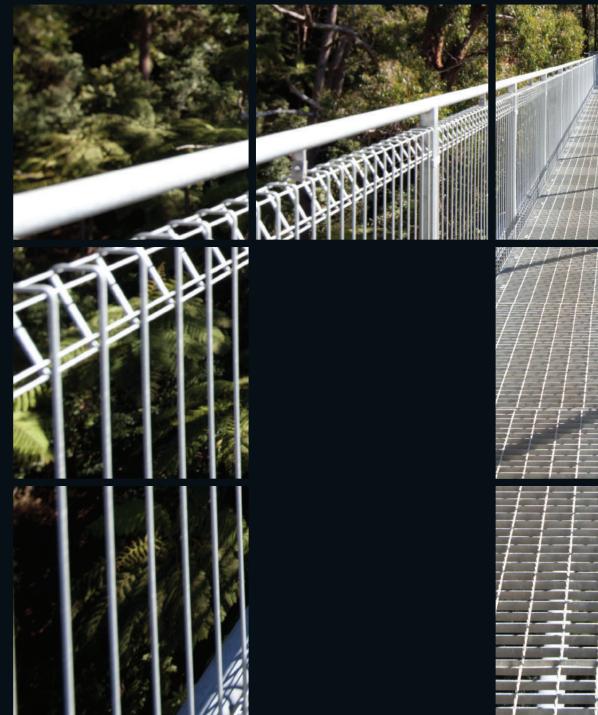
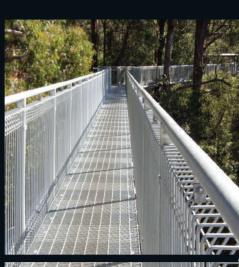
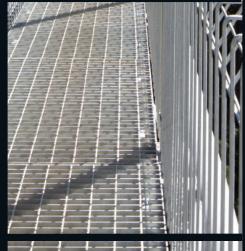


### Weldlok® Steel Grating









### NEPEAN™ Building & Infrastructure



Weldlok® Steel Grating

NEPEAN Building & Infrastructure is a division of NEPEAN, Australia's largest privately owned engineering, mining services and industrial manufacturing organisation.

Through our renowned Weldlok® brand, we manufacture and supply grating, handrails and drainage products, as well as perforated and expanded metals in a variety of materials, including galvanised mild steel, stainless steel and aluminium.

This brochure is designed to assist the draftsperson, engineer, fabricator and specifier in the correct selection of our forgewelded mild steel grating.

### **CONTENTS**

General Information	3
How to Order Grating	4
Series 15 Grating	5
Series 30 Grating	6
Series 40 Grating	7
Series 60 Grating	8
How to Order Stair Treads	9
Composite Flooring	10
Grating Terminology	11
Fastening Methods 12	- 13
Manufacturing Tolerances	14
Installation Tolerances	15

### Ask our sales team for a copy of these and other Weldlok® product brochures



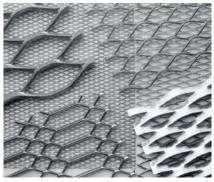
Balltube & Fabricated Handrailing



Drainage Products



Fibreglass Platforms, Walkways & Treads



Expanded Metal



Perforated Metal



Aluminium Grating, Treads & Handrail

### WELDLOK® STEEL GRATING INFORMATION

#### Construction

Weldok® forgebar mild steel grating is constructed using an electro-forgewelding process that applies pressure and heat to fuse square, twisted cross bars into load-bearing bars of various thicknesses and depths. The result is a product with a one-piece construction that complies with the requirements of AS1657.

### **Load Bar Top Surface**

Load bars can be supplied with the top surface either plain or serrated. Careful consideration should be given to the type of surface profile required for each application. Standard grating has square-edge load bars, but where a higher slip resistance may be required, serrated load bars should be considered. Note that serrated surfaces are not recommended on 20mm-deep load bars.

For sloping walkways, the designer should consult the requirements of AS1657. Depending on the slope, 10mm x 10mm square bar cleats or yellow abrasive strips may be required.

### **Surface Treatment**

Three surface treatments are available:

**Untreated** (black) raw mild steel **Hot-dip galvanised** to AS/NZS4680

### Black bitumen coated

Note that bitumen coating is not recommended for corrosive environments, as there is no pretreatment of steel prior to bitumen coating.

### **Availablity**

Many common size gratings are carried in stock in standard mat sizes. Common material types, which are likely to be held in stock, are highlighted in bold type in the following charts. Non-standard products can also be made to order. For assistance contact our sales department.

### **Product Applications**

Forgebar grating is extensively used in a variety of pedestrian and screening applications. Forgebar grating allows the passage of light, air and water. The manufacturing process makes it one of the most economical steel grating products.



Plain - Standard top surface profile



Serrated – Optional top surface Profile

### **Design Criteria**

All safe load tables were calculated in accordance with the following criteria:

- Loading Code AS1170-1 (load combination 1.25 x dead load and 1.5 x live load).
- 2. Steel Structures Code AS4100.
- 3. Mass calculated on untreated and un-edged grating.
- 4- Australian Made grating has a 250MPa minimum yield strength of steel or 235MPa for imported grating.
- 5. Load calculated with allowable bending stress of 171.6 MPa (0.66 Fy)
- 6. Load bars assumed to be simply supported and unserrated.
- 7. Spans based on maximum 5mm deflection, which is a limiting deflection for pedestrian comfort.

See load tables on Pages 5, 6, 7 and 8



### Product Code Examples: Plain A30-323 or Serrated AS30-323



Cross Bar Pitch

A – 100mm B – 50mm

### WELDLOK® STEEL GRATING ORDERING

### **Ordering Floor Grating**

The following procedure is recommended when ordering Weldok® floor grating. For terminology, see page 11.

