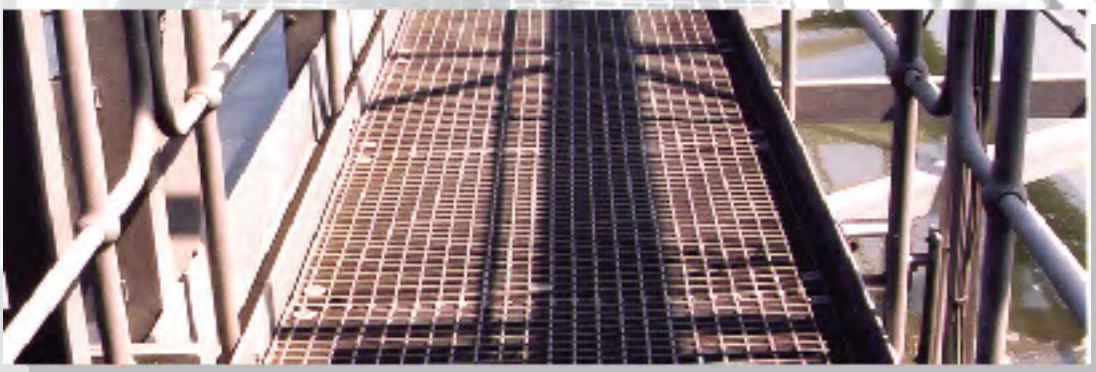
mentis
AFRICA

Andrew Mentis (PTY) Ltd Reg no: 1960/002319/07 T/A Mentis Africa

SABS ISO 9001

RECTAGRID & GRIPWELD - GRATING



CATALOGUE

INTRODUCTION

Andrew Mentis (Pty) Ltd was first formed in 1950 as a precision engineering works and subsequently went into the development and manufacture of steel grating. In 1959 Gripweld grating was produced in South Africa by Andrew Mentis, followed by the unique Rectagrid grating, in 1967. Through continual research and development, Andrew Mentis (Pty) Ltd has become a leading manufacturer of grating. In 1993 Andrew Mentis (Pty) Ltd obtained ISO 9000 Registration.

The company has been successful in gaining a share in overseas markets and locally has supplied vast quantities of quality products to all of the major industries including power generation, mining, petrochemical, motor, construction, food, paper and steel.

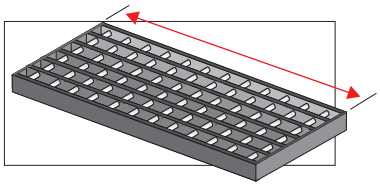
In addition to grating, the company offers expanded metal, Mentrail (guardrails for roads), Mentcano (perforated steel sections), industrial handrail systems, steel floor tiles and Mendrill (automatic drilling and boring machines). These products can all be obtained from the company's 4 branches, whose details appear on the back cover, or from our many stockists and agents.

CONTENTS

While every care has been taken with the accuracy of the information in this catalogue, due to our policy of continued development and research we reserve the right to change Specification without prior notification.

GLOSSARY OF TERMS

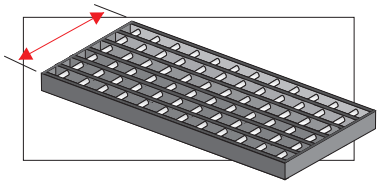
❖LENGTH (direction of span)



The overall dimension of the flooring panel measured parallel to the bearer bars.
Note: This dimension is always referred to as the span even if it is shorter than the width.

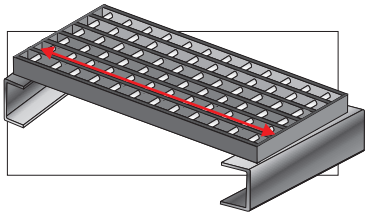
SPAN (See Length)

❖WIDTH



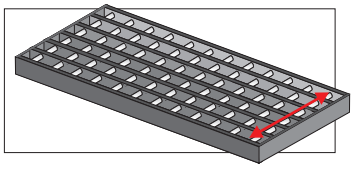
The overall dimension of the flooring panel measured at right angles to the bearer bars.
Note: This dimension is always referred to as the width, even if it exceeds the length.

❖BEARER BAR



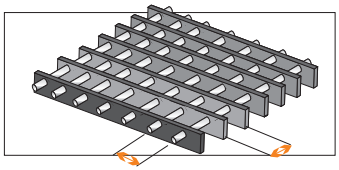
The load-carrying member of uniform section running between supports.

❖TRANSVERSE BAR



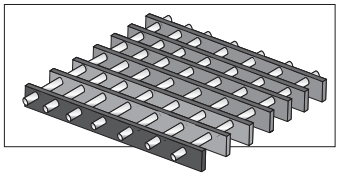
A member fixed at right angles to the bearer bar to provide lateral restraint.

❖PITCH



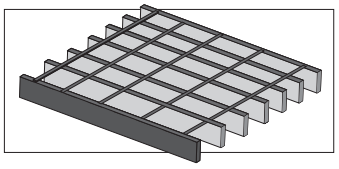
The distance centre-to-centre of bearer bars, or centre-to-centre of transverse bars, **Note:** Pitch is not the size of the opening.

❖O.E.S (Open Ended System)



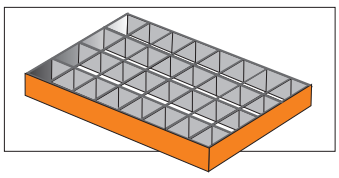
This applies to RECTAGRID grating only where panels are not banded in their length or width.

❖UNBANDED



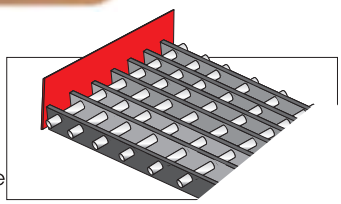
This only applies to GRIPWELD where the panel is open at both ends of the bearer bars, and the transverse bars are trimmed flush on both sides.

❖BANDED



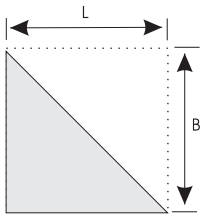
Bars of similar depth and thickness to the bearer bars are welded to the perimeter of the grating.

❖KICKPLATE



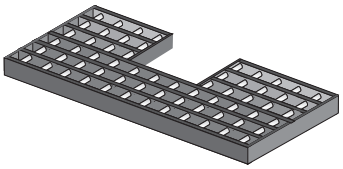
A flat bar of greater depth than the bearer bar, welded or bolted to the end, sides or around cut-outs of a floor panel. The kickplate projects above the top of the bearer bar.

❖GROSS AREA



The total area of flooring in rectangular panels from which the completed floor will be fabricated. This is the area that will be invoiced.

❖CUT-OUT

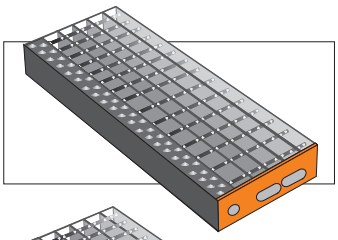


An area of flooring removed to permit pipes, plant and structural columns etc. to pass through, or to clear obstructions.

❖FIXING CLIPS, SADDLE CLAMPS, LOCKING PLATES.

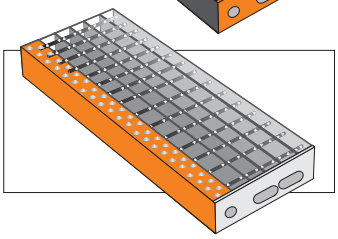
Devices by which flooring is attached to the supporting structure, or to another panel.

