

mentis australia

Innovation and excellence stamped into every solution.

Grating - Gripweld

DESIGNED FOR THE AUSTRALIAN MARKET

Our manufacturing factory boasts an extensive range of grating with highdemand stock items held in stock

LONG-TERM COST SAVINGS

Mentis Grating can be specified as flooring, stair treads and trench covers in various industries including, but not limited to, construction, engineering, oil and gas, mining and industrial markets. It can also be used for fencing, shelving, barricades and screens - it is only limited by your imagination.

The Mentis grating product range offers multi-purpose utility and diversity in application.

GW 253 GW 323 GW 255 GW 325 GW 405 GW 505

Please note: Load bar sizes range from 20mm to 100mm depth. Load bars are available in both Flat Bar and I Bar



Grating Pattern - Mild Steel

	100 TWIST	50 T	WIST
	Pattern A	Pattern B	
Pattern A and B both have the load bars spaced at 30mm centres. The twist rod is spaced at 100mm centres for A Pattern and 50mm for B Pattern.		y 4	SO AITCH
30 L/BAR	30 C.C. PM		30 C.C.
	Pattern C	Pattern D	
Pattern C and F both have the Load bars spaced at 40mm centres. The twist rod is spaced at 100mm centres for C Pattern and 50mm centres for D Pattern.	100 PITCH		SO PITCH
40 L/BAR	AD C.C. PIT		40 C.C. PITCH
		Pattern F	
Pattern F has the Load bar spaced at 60mm centres and the twist rod at 50mm centres.		WIDTH	LENGTH 50 PITCH
F Pattern does not meet AS 1657 requirements.		TWIST ROD LOAD	DEPTH
60 L/BAR		SAN	Pr blue

STOCK SHEET NORMAL SIZES

Pattern	Width
A & B	995mm
C & D	1005mm
F	965mm





Loading tables

Light and medium duty (maximum recommended spans)

Load Bar Size	Maintena No put	nce floors blic use	Pedestrian traffic Public, commercial and crowd use		wd use
	2.5Kpa Defle	ection = 5mm	4.	0Kpa Deflection = 5m	m
GW	A Pattern	C Pattern	A Pattern	C Pattern	F Pattern
20x5	1300	1200	1200	1100	950
25x3	1400	1250	1250	1170	NA
32x3	1700	1450	1510	1400	NA
25x5	1500	1400	1420	1320	1200
32x5	1800	1600	1700	1580	1500
40x5	2100	1800	1900	2000	1700
50x5	NA	NA	2300	NA	NA
65x5	NA	NA	2700	NA	NA
75x6	NA	NA	3100	NA	NA

Heavy Duty (maximum recommended spans)

Load Bar Size	General factories and w wheel	orkshops, motor rooms, trolleys	General heavy loading heavy equi	areas, boiler equipment, pment areas		
	5Kpa Deflec	ction = 5mm	7.5Kpa Defle	7.5Kpa Deflection = 5mm		
	Deflectic	on = 5mm	Deflection = 5mm			
GW	A Pattern	C Pattern	A Pattern	C Pattern		
25x5	1300	1200	1200	1100		
32x5	1600	1500	1450	1350		
40x5	2000	1800	1800	1700		
50x5	2200	2000	2000	1800		
65x5	2800	NA	2600	2400		
75x6	3000	NA	2900	2700		

Heelguard

Mentis Heelguard Grating redefines pedestrian-friendly grating by maximising comfort, through tightly spaced bars with the open style functionality of traditional open floor grating. These products come in a range of materials from hot dipped galvanised steel to 316 stainless steel.



ARCHITECTURAL

Heelguard allows architects to use a system for providing safe non-intrusive, public access to environmentally or heritage sensitive sites.