- 1. Establish:
  - The largest floor grating support centres (SPAN in mm) in the direction the load-bearing bars will
  - > From the Quick Selection Charts on Pages 5, 6, 7 or 8, select Grating Type Example: Design load required is 4 kPa with a span of 2000mm
  - > Series 15 grating -A15-325
  - > Series 30 grating -A30-405 or B30-405
  - > Series 40 grating -A40-455 or B40-455
  - > Series 60 grating -B60-505
- 3. Choose from a Plain or Serrated surface profile.
- 4. If stock mats are required, refer to Standard Mat Sizes table, on the same pages, for each Grating Series.
- 5. For fabricated grating, specify if grating is to be edge-banded using edge bars or un-edged (no edge bars). Unless specified otherwise, standard fabrication welding of edge banding (edge bars) will be provided (see page 14).
- 6. Specify the number of panels required and provide each overall panel Span (mm) x Width (mm). The SPAN should always be the first dimension stated, and should also be clearly defined as SPAN.

Alternatively, or for large floor, areas provide drawings of grating outline details and structural support steel details.

Supplied drawings should indicate:

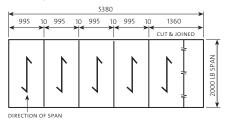
- a) Grating product type and surface treatment
- b) Span (load bar direction).
- c) Dimensioned location and sections ize of support steel.
- d) Location and size of all cut-outs and removable areas.
- e) Location of nosing, kick plates and penetrations (indicate if penetrations are required to be split).
- 7. Indicate surface treatment required: Untreated, Galvanised or Black Bitumen.
- 8. Specify the type of fasteners, if required. Refer to page 12 & 13.

**Order Example** 

### One platform – 2000mm Load Bar Span x 5380mm Wide

The illustration shows a typical layout. The platform is split up into standard stock panel widths of 995mm, plus a cut and joined end panel with the width taken to the nearest load bar to match the required dimension.

Note: Depending on location, make-up panels will be welded to the adjacent panel if less than the 300mm width (WA) or 500mm width (all other locations).



### **Drafting**

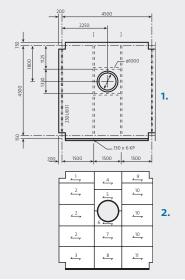
There is no need to submit fully detailed panel drawings. We will design the most economical combination of panels to suit the floor layout. Save time and cost and allow us to do it for you.

### 1. What we require from you

- > Dimensioned outline grating details.
- > Dimensioned structural steel support details.

### 2. What you recieve from us

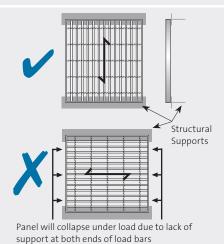
Marking plan with each panel tagged



### **IMPORTANT:**

Always check the Load Bar Span Direction before requesting a quotation or placing an order. A mistake could mean the difference between winning or losing a tender. It could also save a lot of unnecessary cost on rework.

Compare load bar direction to support location



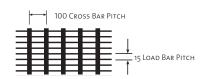
### Weldlok® Forgebar Series 15 Grating

(15mm Centres)

Weldok® Series 15 is the next generation in grating profiles. Fully complaint with AS1657:2019, specifically clause 4.5 pertaining to safety below the platform or landing. Designed to prevent objects falling through the floor.

### **Standard Mat Sizes**

	SPAN X WIDTH (mm)	LOAD BAR THICK. (mm)	Load Bar No.		
All	5800 x 993	3	67		
States	5800 x 995	5	67		



### **Quick Selection Chart**

GRATING TYPE	Maximum Span	(mm) for Variou	s Loads with 5.00	mm Deflection
	2.5 kPa	4.0 kPa	5.0 kPa	kg/m²
A15-203	1422	1264	1196	34-3
A15-205	1616	1437	1359	55.2
A15-253	1681	1495	1414	42.1
A15-255	1910	1700	1606	68.3
A15-323	2023	1800	1701	53.1
A15-325	2300	2044	1933	86.7

Bold type indicates preferred product (more likely to be in stock)

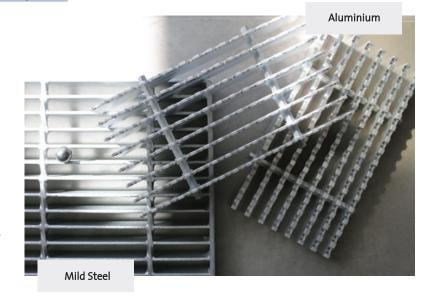
### **Typical Application Loadings**

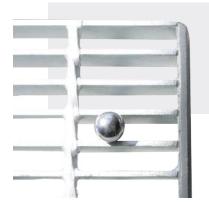
AS1657 (4.2)	Fixed Platforms, Walkways and Stairways	2.5 kPa
AS1170.1 (Table 3.1E)	Warehousing and Storage Areas	4 kPa
AS1170.1 (Table 3.1E)	Plant Rooms, Fan Rooms incl weight of machinery	5 kPa
AS1170 1 (Table 3 1 Cs)	Public Assembly Areas susceptible to overcrowding	75 kPa

Series 15 grating provides a clean aesthetic look. The single-piece design prevents debris build up between the mesh and grate allowing for easy maintenance. Additionally, the A15 profile is less labour intensive to fabricate reducing production lead times.