❖SIDE PLATE



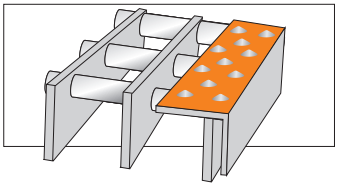
A plate welded to a stairtread for fixing to a stringer.

❖NOSING



A non-slip sighting edge welded to the front of a stairtread.

❖LIPPED TREAD PLATE



A narrower sighting edge welded onto the edge of grating on stairway landings.

❖BITUMEN DIPPED

Only suitable for indoor and non-corrosive or very mildly corrosive outdoor conditions with no exposure to direct sunlight.

RECTAGRID PRESSURE LOCKED GRATING

CONSTRUCTION

RECTAGRID is formed by the unique Mentis process of compressive locking of bearer bars and transversals. This process ensures permanent locking and accurate bearer bar pitching and results in the industry's finest grating. Manufactured under the International ISO 9001 Quality management system.

FEATURES

The RECTAGRID OPEN ENDED SYSTEM or O.E.S eliminates banding of panels, improves appearance, simplifies design and erection and reduces costs. Due to the absence of welding, less corrosion occurs.

Accurate pitching gives an aesthetically pleasing pattern matching and unjointed appearance when joining open ended panels.

All transverse bars are 7.5 mm diameter
For joining accessories, see page 8.

RECTAGRID O.E.S. STANDARD PANELS

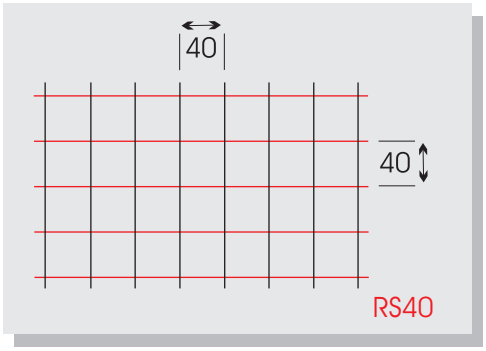
All RS40 RECTAGRID panels finish on half pitches in both directions with allowance for 4mm clearance between panels. Saddle clamps will automatically hold panels at full-pitch spacing. Calculation can therefore be based on full-pitches in both directions without making any allowances for clearance between panels.

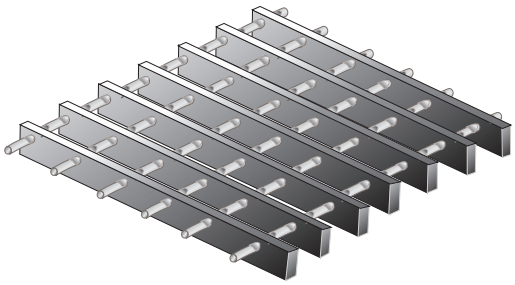
Standard O.E.S panels are available at prices considerably lower than those for banded panels. Customers using standard panels to cut and fit at site, save in drawing office time and labour.

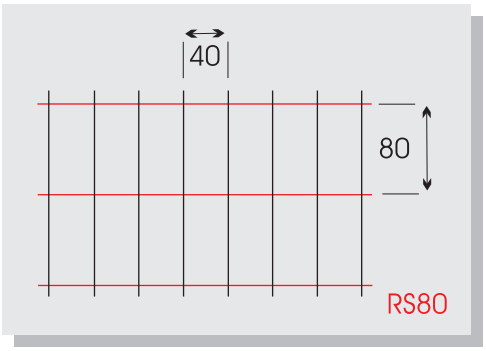
Note: Rectagrid grating has a maximum width of 1440mm and maximum length of 4760mm

TYPES

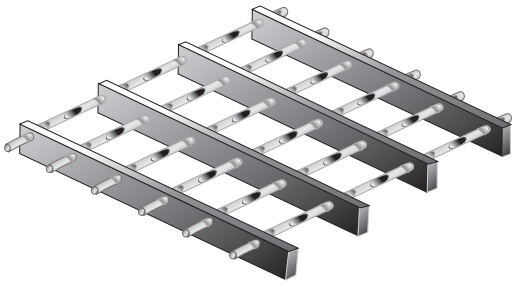
RS40 (40 x 40) - 25 Bearer Bars per meter width at 40mm pitch.
RS40 (45 x 40) - 22 Bearer Bars per meter width at 45mm pitch.
RS40 (40 x 50) - 22 Bearer Bars per meter width at 45mm pitch.
RS80 (80 x 40) - 13 Bearer Bars per meter width at 80mm pitch
Both RS40 and RS80 are available with non-slip dimples.







= Bearer Bars



BEARER BAR SIZES & MASS OF TYPES AVAILABLE

Bearer Bar Size mm	O.E.S Mass kg/sq m (mild steel uncoated)			
	RS40(40 X 40)	RS40(45 X 40)	RS40(45 X 50)	RS80(80 X 40)
25 x 4.5	29.63	28.77	26.99	18.15
30 x 3.0	25.23			14.62
30 x 4.5	34.05	32.75	30.97	20.27
40 x 3.0	31.10			18.85
40 x 4.5	42.88	40.69	38.91	24.51
50 x 4.5	51.70			28.74
60 x 3.0	42.88			-
60 x 4.5	60.55			32.99

ALUMINIUM I BAR

Bearer Bar Size mm	Panel Size Length mm	Width mm	Uncoated Mass kg
40	2400	1200	32

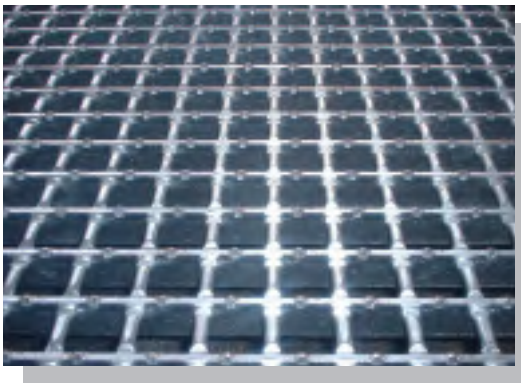


Table of Standard Widths in mm
RECTAGRIP RS40 Positive Non-Slip

MATERIALS AND FINISHES AVAILABLE

MATERIAL	FINISH
MILD STEEL	Uncoated, bitumen dipped or galvanized. Other paint specifications on application. NOTE: The bitumen coated grating supplied as a standard to our grating is not a protective coating as such, and will deteriorate if exposed to the elements.
ALUMINIUM	Uncoated IBAR
STAINLESS STEEL TYPES 304 AND 316	Uncoated, pickled and passivated
3CR12	Uncoated, pickled and passivated

TABLE OF STANDARD WIDTHS IN mm

RECTAGRID
Open Ended System

No of Bearer Bars	RS40	RS80
8		600
9		680
10		760
11		840
12		920
13		1000
14		1080
15	600	1160
16	640	1240
17	680	1320
18	720	1400
19	760	
20	800	
21	840	
22	880	
23	920	
24	960	
25	1000	
26	1040	
27	1080	
28	1120	
29	1160	
30	1200	
31	1240	
32	1280	
33	1320	
34	1360	
35	1400	
36	1440	

RECTAGRID
Banded

No of Bearer Bars	RS40	RS80
9		645
10		725
11		805
12		885
13		965
14		1045
15		1125
16	605	1205
17	645	1285
18	685	1365
19	725	
20	765	
21	805	
22	845	
23	885	
24	925	
25	965	
26	1005	
27	1045	
28	1085	
29	1125	
30	1165	
31	1205	
32	1245	
33	1285	
34	1325	
35	1365	
36	1405	