LOAD AND DEFLECTION TABLE FOR HEELGUARD GRATING

Grating Code	Load Bar Size (mm)	kg/m²	Span (mm)									
				600	750	900	1050	1200	1350	1500	1650	1800
GW 253H	25 x 3	46.8	S	0.64	1.00	1.43	1.95	2.55	3.22	3.98	4.82	5.73
			D	0.09	0.22	0.45	0.84	1.43	2.29	3.48	5.10	7.22
GW 323H	32 x 3	59.3	S	0.40	0.63	0.91	1.23	1.61	2.04	2.52	3.05	3.62
			D	0.04	0.11	0.22	0.41	0.71	1.13	1.72	2.52	3.57

This table is theoretical and is based on a uniformly distributed load of 300 kg/m² (3kPa)

• The shaded area of the table indicates grating with deflection less than span/300mm.

• For uniformly distributed loads other than 300kg/m2 (3kPa) grating stress and deflection can be calculated using the factor shown in the following table.

Stress and Deflection Factor								
Uniform Load kg/m2	200	250	300	400	500	750		
Factor (i)	0.67	0.83	1	1.33	1.67	2.5		

Black Sheets	Width (mm)	Length (LB)	Weight (kg)	kg per m
	1003	4000	288	49.7

<u>NOTE</u>

S = Stress in kg/mm²

D = Deflection in mm Allowable Stress: 18kg/mm² (180MPa) Allowable Deflection: L(Span)/300mm

Grating order process

READY-TO-USE STOCK PANELS

We carry a full range of stock panel sizes. All panels are 1m Width x 5.8m Length (Nominal), Sizes range from 20mm load bar to 75mm. Please contact us for sizes and availability of the quantity you require.

MADE TO ORDER

Mentis Australia provides tailored solutions to meet your construction requirements.

To provide you with the best service, our team will ask the following questions:

- Type of load bar required
- Load bar centres (ie. 30mm, 40mm)
- Load bar directions
- Cutouts fully dimensioned
- Kick plate detail if any
- Clip requirements
- Required surface treatment



1. FIELD WELDING

Recommended for all permanently installed grating and for grating that is to be removed at infrequent intervals.







As Detailed



2. FIXING CLIP CLAMP TYPE

This can be secured quickly and safely by one person, working from the floor surface. Available in Boxes of 50

Huck Clips and thread cuttings screws are alternate options to the clamp type.



IMPORTANT NOTE

A minimum of four clips per panel must be used to restrain floor panels. Where larger panels are to be fixed, it is advisable to use extra clips on any available intermediate supports.

MENTIS | Australia Catalogue

We manufacture quality products to contribute towards a safe working environment.



Australian Standards

We are independently accredited to ISO9001, ensuring that we meet quality management standards that you can rely on. We comply with the following Standards:

• AS1657 Fixed platforms, walkways, stairways and ladders

• AS1428 Access for People with Disabilities

- AS1554 Structural steel welding
- AS4680 Hot Dip Galvanising (Zinc)

While our products and services conform to these standards, it is up to the design and specification to ensure full compliance with the correct parts of the standard and suitability of the product used. Mentis Australia can provide a full MDR service, including testing by independent contractors to your required standard or through our own MDR system. Please contact us to discuss your requirements. We are able to arrange an inspection and test plan to suit your requirements.

Manufacturing tolerances



W and W1 are overall lengths of cross bars at opposite ends of panel. D and D1 are overall diagona dimensions







Longitudinal Bow

STANDARD MANUFACTURING

- 1. Panels supplied as standard panel width
- 2. Non-standard widths taken to nearest load bars
- 3. Cut outs are taken to the nearest load bars
- 4. Circular cuts under 200mm produced as square

CROSS BAR LOCATION AND BEARING BAR



Fibreglass reinforced plastic (FRP) grating

MOULDED FRP GRATING

Mentis FRP Grating combines fibreglass strength, with polyester resin to achieve the chemical resistance demanded from highly corrosive environments.

FRP grating is widely used as trench covers, grills, flooring, platforms, ramps, pit covers, tower packing supports, walkways, stairs, battery racks, screens, bridges, railings, machinery guards, wash racks, etc. in industries including chemical, petroleum, electronics, paper, printing & dyeing, water treatment, pollution control, offshore, power, brewing, etc.