### Series 15 Features:

- 15mm load bar centres
- Cross rods at 100mm for reliable stability
- 3mm or 5mm thick load bars
- Standard or serrated finish available in mild steel or aluminum





Series 15 is fully compliant with AS1657:2019 including clause 4.5 pertaining to safety below the platform or landing.

## WELDLOK® FORGEBAR SERIES 30 GRATING

(30mm Centres)

Weldok® Series 30 grating is recommended for applications requiring high load-carrying capacity. Serrated load bars should be considered where increased walkway safety is required, and cross bars at 50mm centres for high impact loads.

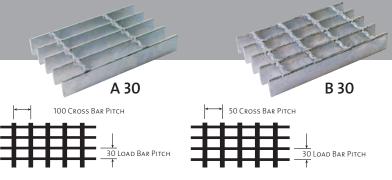
### **Standard Mat Sizes**

mm

	SPAN X WIDTH (mm)	LOAD BAR THICK. (mm)	Load Bar No.
Eastern	5800 x 993	3	34
States	5800 x 995	5	34
Western	5800 x 1053	3	36
Australia	5800 x 1055	5	36

### **Typical Application Loadings**

Fixed Platforms, Walkways and Stairways	2.5 kPa
Warehousing and Storage Areas	4 kPa
Plant Rooms, Fan Rooms incl weight of machinery	y 5 kPa
Public Assembly Areas susceptible to overcrowdin	ng 7.5 kPa



### **Quick Selection Chart**

Grating Type	Maximum Span	(mm) for Variou	s Loads with 5.00	Omm Deflection
	2.5 kPa	4.0 kPa	5.0 kPa	7.5 kPa
<b>A30-203</b> / B30-203	1190	1055	1010	905
<b>A30-205</b> / B30-205	1355	1210	1155	1040
<b>A30-253</b> / B30-253	1430	1265	1195	1060
<b>A30-255</b> / B30-255	1610	1435	1350	1225
<b>A30-323</b> / B30-323	1740	1616	1440	1306
<b>A30-325</b> / B30-325	1940	1720	1630	1480
<b>A30-403</b> / B30-403	2020	1790	1695	1530
<b>A30-405</b> / B30-405	2290	2035	1936	1746
A30-455 / B30-455	2450	2226	2100	1905
<b>A30-505</b> / B30-505	2700	2400	2280	2060
A30-555 / B30-555	2900	2680	2440	2210
<b>A30-655</b> / B30-655	3255	2930	2770	2606
A30-756	3830	3400	3220	2900

Bold type indicates preferred product (more likely to be in stock)

GRATING TYPE	Crossbar Pitch m	Mass kg/m²	Nom. load bar size mm		Safe	Load	& De	eflect	ion 1	able		ins (mr	n)							Serrated Edge Conversion Factor
			N B B		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2400	2700	SON
A30-203	100	18.8	20x3	U	100.9	45.0	25.20	15.94	7.67	4.11					Cafa			uted loa		NOT REC.
B30-203	50	21.8		D	0.80	1.80	3.22	5.00	5.00	5.00				U =		(or kN/		utea ioa		
A30-205		29.5	20x5	U	169.4	75.33	42.37	26.96	13.00	7.02	4.11			D =			m) at m	iid-span		NOT
B30-205	50	32.5		D	0.80	1.80	3.22	5.00	5.00	5.00	5.00					d by U			_	REC.
A30-253	100	22.8	25x3	U	158.9	70.62	39.72	25.42	15.24	8.22	4.82				U		ref. pag			0.876
B30-253	50	25.8		D	0.64	1.45	2.57	4.02	5.00	5.00	5.00						e maxin s the lim	num 5m niting	m —	_
A30-255	100	36.2	25x5	U	264.8	117.7	66.20	42.37	25.40	13.71	8.03	5.01		det	lection	for pede	estrian c	omfort		0.876
B30-255	50	39.2		D	0.64	1.45	2.57	4.02	5.00	5.00	5.00	5.00								
A30-323	100	28.4	32x3	U	260.3	115.7	65.08	41.65	28.92	17.24	10.11	6.31	4.14							0.902
B30-323	50	31.4		D	0.50	1.13	2.01	3.14	4.52	5.00	5.00	5.00	5.00							
A30-325	100	45.5	32x5	U	433.8	192.8	108.4	69.42	48.21	28.75	16.86	10.52	6.93	4.71						0.902
B30-325	50	48.5		D	0.50	1.13	2.01	3.14	4.52	5.00	5.00	5.00	5.00	5.00						
A30-403		34.9	40x3	U	406.7	180.7	101.7	65.08	45.20	33.20	19.73	12.34	8.09	5.52						0.922
B30-403	_	37.9		D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00	5.00	5.00		. = -				
A30-405		56.2	40x5	U	677.9	301.3	169.4	108.4	75.33	55.34	32.89	20.56	13.49	9.20	6.50	4.72				0.922
B30-405	-	59.2		D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00	5.00	5.00	5.00	5.00				1
A30-455	100	62.9	45×5	U	858.0	381.3	214.5	137.2	95.30	70.04	46.87	29.26	19.19	13.11	9.25	6.72	4.99			0.930
B30-455	50	65.9		D	0.36	0.80	1.43	2.23	3.22	4.38	5.00	5.00	5.00	5.00	5.00	5.00	5.00			
A30-505		69.6	50x5	U	1059.0	470.7	264.8	169.4	117.7	86.47	64.27	40.11	26.35	17.99	12.70	9.22	6.85	4.01		0.937
B30-505	50	72.6		D	0.32	0.72	1.29	2.01	2.90	3.94	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00		-
A30-555	100	76.2	55x5	U	1281.0	569.6	320.4	205.0	142.4	104.6	80.11	53.45	35.06	23.93	16.90	12.27	9.12	5.34		0.943
B30-555	50	79.2		D	0.29	0.66	1.17	1.83	2.63	3.58	4.68	5.00	5.00	5.00	5.00	5.00	5.00	5.00	F F4	
A30-655		89.6	65x5	U	1790.0	795.6	447.5	286.4	198.9	146.1	111.8	88.22	57.84	40.75	27.90	20.25	15.05	8.82	5.51	0.951
B30-655	50	92.6		D	0.25	0.56	0.99	1.55	2.23	3.03	3.96	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
A30-756	100	122.9	75x6	U	2750.0	1200.0	650.0	400.0	300.0	225.0	150.0	110.0	75.00	60.00	51.40	37.31	27.76	16.27	10.16	N/A
	.50-150 100 12	122.3	.2.5 1580	D	0.21	0.46	0.78	1.17	1.82	2.53	2.88	3.38	3.52	4.12	5.00	5.00	5.00	5.00	5.00	