TABLE OF STANDARD LENGTHS IN mm (SPAN)

RECTAGRID
Open Ended System

No of Bearer Bars		1	2	3	4	5	6	7	8	9
10						600	640	680	720	760
20	800	840	880	920	960	1000	1040	1080	1120	1160
30	1200	1240	1280	1320	1360	1400	1440	1480	1520	1560
40	1600	1640	1680	1720	1760	1800	1840	1880	1920	1960
50	2000	2040	2080	2120	2160	2200	2240	2280	2320	2360
60	2400	2440	2480	2520	2560	2600	2640	2680	2720	2760
70	2800	2840	2880	2920	2960	3000	3040	3080	3120	3160
80	3200	3240	3280	3320	3360	3400	3440	3480	3520	3560
90	3600	3640	3680	3720	3760	3800	3840	3880	3920	3960
100	4000	4040	4080	4120	4160	4200	4240	4280	4320	4360
110	4400	4440	4480	4520	4560	4600	4640	4680	4720	4760

The positive non-slip design retains the loading as per Rectagrid RS40 loading tables whereas with serated grating the loadings must be reduced.

Non-Slip is at it's maximum because of the positive raised sections on top of each bearer bar. It works well in all directions and with all footwear and is self cleaning. Available in mild steel and 3CR12.

NOTE: If ordering grating for screening or decorative purposes - Please advise our sales personnel.

STOCK PANELS AVAILABLE IN RECTAGRID RS40

Bearer Bar Size mm	Panel Size Length mm	Width mm	Uncoated Mass kg 40 x 40	45 x 40	45 x 50
25 X 4.5	2400	1200	86	82.85	77.72
30 X 4.5	2400	1200	100	94.32	89.19
40 X 4.5	2400	1200	125	117.19	112.07

* The above sizes are available in mild steel - uncoated, bitumen dipped or galvanized.

GRIPWELD *FUSION WELDED GRATING*

CONSTRUCTION

GRIPWELD is a fusion welded grating of remarkable quality, in which every bearer bar and transversal is electrically fused and hydraulically forged at every intersection under pressure, resulting in an integral, sturdy grating.

FEATURES

Gripweld can also be used for ramps where improved traction for rubber tyred vehicles is important.

Standard panels finish at half pitch in the length and full pitch in the width, with allowance of 6mm clearance between panels.

Gripweld can be made in any continuous length, Limited only by handling or transportation.

NOTE: Due to our process, pattern matching of individual panels is not guaranteed.

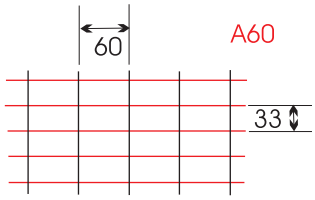
TYPES

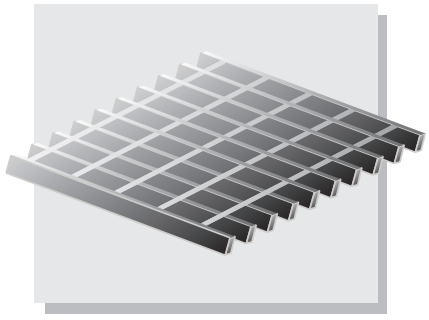
The letters A, B, D and E denote the pitch of the bearer bars.

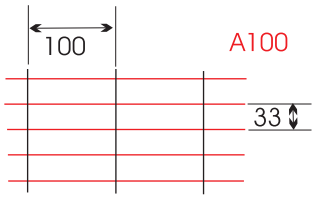
A = 33 mm
B = 40 mm
D = 66 mm
E = 80 mm

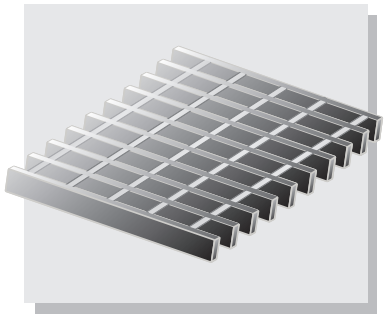
The pitch of the transverse bar is 60 mm or 100 mm as shown.

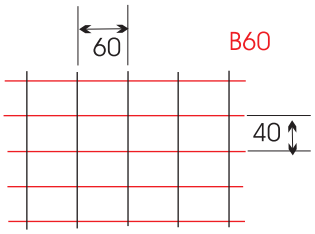
Note: In Gripweld, a range of openings is available for fencing, burglar bars, stormwater gratings, anti-dazzle screens for roads, barriers, concrete re-inforcing etc. Details on application.

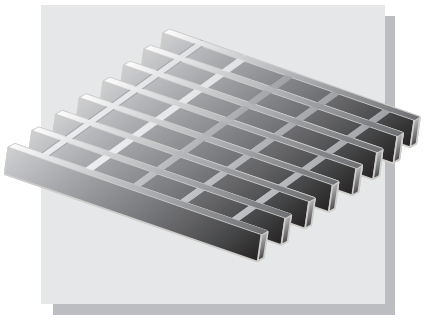


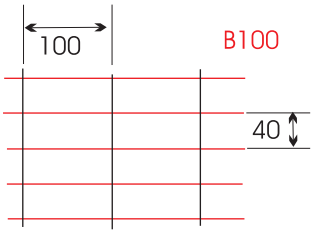


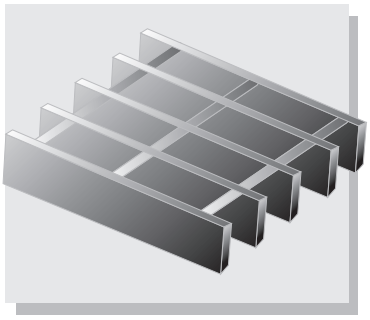


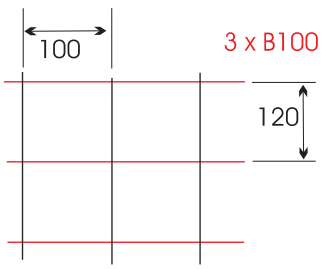


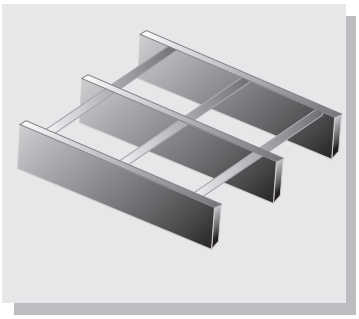






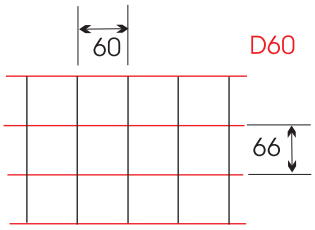


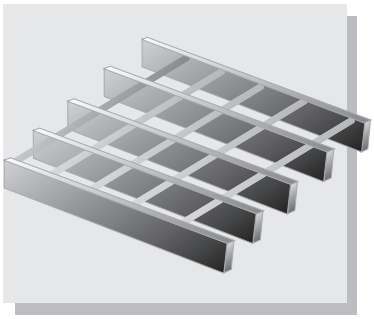


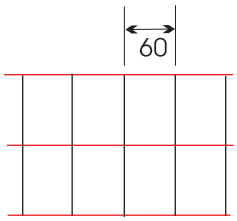


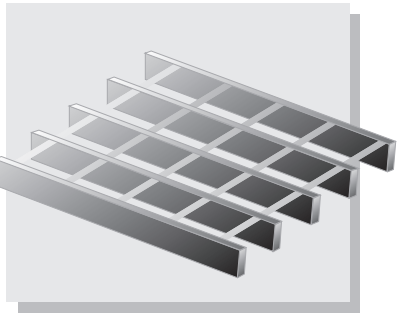
BEARER BAR SIZE & MASS OF TYPES AVAILABLE