Full size stock panel





Sewage Treatment Plant

LOAD AND DEFLECTION TABLE -FRP

This table is theoretical and is based on uniformly distributed load of 300kg/m (3kPa)



				Span (mm)					
Product Code	Load Bar (mm)	Bar Centres (mm)	Mass kg/ m2	D = mm Deflection	600	750	900	1050	1200
FRP25	25 x 6	38 x 38	12.1	D	1.3	3.1	7.6	13.1	18.6
FRP38	38 x 6	38 x 38	18.6	D	0.3	1.1	2.1	3.8	5.6
FRP50	50 x 6	50 x 50	23.7	D	0.548	0.875	3.645	3.937	-
FRP14 Roof	14 x 6	38 x 38	6.5	D	4.57	-	-	-	-
FRP MiniMesh	38 x 6	19 x 19	23.5	D	0.178	1.204	1.249	1.643	2.246

Note: For uniformly distributed load other than 300 kg/m2 (3kPA) grating deflection can be calculated using the factor shown in the following table.

STRESS AND DEFLECTION FACTOR

Uniform Load kg/m ²	200	250	300	400	500
Factor (i)	0.67	0.83	1.00	1.33	1.67





Stair treads

MADE TO ORDER OR STOCKED STAIR TREADS

We have a wide range of stocked stair treads in galvanised and untreated steel available for immediate delivery.

We are able to fabricate treads to suit your specific needs.



RECOMMENDED MAX. SPANS FOR GRATING PATTERNS

LOAD BAR SIZE	25 X 3	25 X 5	32 X 5	40 X 5
SERIES I 30mm	550	900	1300	1600
SERIES II 40mm	450	750	1200	1500
STAIRTREADS THE CRAT	INC SIZE MUS	T RE NOMINA	TED	

STAIRTREADS, THE GRATING SIZE MUST BE NOMINATED.



Walkway Systems





Standard Stanchions



WE CAN SUPPLY

Fully fabricated handrail modules (with and without kickplates), including hot dip galvanised and / or painting to suit your requirements.

PLEASE NOTE

- All dimensions around centre lines.
- All dimensions in mm
- All dimensions shown may vary to suit requirements
- All stanchions available drilled one side only (D.O.S.O.)
- 32Nb 42.4mm top rail & 25Nb 33.8mm mid rail





WE PRODUCE

Standard 2 ball and specialised multiball stanchions made to our client's specifications. Please contact us for full drawings and details.





Bends & Accessories

CLOSURE AND RAIL BENDS





ure Bend Angle Closure Bends to suit



2 Hole Kickplate Bracket



R

50

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Single Hole Kickplate Bracket







R 140 **KNEE RAIL NB25**

(3.2 mm Wall Thk)

Expanded metal

EXPANDED METAL PATTERN TABLE

Product Code	SWM (mm)	LWM (mm)	Strand Width (mm)	Thickness (mm)	Height (mm)
RG 50080	45	135	8	5	16
RG 50110	45	135	11	5	22



EXPANDED METAL SPAN TABLE

Product Code		Strand Width	Thickness	Mass	D = M	Span (m	m)	
	SWMALWM	(mm)	(mm)	kg/m2	U = Kpa	600	900	1200
	0	F	14 E	U	4.7	2.2	1.2	
RG 50080	45 X 155	0	5	14.5	D	3	4.5	6
DC E0110	10 4E x 17E 11	11	Г 1/	10 5	U	6.3	2.85	1.7
RG 50110 45 X 135 11	5	19.5	D	3	4.5	6		

Note: 'S': Distributed Load in Kpa uniformly

RAISED EXPANDED METAL

Mentis Raised Expanded Metal is engineered from coil, cut and stretched to form a unique continuous pattern, without interrupting its integrity, to retain maximum strength and provide excellent non-slip attributes.

FLATTENED EXPANDED METAL

Mentis Flattened Expanded Metal is Raised Expanded Metal flattened to create an exceptionally versatile material that is both flexible and strong.