For galvanised fabricated panels, add 7.5% to mass

### Weldlok® Forgebar Series 40 Grating

(40mm Centres)

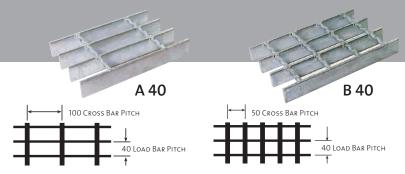
Weldok® Series 40 grating is a lightweight and economical grating that meets the requirements of AS1657 for fixed platforms, walkways, stairways and ladders. Series 40 is ideal for mezzanine floors, catwalks, conveyor walkways and similar.

### **Standard Mat Sizes**

	SPAN X WIDTH (mm)	LOAD BAR THICK. (mm)	Load Bar No.
Eastern	5800 x 1003	3	26
States	5800 x 1005	5	26
Western	5800 x 1043	3	27
Australia	5800 x 1045	5	27

### **Typical Application Loadings**

Fixed Platforms, Walkways and Stairways	2.5 kPa
Warehousing and Storage Areas	4 kPa
Plant Rooms, Fan Rooms incl weight of machinery	5 kPa
Public Assembly Areas susceptible to overcrowding	7.5 kPa



### **Quick Selection Chart**

Grating Type	MAXIMUM SPAN	(mm) for Variou	s Loads with 5.00	Omm Deflection
	2.5 kPa	4.0 kPa	5.0 kPa	7.5 kPa
<b>A40-203</b> / B40-203	1120	1000	945	860
<b>A40-205</b> / B40-205	1290	1140	1065	975
<b>A40-253</b> / B40-253	1320	1180	1125	1010
<b>A40-255</b> / B40-255	1490	1335	1265	1150
<b>A40-323</b> / B40-323	1600	1420	1340	1200
<b>A40-325</b> / B40-325	1790	1600	1510	1375
<b>A40-403</b> / B40-403	1880	1685	1580	1435
<b>A40-405</b> / B40-405	2115	1900	1790	1620
A40-455 / B40-455	2315	2070	1950	1770
<b>A40-505</b> / B40-505	2610	2230	2110	1920
A40-555 / B40-555	2690	2400	2250	2060
A40-655 / B40-655	3045	2720	2560	2315

Bold type indicates preferred product (more likely to be in stock)

	шш							71					•	,		,				
Grating Type	PITCH	Mass kg/m²	Nom. load bar size mm		Safe	Load	l & D	eflec	tion	Table	2									Serrated Edge Conversion Factor
NIT	CROSSBAR	ss kg	M. LO								SP	ans (mi	m)							RATE VVER TOR
GR/	CRO	Mas	No/ Bar		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2400	2700	SER
A40-203	100	14.6	202	U	76.86	34.07	19.21	12.11	5.81											NOT
B40-203	50	17.6	20x3	D	0.80	1.81	3.22	5.00	5.00					U = 9	afe unif	ormly d	istribute	d load		REC.
A40-205	100	22.5	20 5	U	127.1	56.49	31.77	20.21	9.74	5.25					n kPa (oı		′			NOT
B40-205	50	25.5	20x5	D	0.80	1.81	3.22	5.00	5.00	5.00				D = [	Deflection Caused b	on (mm)	at mid-	span		REC.
A40-253	100	17.5	252	U	119.1	52.96	29.79	19,06	11.42	6.17					esign Cri		page 4			0.076
B40-253	50	20.5	25x3	D	0.64	1.45	2.57	4.02	5.00	5.00				• Spar	ns showi	n have n	naximur			0.876
A40-255	100	27.4	255	U	198.5	88.27	49.65	31.77	19.05	10.28	6.01				tion, whation for					0.076
B40-255	50	30.4	25x5	D	0.64	1.45	2.57	4.02	5.00	5.00	5.00			dence		pedesti				0.876
A40-323	100	21.7	222	U	195.1	86.77	48.81	31.24	21.68	12.93	7.58	4.73								0.000
B40-323	50	24.7	32x3	D	0.50	1.13	2.01	3.14	4.52	5.00	5.00	5.00								0.902
A40-325	100	34.2	225	U	325.3	144.93	81.35	52.05	36.15	21.55	12.63	7.89	5.17							0.902
B40-325	50	37.2	32x5	D	0.50	1.13	2.01	3.14	4.52	5.00	5.00	5.00	5.00							0.902
A40-403	100	26.4	102	U	305.0	135.5	76.27	48.81	33.89	24.90	14.82	9.24	6.06	4.14						0.033
B40-403	50	29.4	40x3	D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00	5.00	5.00						0.922
A40-405	100	42.1	40x5	U	508.4	225.9	127.1	81.35	56.49	41.50	24.70	15.41	9.62	6.89	4.86					0.922
B40-405	50	45.1	40X5	D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00	5.00	5.00	5.00					0.922
A40-455	100	47.0	45x5	U	643.4	285.9	160.8	102.9	71.50	52.53	35.15	21.93	14.39	9.82	6.94	5.04				0.930
B40-455	50	50.0	45X5	D	0.36	0.80	1.43	2.23	3.22	4.38	5.00	5.00	5.00	5.00	5.00	5.00				0.930
A40-505	100	51.9	FOVE	U	794.3	353.0	198.5	127.1	88.27	64.85	48.19	30.07	19.75	13.49	9.52	6.90	5.13			0.937
B40-505	50	54.9	50x5	D	0.32	0.72	1.29	2.01	2.90	3.94	5.00	5.00	5.00	5.00	5.00	5.00	5.00			0.937
A40-555	100	56.8	55x5	U	961.2	427.2	240.2	153.7	106.8	78.47	60.07	40.08	22.69	17.94	12.66	9.20	6.83	4.00		0.943
B40-555	50	59.8	33X5	D	0.29	0.66	1.17	1.83	2.63	3.58	4.68	5.00	5.00	5.00	5.00	5.00	5.00	5.00		0.943
A40-655	100	66.6	65x5	U	1342.0	596.6	335.5	214.7	149.1	109.5	83.91	66.16	43.36	29.62	20.93	15.18	11.28	6.30	4.13	0.951
B40-655	50	69.6	כאכט	D	0.25	0.56	0.99	1.55	2.23	3.03	3.96	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	0.951