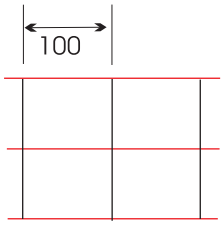
Bearer Bar Size mm	Transverse Bar Diam mm	Unbanded Mass kg/sq m (mild steel,unbanded and uncoated)							
		A100	B100	E100	3X B100	A60	B60	D60	E60
25 x 4.5	7	30.39	25.98		10.97	32.21			
30 x 4.5	7	35.88	30.58		12.56	37.69	32.39	21.79	
40 x 3.0	6					32.75			
40 x 4.5	7	46.82	39.76			48.64	41.57	27.44	
40 x 5.5	7	56.56				58.37	49.73		
47 x 2.6	6								13.47
50 x 4.5	7	57.77	48.94			59.58	50.75		
50 X 5.5	7			31.09			60.97		
60 X 4.5	7	68.74	58.14			59.95	38.75		
60 X 5.5	7			36.70		85.15	72.20		
80 x 4.5	7	90.63	76.50	39.76			78.31		
80 x 5.5	10	113.24	95.97	51.07					
100 x 5.5	10	140.03	118.44	62.30			122.14		

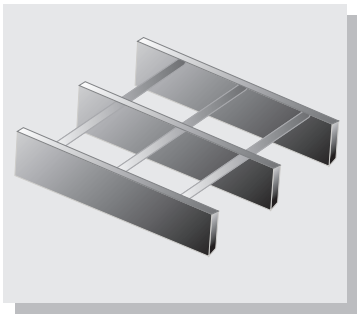












= Bearer Bars

MATERIALS AND FINISHES AVAILABLE

MATERIAL	FINISH
MILD STEEL	Uncoated, bitumen dipped or galvanized. Other paint specifications on application. NOTE: The bitumen coated grating supplied as a standard to our grating is not a protective coating as such, and will deteriorate if exposed to the elements.

TABLE OF STANDARD WIDTHS IN mm

GRIPWELD

	Type A		Type B			Type D		Type E	
Bearer Bar Size	4.5mm	5.5mm	4.5mm	5.5mm	Bearer Bar Size	4.5mm	5.5mm	4.5mm	5.5mm
No of Bars					No of Bars				
16	498	499	602	603	8	465	466	562	563
17	531	532	642	643	9	531	532	642	643
18	564	565	682	683	10	597	598	722	723
19	597	598	722	723	11	663	664	802	803
20	630	631	762	763	12	730	731	882	883
21	663	664	802	803	13	795	796	962	963
22	696	697	842	843	14	861	862	1042	1043
23	730	731	882	883	15	927	928	1122	1123
24	762	763	922	923	16	995	996	1202	1203
25	795	796	962	963	17	1059	1060		
26	828	829	1002	1003	18	1125	1126		
27	861	862	1042	1043	19	1191	1192		
28	894	895	1082	1083					
29	927	928	1122	1123					
30	960	961	1162	1163					
31	995	996	1202	1203					
32	1026	1027							
33	1059	1060							
34	1092	1093							
35	1125	1126							

* Figures shown in orange type are not applicable to grating with 10 mm transverse bars.
* Full pitches. Transversals flush on outside bars. Allow 6 mm clearance between panels.

TABLE OF STANDARD LENGTHS IN mm (span)

GRIPWELD *UNBANDED*

Type: A100 - B100 - E100										
No of Transversals		1	2	3	4	5	6	7	8	9
				300	400	500	600	700	800	900
10	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
20	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900
30	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900
40	4000	4100	4200	4300	4400	4500	4600	4700	4800	4900
50	5000	5100	5200	5300	5400	5500	5600	5700	5800	5900
60	6000	6100	6200	6300	6400	6500	6600			

Type: A60 - B60 - D60 - E60										
No of Transversals		1	2	3	4	5	6	7	8	9
					240	300	360	420	480	540
10	600	660	720	780	840	900	960	1020	1080	1140
20	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740
30	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340
40	2400	2460	2520	2580	2640	2700	2760	2820	2800	2940
50	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540
60	3600	3660	3720	3780	3840	3900	3960	4020	4080	4140
70	4200	4260	4320	4380	4440	4500	4560	4620	4680	4740
80	4800	4860	4920	4980	5040	5100	5160	5220	5280	5340
90	5400	5460	5520	5580	5640	5700	5760	5820	5880	5940
100	6000	6060	6120	6180	6240	6300	6360	6420	6480	

Half pitches at each end of panel. Unbanded allow 6mm clearance between panels.

SAFE LOAD TABLES

These tables are based on a maximum fibre stress of 165 MPa (i.e. $\frac{\text{Yeild Stress}}{1.5}$). The panels are assumed to be simply supported.
The loads not shown in blue have been reduced to satisfy a maximum deflection of $\frac{\text{Span}}{200}$ or 10 mm, whichever is the lower condition.
The red zones are spans which do not meet the patch load requirement of 3 kN applied to a square with 0.1 m sides as per 12.5.5 in the South African Steel Construction Handbook.
The maximum spans indicated take into account the limiting condition between the patch
Load and a uniformly distributed load of 3 KPa.
Safe loads for spans not indicated in the tables are available on request.

c = concentrated line load mid-span in kg/m width
u = uniformly distributed load in kg/m²

- For RS80 Rectagrid multiply the safe loads for RS40 Rectagrid by 0,5.
- For D Type Gripweld multiply the safe loads of A Type Gripweld by 0,5.
- For E Type Gripweld multiply the safe loads for B Type Gripweld by 0,5.
- For 3CR12, the tables can be used as is.
- For 304 and 316 Stainless Steels the safe loads for yield should be multiplied by 0,8.
- For aluminium multiply the safe loads by 0,5.

Load Tables: RS40 Rectagrid (40 x 40mm)

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1577	1051	717	459	319	234	179	126	92	1.25
	u	6307	2718	1147	587	340	214	143	89	59	
30x3	c	1514	1009	757	528	367	270	206	145	106	1.00
	u	6055	2691	1321	676	391	247	165	103	68	
30x4.5	c	2271	1514	1135	793	550	404	310	217	159	1.86
	u	9083	4037	1982	1015	587	370	248	155	101	
40x3	c	2691	1794	1346	1076	870	639	489	344	251	2.13
	u	10765	4784	2691	1603	928	584	391	244	160	
40x4.5	c	4037	2691	2018	1615	1305	959	734	515	376	2.35
	u	16147	7176	4037	2405	1392	876	587	367	240	
50x4.5	c	6307	4205	3154	2523	2102	1802	1433	1007	734	2.79
	u	25229	11213	6307	4037	2718	1712	1147	716	470	
60x3	c	6055	4037	3028	2422	2018	1730	1651	1160	846	2.88
	u	24220	10765	6055	3875	2691	1972	1321	825	541	
60x4.5	c	9083	6055	4541	3633	3028	2595	2477	1740	1268	3.19
	u	36330	16147	9083	5813	4037	2958	1982	1237	812	

Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

SAFE LOAD TABLES

Load Tables:RS40 Rectagrid (44.5 x 40mm) and (44.5 x 50mm)

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1417	945	644	412	286	210	161	113	82	1.00
	u	5670	2443	1031	528	305	192	129	80	53	
30x3	c	1361	907	680	475	330	242	186	130	95	0.75
	u	5443	2419	1188	608	352	222	148	93	61	
30x4.5	c	2041	1361	1021	713	495	364	278	195	143	1.75
	u	8164	3628	1781	912	528	332	223	139	91	
40x3	c	2419	1613	1209	968	782	574	440	309	225	2.07
	u	9676	4300	2419	1441	834	525	352	220	144	
40x4.5	c	3628	2419	1814	1451	1173	862	660	463	338	2.29
	u	14514	6451	3628	2162	1251	788	528	329	216	
40x5.5	c	4435	2957	2217	1774	1433	1053	806	566	413	2.41
	u	17739	7884	4435	2642	1529	963	645	403	264	
50x4.5	c	5670	3780	2835	2268	1890	1620	1289	905	660	2.71
	u	22678	10079	5670	3628	2443	1539	1031	644	422	
60x3	c	5443	3628	2721	2177	1814	1555	1484	1043	760	2.81
	u	21771	9676	5443	3483	2419	1773	1188	741	486	
60x4.5	c	8164	5443	4082	3266	2721	2333	2227	1564	1140	3.11
	u	32656	14514	8164	5225	3628	2659	1781	1112	730	
60x5.5	c	9978	6652	4989	3991	3326	2851	2721	1911	1393	3.27
	u	39913	17739	9978	6386	4435	3250	2177	1359	892	
80x4.5	c	14514	9676	7257	5806	4838	4147	5278	3707	2702	3.85
	u	58056	25803	14514	9289	6451	4739	4222	2636	1729	
80x5.5	c	17739	11826	8870	7096	5913	5068	6451	4530	3303	4.06
	u	70957	31537	17739	11353	7884	5792	5161	3222	2114	
100x5.5	c	27718	18478	13859	11087	9239	7919	12599	8849	6451	4.80
	u	110871	49276	27718	17739	12319	9051	10079	6292	4128	

Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

SAFE LOAD TABLES

Load Tables: A60 Gripweld

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1911	1274	869	556	386	284	217	153	111	1.00
	u	7645	3295	1390	712	412	259	174	108	71	
30x3	c	1835	1223	917	641	445	327	250	176	128	0.75
	u	7339	3262	1601	820	474	299	200	125	82	
30x4.5	c	2752	1835	1376	961	667	490	375	264	192	1.50
	u	11009	4893	2402	1230	712	448	300	187	123	
40x3	c	3262	2175	1631	1305	1054	775	593	417	304	1.50
	u	13048	5799	3262	1943	1125	708	474	296	194	
40x4.5	c	4893	3262	2446	1957	1582	1162	890	625	455	2.00
	u	19572	8699	4893	2915	1687	1062	712	444	292	
40x5.5	c	5980	3987	2990	2392	1933	1420	1087	764	557	2.60
	u	23921	10632	5980	3563	2062	1298	870	543	356	
50x4.5	c	7645	5097	3823	3058	2548	2184	1738	1220	890	2.92
	u	30581	13592	7645	4893	3295	2075	1390	868	569	
50x5.5	c	9344	6229	4672	3738	3115	2670	2124	1492	1087	3.07
	u	37377	16612	9344	5980	4027	2536	1699	1061	696	
60x3	c	7339	4893	3670	2936	2446	2097	2002	1406	1025	3.02
	u	29358	13048	7339	4697	3262	2390	1601	1000	656	
60x4.5	c	11009	7339	5505	4404	3670	3145	3003	2109	1537	3.35
	u	44037	19572	11009	7046	4893	3585	2402	1500	984	
60x5.5	c	13456	8970	6728	5382	4485	3844	3670	2577	1879	3.52
	u	53823	23921	13456	8612	5980	4382	2936	1833	1202	
80x4.5	c	19572	13048	9786	7829	6524	5592	7117	4999	3644	4.15
	u	78287	34794	19572	12526	8699	6391	5694	3555	2332	
80x5.5	c	23921	15947	11961	9568	7974	6835	8699	6109	4454	4.37
	u	95685	42527	23921	15310	10632	7811	6959	4344	2850	
100x5.5	c	37377	24918	18688	14951	12459	10679	16989	11932	8699	5.17
	u	149507	66448	37377	23921	16612	12205	13592	8485	5567	

Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

SAFE LOAD TABLES

Load Tables: A100 Gripweld

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1911	1274	869	556	386	284	217	153	111	1.00
	u	7645	3295	1390	712	412	259	174	108	71	
30x3	c	1835	1223	917	641	445	327	250	176	128	0.75
	u	7339	3262	1601	820	474	299	200	125	82	
30x4.5	c	2752	1835	1376	961	667	490	375	264	192	1.50
	u	11009	4893	2402	1230	712	448	300	187	123	
40x3	c	3262	2175	1631	1305	1054	775	593	417	304	1.00
	u	13048	5799	3262	1943	1125	708	474	296	194	
40x4.5	c	4893	3262	2446	1957	1582	1162	890	625	455	1.75
	u	19572	8699	4893	2915	1687	1062	712	444	292	
40x5.5	c	5980	3987	2990	2392	1933	1420	1087	764	557	2.60
	u	23921	10632	5980	3563	2062	1298	870	543	356	
50x4.5	c	7645	5097	3823	3058	2548	2184	1738	1220	890	2.92
	u	30581	13592	7645	4893	3295	2075	1390	868	569	
50x5.5	c	9344	6229	4672	3738	3115	2670	2124	1492	1087	3.07
	u	37377	16612	9344	5980	4027	2536	1699	1061	696	
60x3	c	7339	4893	3670	2936	2446	2097	2002	1406	1025	3.02
	u	29358	13048	7339	4697	3262	2390	1601	1000	656	
60x4.5	c	11009	7339	5505	4404	3670	3145	3003	2109	1537	3.35
	u	44037	19572	11009	7046	4893	3585	2402	1500	984	
60x5.5	c	13456	8970	6728	5382	4485	3844	3670	2577	1879	3.52
	u	53823	23921	13456	8612	5980	4382	2936	1833	1202	
80x4.5	c	19572	13048	9786	7829	6524	5592	7117	4999	3644	4.15
	u	78287	34794	19572	12526	8699	6391	5694	3555	2332	
80x5.5	c	23921	15947	11961	9568	7974	6835	8699	6109	4454	4.37
	u	95685	42527	23921	15310	10632	7811	6959	4344	2850	
100x5.5	c	37377	24918	18688	14951	12459	10679	16989	11932	8699	5.17
	u	149507	66448	37377	23921	16612	12205	13592	8485	5567	

Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

SAFE LOAD TABLES

Load Tables: B60 Gripweld

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1577	1051	717	459	319	234	179	126	92	1.00
	u	6307	2718	1147	587	340	214	143	89	59	
30x3	c	1514	1009	757	528	367	270	206	145	106	1.00
	u	6055	2691	1321	676	391	247	165	103	68	
30x4.5	c	2271	1514	1135	793	550	404	310	217	159	1.50
	u	9083	4037	1982	1015	587	370	248	155	101	
40x3	c	2691	1794	1346	1076	870	639	489	344	251	1.25
	u	10765	4784	2691	1603	928	584	391	244	160	
40x4.5	c	4037	2691	2018	1615	1305	959	734	515	376	2.25
	u	16147	7176	4037	2405	1392	876	587	367	240	
40x5.5	c	4934	3289	2467	1973	1595	1172	897	630	459	2.48
	u	19735	8771	4934	2939	1701	1071	718	448	294	
50x4.5	c	6307	4205	3154	2523	2102	1802	1433	1007	734	2.79
	u	25229	11213	6307	4037	2718	1712	1147	716	470	
50x5.5	c	7709	5139	3854	3084	2570	2203	1752	1231	897	2.93
	u	30836	13705	7709	4934	3322	2092	1402	875	574	
60x3	c	6055	4037	3028	2422	2018	1730	1651	1160	846	2.88
	u	24220	10765	6055	3875	2691	1972	1321	825	541	
60x4.5	c	9083	6055	4541	3633	3028	2595	2477	1740	1268	3.19
	u	36330	16147	9083	5813	4037	2958	1982	1237	812	
60x5.5	c	11101	7401	5550	4440	3700	3172	3028	2126	1550	3.36
	u	44404	19735	11101	7105	4934	3615	2422	1512	992	
80x4.5	c	16147	10765	8073	6459	5382	4613	5872	4124	3006	3.95
	u	64587	28705	16147	10334	7176	5272	4697	2932	1924	
80x5.5	c	19735	13157	9867	7894	6578	5639	7176	5040	3674	4.17
	u	78940	35084	19735	12630	8771	6444	5741	3584	2352	
100x5.5	c	30836	20557	15418	12334	10279	8810	14016	9844	7176	4.92
	u	123344	54819	30836	19735	13705	10069	11213	7000	4593	

Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

SAFE LOAD TABLES

Load Tables: B100 Gripweld

Nominal Bearer Bar Size (mm)		Span(m)									
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	Max span (m)
25x4.5	c	1577	1051	717	459	319	234	179	126	92	0.75
	u	6307	2718	1147	587	340	214	143	89	59	
30x3	c	1514	1009	757	528	367	270	206	145	106	0.75
	u	6055	2691	1321	676	391	247	165	103	68	
30x4.5	c	2271	1514	1135	793	550	404	310	217	159	1.25
	u	9083	4037	1982	1015	587	370	248	155	101	
40x3	c	2691	1794	1346	1076	870	639	489	344	251	1.00
	u	10765	4784	2691	1603	928	584	391	244	160	
40x4.5	c	4037	2691	2018	1615	1305	959	734	515	376	1.75
	u	16147	7176	4037	2405	1392	876	587	367	240	
40x5.5	c	4934	3289	2467	1973	1595	1172	897	630	459	2.48
	u	19735	8771	4934	2939	1701	1071	718	448	294	
50x4.5	c	6307	4205	3154	2523	2102	1802	1433	1007	734	2.79
	u	25229	11213	6307	4037	2718	1712	1147	716	470	
50x5.5	c	7709	5139	3854	3084	2570	2203	1752	1231	897	2.93
	u	30836	13705	7709	4934	3322	2092	1402	875	574	
60x3	c	6055	4037	3028	2422	2018	1730	1651	1160	846	2.88
	u	24220	10765	6055	3875	2691	1972	1321	825	541	
60x4.5	c	9083	6055	4541	3633	3028	2595	2477	1740	1268	3.19
	u	36330	16147	9083	5813	4037	2958	1982	1237	812	
60x5.5	c	11101	7401	5550	4440	3700	3172	3028	2126	1550	3.36
	u	44404	19735	11101	7105	4934	3615	2422	1512	992	
80x4.5	c	16147	10765	8073	6459	5382	4613	5872	4124	3006	3.95
	u	64587	28705	16147	10334	7176	5272	4697	2932	1924	
80x5.5	c	19735	13157	9867	7894	6578	5639	7176	5040	3674	4.17
	u	78940	35084	19735	12630	8771	6444	5741	3584	2352	
100x5.5	c	30836	20557	15418	12334	10279	8810	14016	9844	7176	4.92
	u	123344	54819	30836	19735	13705	10069	11213	7000	4593	

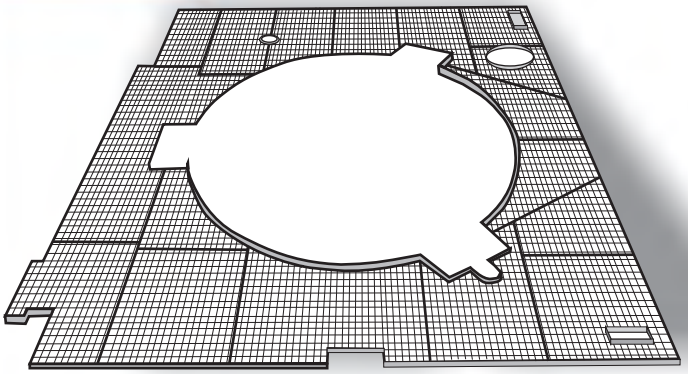
Maximum load due to yield criteria
Maximum load due to deflection of span / 200
Maximum load due to deflection of 10mm
Spans which do not meet the 3kN patch load requirement as per SANS 10162-2-2010 and South African Steel Construction Handbook Section 12.5.5 Values shown ignore this condition.

TAILORED GRATING *AND FIXING ACCESSORIES*

Intricate shaping and prefabrication of grating, no matter how large or complicated, can be done from customers layout drawings. These drawings must be supplied in duplicate showing correctly dimensioned layouts of supports, cut-outs and kickplates. Layout drawings may also be emailed to our contracts processing dept.

Adequate clearances will be allowed. Panels will be marked to correspond with the marked-up drawing which is returned to the customer to ensure easy installation.

Our technical staff are available to assist and advise on the specification of grating for any application.