TOLERANCE

Expanded metal plates are not perfectly square. Maximum out of a square along edge is 5mm per 1000mm of length or 10mm on diagonals per square metre. Sheet must be resquared by shearing each side of the edge.

INSTALLATION TOLERANCES



MINIMUM SUPPORT DIMENSION 25MM



Mentclamp - bolted handrail system

The Mentis bolted handrail system is completely customisable and provides unlimited flexibility combined with strength and simplicity. Bolted handrail allows for easy site installation without the need for detailed drawings or prefabrication of handrail panels. It has been designed so that no welding is required (only cutting and assembly), making this DIY system simple to assemble.



Bolted handrail has been tested to AS1657 and passed successfully when fixed in accordance with our specifications.

This site-run system uses a series of galvanised couplings with stainless steel grub screws. Using an 8mm Allen Key, screws should be tightened to 4.1kg/m or 29ft/lb and will withstand an applied slip load of 900kg.

We manufacture a wide range of bolted handrail components, suitable for a variety of applications and uses.









101-D48 Single Bolt Top T Piece to suit 40NB Rails



125-D48 90 Deg Joiner Piece to suit 40NB Rails



150-C42 Inline Connector to suit 32NB Rails



156-D48 Middle T Piece to suit 40NB Post 0 - 11 Deg



242-D48 P Base Plate Footing with Kickplate Plate Mounts to suit 40NB Post



256-D48 Middle T Piece to suit 40NB Post 11 - 29 Deg



104-D48 Double Bolt Top T Piece to suit 40NB Rails



128-D48 Top Corner Piece to suit 40NB Rails



150-D48 Inline Connector to suit 40NB Rails



198-D48 Double Kickplate Mounting Bracket Piece to suit 40NB Post



252-D48 Base Plate Footing to suit 40NB Post 11 - 29 Deg



P Type Leg Platform Post (40NB) to suit D48 Bolted components 1017mm



116-D48 Middle Corner Piece to suit 40NB Rails



149-D48 Rail Joiner Piece to suit 40NB Rails



152-D48 Base Plate Footing to suit 40NB Post 0 - 11 Deg



199-D48 Single Kickplate Mounting Bracket Piece to suit 40NB Post



253-D48 Single Bolt Top T Piece 11 -29 Deg



Side Mount Post (40NB) to suit D48 Bolted components 1093mm



119-D48 Middle T Peice to suit 40NB Rails



150-B34 Inline Connector to suit 25NB Rails



155-D48 Single Bolt Top T Piece 0 - 11 Deg



232-D48 P Base Plate Footing to suit 40NB Post



255-D48 Double Bolt Top T Piece to suit 40NB Post 11 - 29 Deg



Light structural steel

Our Light Structural Steel fabrication complements our handrail and grating fabrication. We can provide a complete solution to your guards, stairways, platforms, ladders

or cross-over needs. With qualified boilermakers on the team, Mentis Australia is well-positioned to supply compliant, small structures (typically under a tonne in weight), complete with handrails and grating.

Welding is carried out to AS1554. ITP's, Welder qualifications and procedures can be supplied as requested in any project we undertake. Our design drafting team can assist with design concepts and detail drafting, as well as engineering approval for designs from strategically aligned partners.

Mentis Australia is your one-stopshop for your next small structural steel project.



HOT DIP GALVANISING

All Mentis Australia products that are Hot Dip Galvanised conform to AS/NZ 4680.

The application of a coating of zinc to steel protects it against rust and corrosion for far longer than paint. A key benefit of using Hot Dip Galvanising is its durability. Data shows that galvanising can provide between 34 to 170 years of protection for steel.

The hot dip galvanising method involves immersion of the entire steel product into a bath of molten zinc.



Mentis Australia is your one-stopshop for your next small structural steel project.







Innovation and excellence stamped into every steel solution.

FOR QUOTATIONS OR GENERAL ENQUIRIES CONTACT:

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