# WELDLOK® FORGEBAR SERIES 60 GRATING

(60mm Centres)

Weldok® Series 60 grating was developed initially for the mining industry to minimise build-up of spillage materials on platform floors. The larger openings allow most materials to fall through, providing a safer walking surface.

**Weldok® Series 60** grating is not suitable for floors subject to high impact loads.

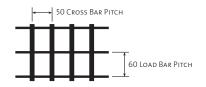
### **Standard Mat Sizes**

	SPAN X WIDTH (mm)	LOAD BAR THICK. (mm)	Load Bar No.
All Ctatas	5800 x 1023	3	18
All States	5800 x 1025	5	18

### **Typical Application Loadings**

Fixed Platforms, Walkways and Stairways	2.5 kPa
Warehousing and Storage Areas	4 kPa
Plant Rooms, Fan Rooms incl weight of machinery	5 kPa
Public Assembly Areas susceptible to overcrowding	7.5 kPa

**Note: Weldok® Series 60** is very light and has only 50% of the load carrying capacity of Series 30 grating.



B 60

### **Quick Selection Chart**

Grating Type	Maximum Span	mm Deflection		
	2.5 kPa	4.0 kPa	5.0 kPa	7.5 kPa
B60-205	1140	1020	965	875
B60-253	1185	1050	1005	895
B60-255	1375	1195	1140	1030
B60-323	1420	1275	1195	1085
B60-325	1640	1445	1355	1230
B60-403	1700	1495	1420	1285
B60-405	1925	1700	1615	1460
B60-455	2070	1860	1760	1590
B60-505	2220	2010	1900	1720
B60-555	2420	2130	2040	1845
B60-655	2745	2445	2330	2090

Bold type indicates preferred product (more likely to be in stock)

Grating Type	Crossbar Pitch mm	Mass kg/m²	Nom. load Bar size mm				1 & D				Sp	ANS (M								SERRATED EDGE CONVERSION FACTOR				
G	Ū	>	Z â		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2400	2700					
B60-205	50	19.0	20x5	U	81.98	36.45	20.50	13.04	6.29					Cafa	uniform	lv dietril	buted lo	nd		NOT REC				
				D	0.80	1.81	3.22	5.00	5.00	2.07					a (or kN		buteu 10	au		KLC				
B60-253	50	15.7	25x3	U D	76.90	34.18 1.45	19.22	12.30	7.37 5.00	3.97 5.00			D			nm) at n	nid-span	1 —		0.876				
				U	128.1	56.96	32.04	20.50	12.29	6.63			Fc	caus or Desigi	ed by U n Criteria	a ref. par	ge 4	_						
B60-255	50	22.3	25x5	D	0.64	1.45	2.57	4.02	5.00	5.00				Spans sh	iown ha	ve maxi	mum 5n	nm		0.876				
				U	125.9	55.99	31.49	20.15	13.99	8.34	4.89			eflectior eflection			niting comfort			+				
B60-323	50	18.5	32x3	D	0.50	1.13	2.01	3.14	4.52	5.00	5.00				0.902									
240 222		27.0	27.0	27.0	27.0	27.0	22.5	U	209.9	93.31	52.46	33.59	23.33	13.91	8.16	5.09								0.000
B60-325	50				32x5	D	0.50	1.13	2.01	3.14	4.52	5.00	5.00	5.00								0.902		
B60-403	50	21.7	40x3	U	196.8	87.45	49.22	31.49	21.87	16.06	9.54	5.97								0.922				
B00-403	30	21.7	4085	D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00								0.922				
B60-405	50	32.3	40x5	U	328.1	145.8	81.98	52.46	36.45	26.78	15.91	9.95	6.52	4.45						0.922				
500-403	30	32.3	4073	D	0.40	0.90	1.61	2.51	3.62	4.93	5.00	5.00	5.00	5.00						0.322				
B60-455	50	50	50	50	50	35.7	45x5	U	415.2	184.5	103.8	66.40	46.12	33.89	22.68	14.16	9.28	6.34	4.47					0.930
					33	.57(5	D	0.36	0.80	1.43	2.23	3.22	4.38	5.00	5.00	5.00	5.00	5.00					0.550	
B60-505	50	39.0	50x5	U	512.5	227.8	128.1	81.98	56.96	41.85	31.10	19.41	12.75	8.70	6.14	4.46				0.937				
				D	0.32	0.72	1.29	2.01	2.90	3.94	5.00	5.00	5.00	5.00	5.00	5.00								
B60-555	50	42.4	55x5	U	620.0	275.6	155.0	99.22	68.92	50.62	38.77	25.86	16.96	11.58	8.17	5.93	4.41			0.943				
				D	0.29	0.66	1.17	1.83	2.63	3.58	4.68	5.00	5.00	5.00	5.00	5.00	5.00	1.26						
B60-655	50	49.0	65x5	U	866.3	385.0	216.5	138.6	96.26	70.71	54.11	42.69	27.99	19.72	13.50	9.80	7.28	4.26		0.951				
				D	0.25	0.56	0.99	1.55	2.23	3.03	3.96	5.00	5.00	5.00	5.00	5.00	5.00	5.00						