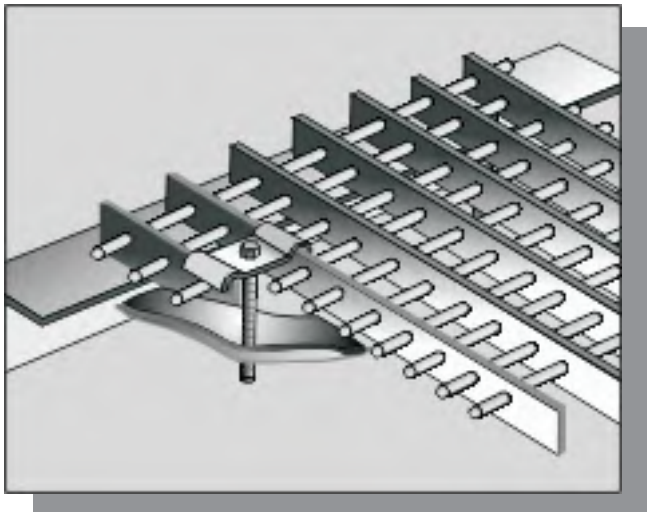
FIXING ACCESSORIES

LOCKING PLATE
and M8 x 16 BOLT

SADDLE CLAMP

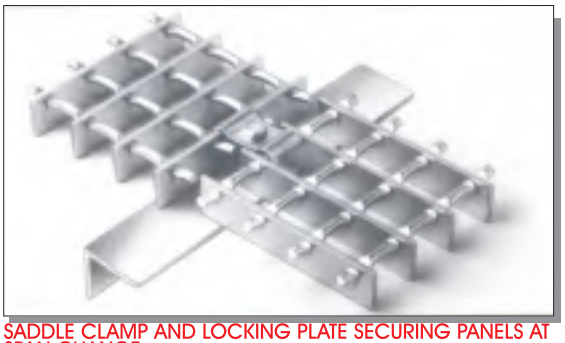
FIXING CLIP SET

NEW FIXING CLIP SET

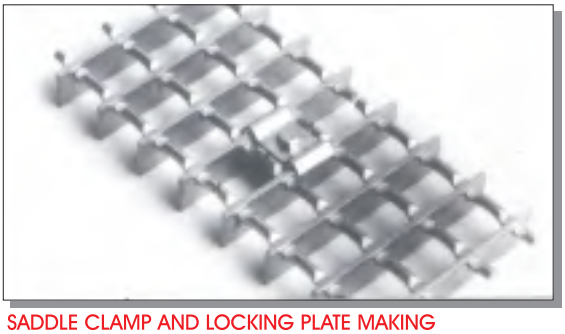


FIXING CLIP SET SECURING GRATING

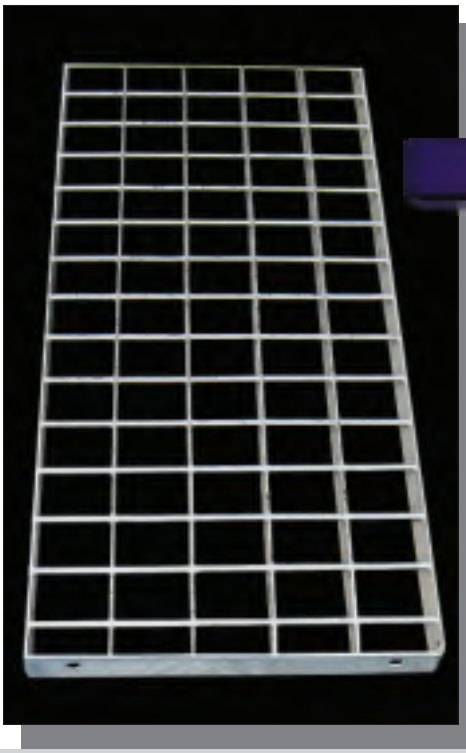
NEW FIXING CLIP SET SECURING GRATING



SADDLE CLAMP AND LOCKING PLATE SECURING PANELS AT SPAN CHANGE



SADDLE CLAMP AND LOCKING PLATE MAKING LATERAL CONNECTION IN MID-SPAN



SCAFFOLD PLANKS

CONSTRUCTION

Manufactured from E60 GRIPWELD with bearer bars of 40 x 3 mm at 80 mm pitch and transverse bars at 60 mm pitch.

FEATURES

GRIPWELD SCAFFOLD PLANKS are exceptionally strong and durable. Due to their construction, mortar and rubble do not accumulate on the surface thus providing an excellent non-slip surface from which water drains easily.

Planks can be joined at the ends by means of 12 mm bolts. This obviates dangerous overlapping of planks and prevents dislodging thus providing a high safety factor particularly on ramps.

They are constructed of steel so they cannot burn or splinter.
Size = 3050 x 400mm Uncoated Mass = 22kg

SAFE LOADS

The safe load for a GRIPWELD scaffold plank, with a 3 metre span, is 180 kg evenly distributed and 90 kg concentrated at mid-span.

FINISHES

Scaffold planks can be supplied in mild steel with unpainted, painted or galvanized finishes.

HOW TO ORDER - SPECIFY

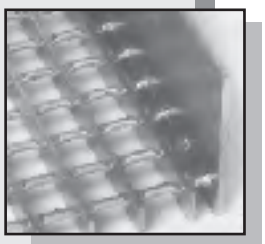
1. Name of product eg. Rectagrid or Gripweld
2. Type of product eg. RS40/B 100
3. Bearer bar size eg. 40 x 4.5
4. Is banding required?
5. Dimensions of panels or stairtreads. If necessary supply accurate drawings (see Tailored Grating)
6. Direction of span - Panel dimensions should be given as span x width.
7. Type of material eg. mild steel / 3CR12
8. Type of finish eg. galvanized
9. Are fixing clips required?
10. To be used for decorative purposes or not.

WELDING STANDARDS

KICKPLATE WELDED TO TRANSVERSE BARS

★ The top half of each transverse bar is welded to the kickplate.

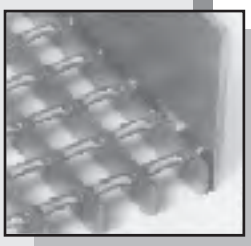
★ At approximately 300 mm intervals, the transverse bar is replaced by a stiffener which is seal welded to the bearer bar and kickplate.



KICKPLATE WELDED TO BEARER BAR

★ A gap of 3 to 5 mm is allowed between the bearer bar and kickplate. This gap is to allow adequate corrosion protection in cases where special finishes are required.

★ A weld of 20 to 30 mm long at approximately every 300 mm is run alternatively top and bottom.



KICKPLATE WELDED TO BEARER BARS AT RIGHT ANGLES

★ Corners are welded on one side.

★ An appropriate weld is made on one side only, at approximately every fourth bearer bar.

BANDING WELDED TO BEARER BARS

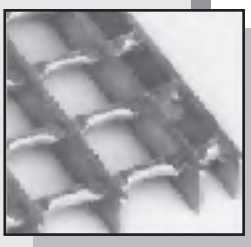
★ Corners are welded on one side.

★ Every fourth bearer bar is welded with an appropriate weld.

BANDING WELDED TO TRANSVERSE BARS

★ At appropriate intervals the transverse bar is replaced by a stiffener which is welded to the banding.

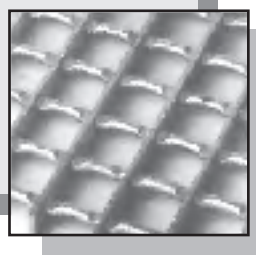
★ The top of every alternate transverse bar is welded to the banding.

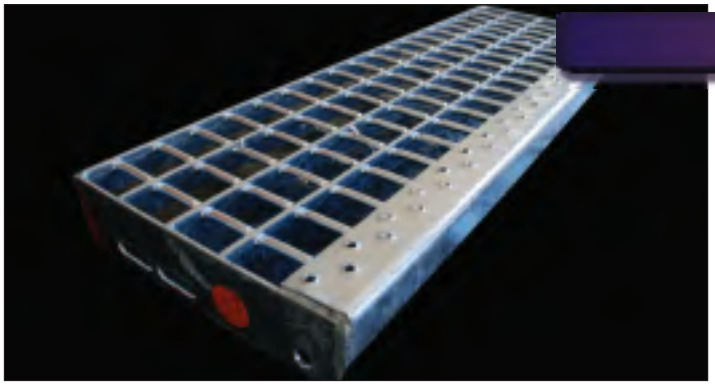


WIDTH JOINING OF RECTAGRID PANELS

★A gap is left between the transversals.

★At appropriate intervals the transverse bar is replaced by a stiffener which is welded to the bearer bar.
The first transversal is welded on the top only.





STAIRTREADS

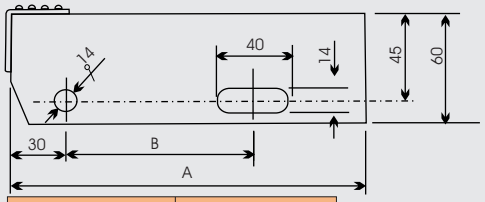
FEATURES

Non-slip perforated nosing is supplied as standard on all staitreads. This nosing provides:
★ a non-slip footing.★ a sighting edge.

