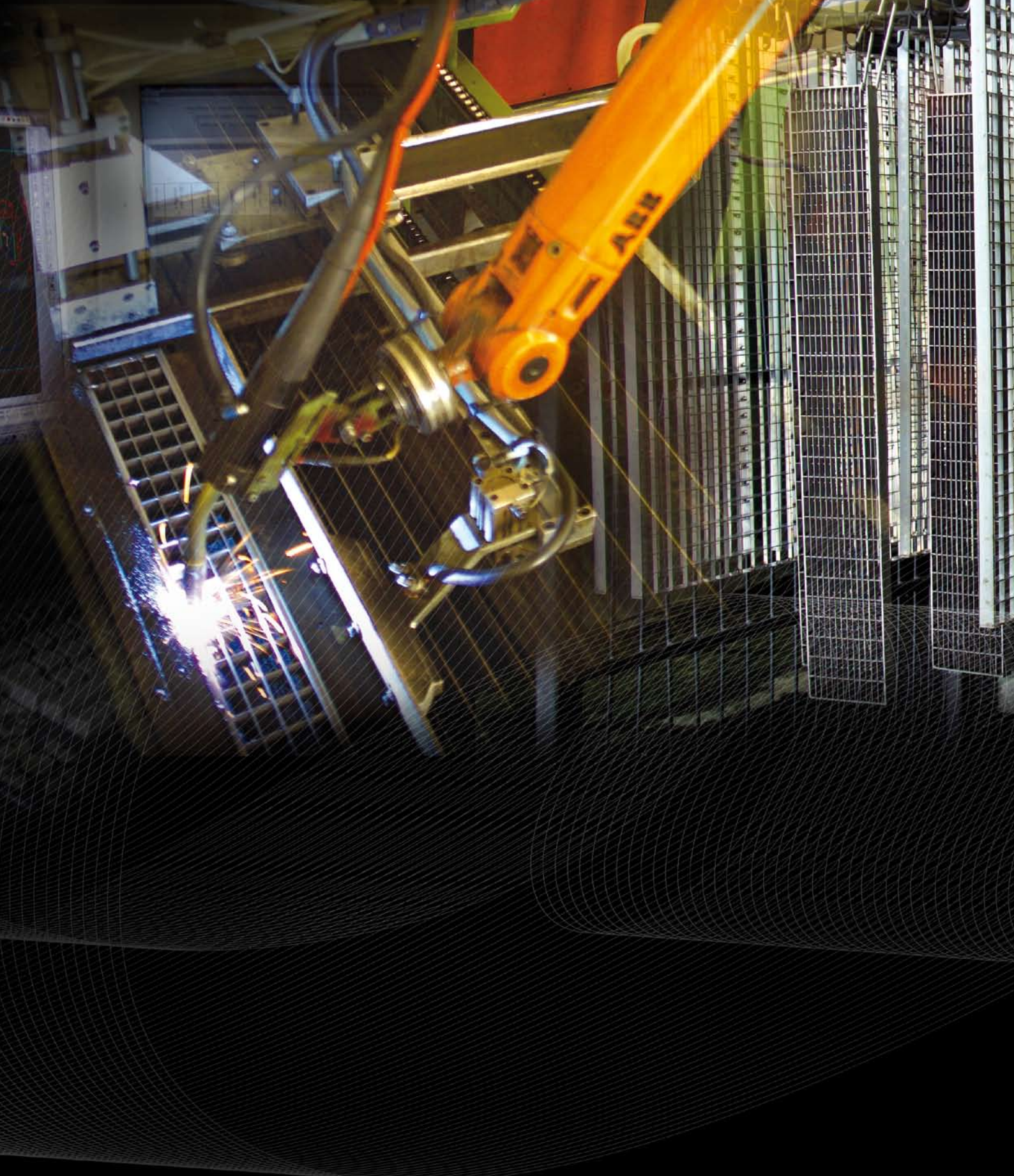
25x25mm aperture,
30x2mm bearing bar
10x2mm transverse bar

Stainless Steel Grade:

AISI 304



Aperture (mm)	Bearing Bar (mm)	Transverse Bar (mm)	Panel Size (mm)	Weight (kg/m ²)	Loading Capacity
25x25	30x2	10x2	200x200	1.22	
25x25	30x2	10x2	200x300	1.93	
25x25	30x2	10x2	200x400	2.37	
25x25	30x2	10x2	200x500	2.92	
25x25	30x2	10x2	200x600	3.54	
25x25	30x2	10x2	200x700	4.12	
25x25	30x2	10x2	200x800	4.74	
25x25	30x2	10x2	200x900	5.29	
25x25	30x2	10x2	200x1000	5.95	
25x25	30x2	10x2	300x300	2.70	
25x25	30x2	10x2	300x400	3.60	
25x25	30x2	10x2	300x500	4.30	
25x25	30x2	10x2	300x600	5.10	
25x25	30x2	10x2	300x700	5.60	
25x25	30x2	10x2	300x800	6.70	
25x25	30x2	10x2	300x900	7.50	
25x25	30x2	10x2	300x1000	8.20	
25x25	30x2	10x2	400x400	4.47	
25x25	30x2	10x2	400x500	5.55	
25x25	30x2	10x2	400x600	6.76	
25x25	30x2	10x2	400x700	7.69	
25x25	30x2	10x2	400x800	8.58	
25x25	30x2	10x2	400x900	9.77	
25x25	30x2	10x2	400x1000	10.67	
25x25	30x2	10x2	500x500	7.04	
25x25	30x2	10x2	500x600	8.24	
25x25	30x2	10x2	500x700	9.30	
25x25	30x2	10x2	500x800	10.86	
25x25	30x2	10x2	500x900	11.90	
25x25	30x2	10x2	500x1000	13.50	
25x25	30x2	10x2	600x600	9.88	
25x25	30x2	10x2	600x1000	16.00	
25x25	30x2	10x2	700x900	16.90	
25x25	30x2	10x2	700x1000	18.70	



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