## WELDLOK® STEEL GRATING STAIR TREADS

#### **Stair Treads**

Weldok® stair treads can be supplied in Series 30, 40 & 60 forgebar grating. Treads may be selected using the Recommended Width and Recommended Max Length tables. Non-standard treads can also be supplied on request, please consult our sales department.

### **Ordering Stair Treads**

- 1. Select from the tread types shown (T1 to T6).
- 2. Refer to Recommended Max. Lengths table. Select a Load Bar Size and Series with a maximum length equal to or greater than the required tread length. For example, if the required tread length is 1100mm, the Series 40 grating with 32 x 5 load bars (A40-325) would be appropriate.
- 3. From the Recommended Widths table, choose a width that corresponds to the tread type and Series selected. For example, based on the Series 40 grating and a T1 tread, the tread width would be either 125, 165, 205, 245, 285 or 325mm.

Example would be:

Tread Type T1 ~ 1100 x 285 from A40 - 325

Recommended Maximum Lengths (mm)							
Load Bar Size	25 x 5	32 x 5	40 x 5				
Series 30	900	1300	1600				
Series 40	750	1200	1500				
Series 60	500	800	1300				

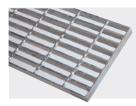
RECOMMENDED WIDTHS (mm) *								
TREAD TYPES T1 TO T6								
Series 30	125	155	185	215	245	275	305	
SERIES 40	125	165		205	245	285	325	
SERIES 60	125		185		245		305	

<sup>\*</sup>Note: In order to comply with AS1657 a minimum tread width of 225mm is required.

	Bolted Connections								
Γ	END PLATE HOLE CENTRES (mm)								
'A' 45 75 75 100 100 100 100									

**T1** Welded fixing No nosing

**Tread Types** 



**T2** Bolted fixing - No nosing



T3 Welded fixing -Floor plate nosing



**T4** Bolted fixing – Floor plate nosing



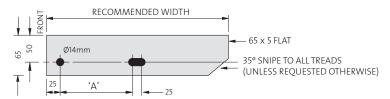
**T5** Welded fixing – Abrasive nosing



**T6** Bolted fixing - Abrasive nosing



### Standard End Plates for Bolted Threads



Note: Special End Plate Hole Centres available on request.

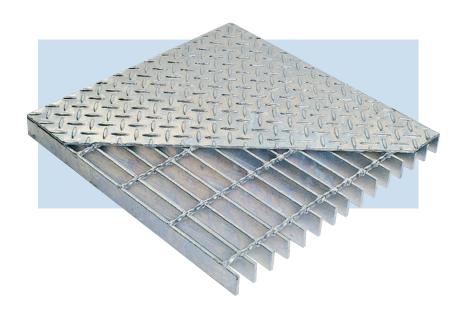
# WELDLOK® FORGEBAR GRATING COMPOSITE FLOORING

### Weldlok® Gridplate

Gridplate is a composite flooring arrangement comprising steel floorplate welded to the top of any of the grating types listed in this brochure.

### Gridplate is available as:

- 3mm or 5mm thicknesses
- Maximum panels are 2000mm length in load bar direction on standard panel widths
- Nominated holes as required for fixing





LD1616 EXPANDED METAL SPECIFICATIONS							
MATERIAL	LVM	SWM	THICKNESS	STRAND WIDTH	SHEET SIZE	APPROX WT kg/m²	APPROX % OPEN
STEEL	28.00	9.00	1.60mm	1.60mm	1200 X 2400	4.4kg/m²	65%

### Weldlok® Safe-T-Grating

Safe-T-Grating is a composite flooring comprising light gauge mesh typically welded to the underside of grating to prevent small objects falling through, as required by AS1657, or to the top for trolleys or pedestrian traffic.



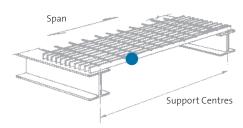
**LD1616** Expanded Metal

Safe-T-Grating is manufactured using LD1616 expanded mesh. Refer to the Weldlok Expanded Mesh brochure for more information on our mesh offering.

## WELDLOK® FORGEBAR GRATING TERMINOLOGY

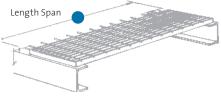
### **Load Bearing Bar**

A load-carrying member spanning between supports.



### **Length (Direction of Span)**

The overall dimension of a panel parallel to the load-bearing bars.



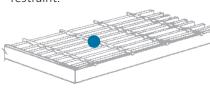
### **Nosing Bar**

An attachment to the front edge of a stair tread or top stair landing panel such as yellow replaceable nosing or plate nosing.



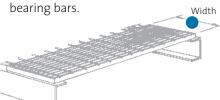
### **Cross Bar**

A member fixed at right angles to the load bearing bars to provide lateral restraint.



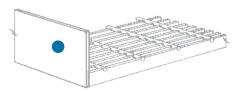
### Width

The overall dimension of a panel at right angles to the load-



### **Kick Plate**

A large, flat bar welded to the side of a panel or ends and around cut-outs, where specified. Nominally 100mm above walking surface.



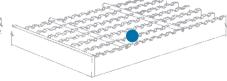
### **Edge Bar**

Non-load-bearing bars, running at right angles to the load-bearing members.



### **Serrations**

Notches formed in the top of load-bearing bars to improve skid resistance.



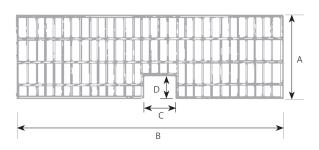
### **Cut-Outs**

Area of flooring removed to clear around columns, pipes, machinery, etc.



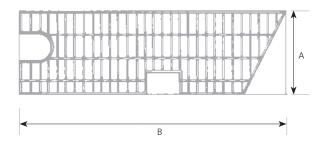
### **Nett Area**

The area of flooring remaining after deducting cut-outs ([A  $\times$  B] – [C  $\times$  D]).



### **Gross Area**

Total area of flooring, including cut-outs (A x B).



### WELDLOK® FORGEBAR GRATING FASTENING METHODS

### Weldlok® Clipsets

A range of fastening solutions are available for steel grating, specially designed to suit a variety of applications.

Weldlok recommends grating panels are fixed at a frequency of 4 clipsets per sqm, or 4 clipsets per panel when a panel is under 1 sqm. Larger panels may reduce to 3 per sqm pending steel support locations, consult with your engineer.

### Diagrams detail individual item codes in blue.

Additional options are available for stainless steel or aluminum, contact your Weldlok representative for more information or to obtain a full parts list.



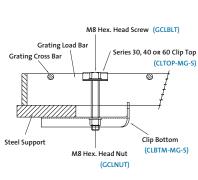
**Code:** CLSET-MG-S **Finishes:** Galvanised

Weldlok® clamp style fixing clipset has been designed to connect the grating to steel support structures.

Easily installed on site from the top of grating, this style is suited to grating up to 50mm where a flange is present. (5-16mm flange thickness).

Note: Deeper grating can be accommodated by using 100mm long bolt.  $\label{eq:commodated}$ 



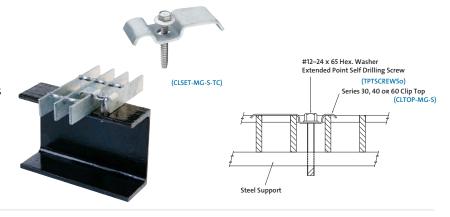


### **Screw Down**

Code: CLSET-MG-S-TC Finishes: Galvanised

Screw down fixing designed to connect grating panels to steel support using a M8x50mm trilobular self tapping screw. A pre-drilled pilot hole in the steel support is required.

Ideal where no flange is present or areas where vibration is a concern. Suited to grating up to 50mm.



### Screw Down Gridplate

Code: TPTSCREW75 Finishes: Galvanised

Designed to screw down Gridplate® grating with into steel supports with pre-drilled holes. Utilising a countersunk-head M8x75mm trilobular self tapping screw, this style is suitable in areas where vibration is a concern. Suited grating less than 50mm including Gridplate top.



### WELDLOK® FORGEBAR GRATING FASTENING METHODS

#### **Rivet Down**

Code: CLSET-MG-M6oX32-RV Finishes: Galvanised Clip Top

Zinc Plated Rivet or Galvanised Screw

Designed for use on Series 60 grating only, this style of fixing is ideal for areas of high vibration. Ultising a high strength dome headed 1/4" structural rivet to attach the top clip and fix the grating to steel supports. Suitable for grating depths of 20mm, 25mm, 32mm and 40mm only, with an 8-20mm rivet range.

Note: Where required, the rivet can be replaced with the M8x5omm trilobular, self tapping screw.



(CLSET-MG-M6oX<sub>32</sub>-RV)

### Grate-Fast® Anti-Vibration Clip Set

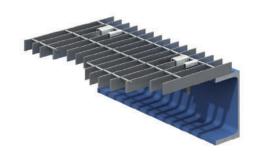
Code: CLSET-MG-LIND Finishes: Galvanised

Lindapter® clamp style clipset has been designed to clip the grating to steel support.

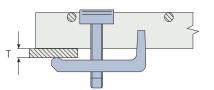
The Lloyds approved clip set is designed for areas of high vibration.

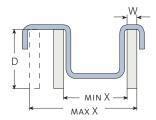


- a top-hat bracket
- cast clip bottom
- and M10 socket head cap screw.









### **Grate-Fast® Clip Dimensions**

Flange	Load Bar	Load Bar	Load Bar
T (mm)	D (mm)	W (mm)	X (mm)
3 – 19	20 – 30	3 – 7	25 – 45



### Weld Down

Where there is no requirement to remove grating at a some later date, on-site welding of grating panels to the structural steel is considered an acceptable method of fixing.

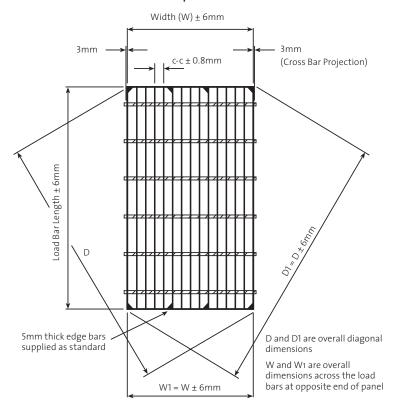
### Minimum Requirements for Weld Down Fixing:

- 4 welds per panel
- Each weld consisting of a 6mm fillet
- Weld lengths of 25mm spaced at 1000mm centres

## WELDLOK® FORGEBAR GRATING MANUFACTURING TOLERANCES

### **Overall Dimensions and Squareness**

### All dimensions are maximum permissible tolerances



### Standard Fabrication Welding

Edge bars and attachments are welded with a minimum 3mm fillet weld to one side of:
Every 5th load bar on Series 30 Grating
Every 4th load bar on Series 40 Grating
Every 3rd load bar on Series 60 Grating

### Optional Welding

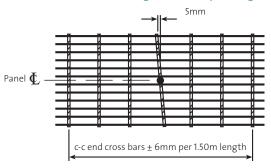
Full Weld:

Weld one side of every load bar.

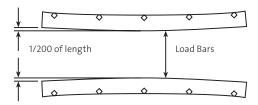
Seal Weld:

Weld both sides top and bottom.

### **Cross Bar Alignment Spacing**

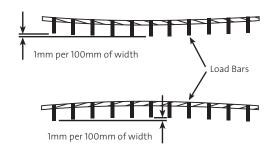


### **Longitudinal Bow**

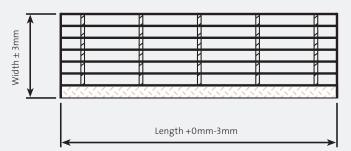


### **Transverse Bow**

(Before fastening to supports)



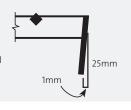
#### **Stair Tread Tolerances**



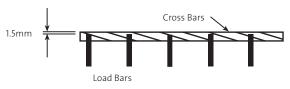
Note: Length of tread is distance between outer faces of end flats

### Stair Tread End Flat Lean

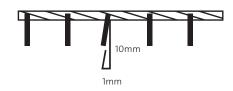
Fabrication: Edge bars and end plates welded on side of every load bar with minimum 3mm fillet weld



### **Cross Bar Location**



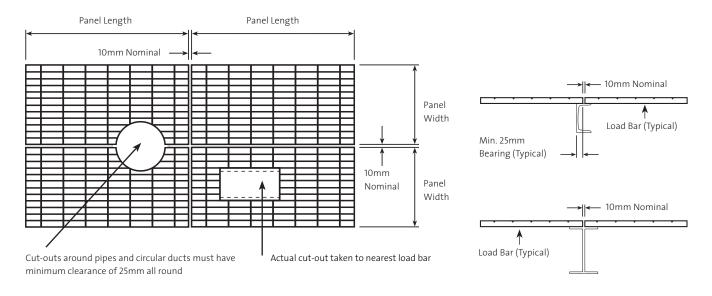
#### Load Bar Lean

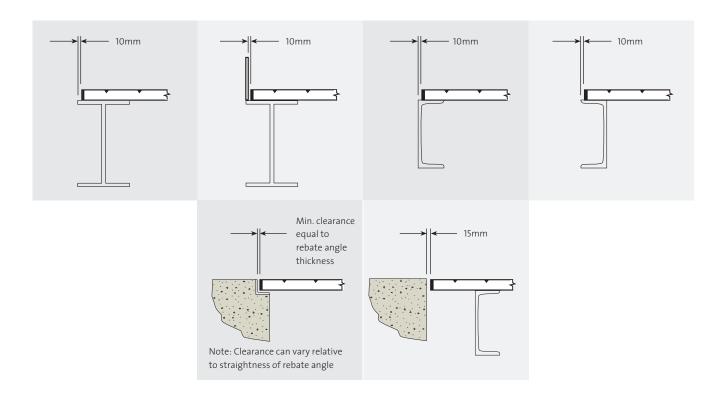


## WELDLOK® FORGEBAR GRATING INSTALLATION TOLERANCES

### **Installation Tolerances**

### All dimensions are maximum permissible tolerances





Information contained in this brochure is supplied in good faith and with the view to assist the user in the correct selection of our products. While every care is taken to ensure that the information contained in this brochure is correct, no warranty is made nor is any condition expressed or implied. As the use of products sold is beyond our control, a condition of purchase is that the purchaser accepts responsibility for ensuring that products purchased are suitable for the intended use. NEPEAN Building & Infrastructure is committed to continual product improvement and therefore reserves the right to change details and designs without notice. © NEPEAN Building & Infrastructure, June 2021.

### **BRANCHES**

**NEW SOUTH WALES** 

117-153 Rookwood Road

Yagoona NSW 2199

P: + 61 2 9707 5000

E: info@weldlok.com.au

**QUEENSLAND** 

967 Nudgee Road Banyo QLD 4014

P: + 61 7 3633 1333 E: qld.bi@nepean.com **VICTORIA** 

171 Derrimut Drive Derrimut VIC 3026

Jerrinat VIO 3020

P: + 61 3 8353 3701 E: vic.bi@nepean.com

WESTERN AUSTRALIA & NORTHERN TERRITORY

98 Campbell Street Belmont WA 6104

P: + 61 8 9478 1034 E: wa.bi@nepean.com

Visit us Online

Freecall

weldlok.com.au

1800 WELDLOK