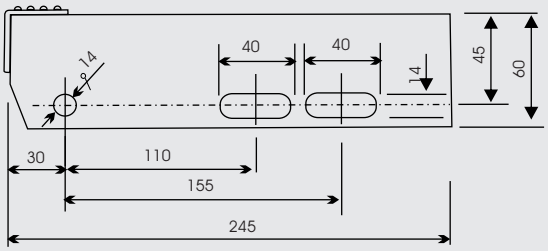
A side plate is welded to each side of the staitread for bolting to supports. These side plates are punched to accommodate 12 mm diameter bolts at centres shown for the various tread widths.

Special designs of side plates, non standard punching or non standard sizes can be supplied to customer's specification. Treads can also be manufactured without side plates for weldng direct to stringers, tank sides etc. Prices are subject to quotation.

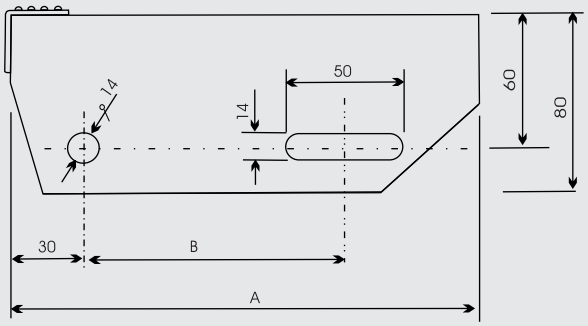
60 X 3 STAIRTREAD SIDE PLATES

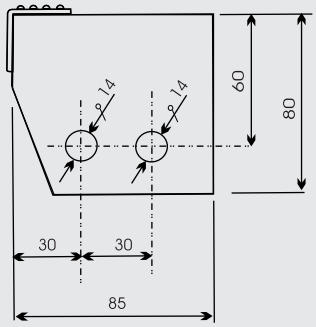


Dimension A mm	Dimension B
mm	
165	110
205	110
245	110/155
285	180



80 X 4.5 STAIRTREAD SIDE PLATES





Dimension A mm	Dimension B
mm	
125	65
165	105
205	110
245	110
285	167

TOLERANCES

On widths ± 5 mm On lengths +0 -3 mm

MATERIALS AND FINISHES AVAILABLE

MATERIAL	FINISH
MILD STEEL	Uncoated, bitumen dipped or galvanized to SABS 1461.Other paint specifications on application. NOTE: The bitumen coated grating supplied as a standard to our grating is not a protective coating as such, and will deteriorate if exposed to the elements.
ALUMINIUM	Uncoated
STAINLESS STEEL TYPES 304 AND 316	Uncoated, pickled and passivated
3CR12	Uncoated, pickled and passivated

SPECIFICATIONS

Staitread Lengths mm	Staitread Widths mm 85 and 125	165 to 285	Bearer Bar Size mm
	Side Plate Size		
Up to and Including 750	80 x 4.5	60 x 3	25 x 4.5
751 to 1000	80 x 4.5	60 x 3	30 x 4.5
1001 to 1200	80 x 4.5	80 x 4.5	40 x 4.5

STOCK SIZES IN RECTAGRID

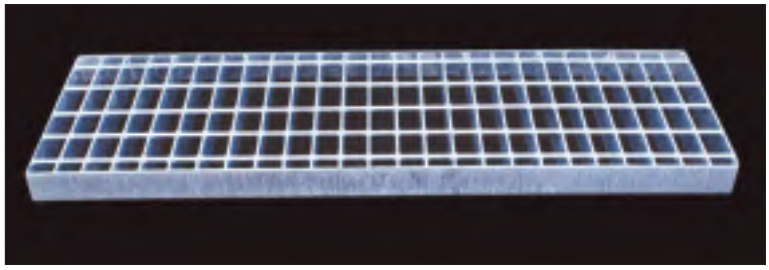
Size mm	Uncoated Mass kg
600 X 205	4.4
600 X 245	5.1
750 X 205	5.4
750 X 245	6.1
900 X 245	8.1
1000 X 285	10.2

STORMWATER *GRATINGS AND FRAMES*

CONSTRUCTION

Manufactured from B60 GRIPWELD - fusion welded grating with a bearer bar pitch of 40 mm and a transverse bar pitch of 60mm. The bearer bar size is 50 x 4.5 mm. All stormwater gratings are fully banded and can support various concentrated loads. (See loading tables on page 6). Angle frames of size 50x50x5 mm can be supplied if required.

These gratings are suitable for water drainage in many applications eg. roads, pavements, highways, gutters, factories etc.



STORMWATER GRATING

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MILD STEEL	Uncoated, bitumen dipped or galvanized to SABS 1461.Other paint specifications on application. NOTE: The bitumen coated grating supplied as a standard to our grating is not a protective coating as such, and will deteriorate if exposed to the elements.
ALUMINIUM	Uncoated
STAINLESS STEEL TYPES 304 AND 316	Uncoated, pickled and passivated
3CR12	Uncoated, pickled and passivated

STANDARD SIZES

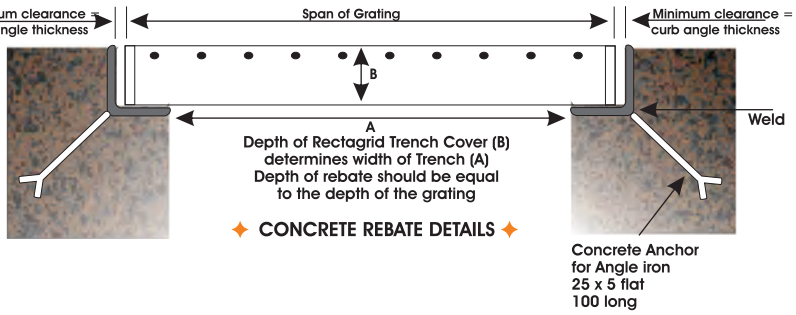
Size mm	Uncoated Mass kg
300 x 500	8
300 x 1000	16
500 x 500	14

TRENCH COVERS

CONSTRUCTION

Trench covers are made from RECTAGRID RS40 type grating with a bearer bar and transverse bar pitch of 40 mm. They are banded along the span only. Note: O.E.S. grating in narrow panels like trench covers. is not recommended where grating has to carry heavy wheeled traffic. Banding is welded on to the bearer bars in these cases to prevent the grating from curling up when heavy loads are applied.

These trench covers can be easily removed when trenches require cleaning.
All trench covers are 1000 mm wide and any trench length can be covered by using several individual gratings.



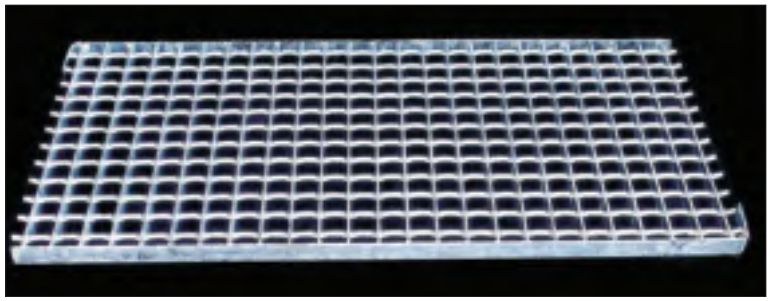
✦ CONCRETE REBATE DETAILS ✦

MATERIALS AND FINISHES AVAILABLE

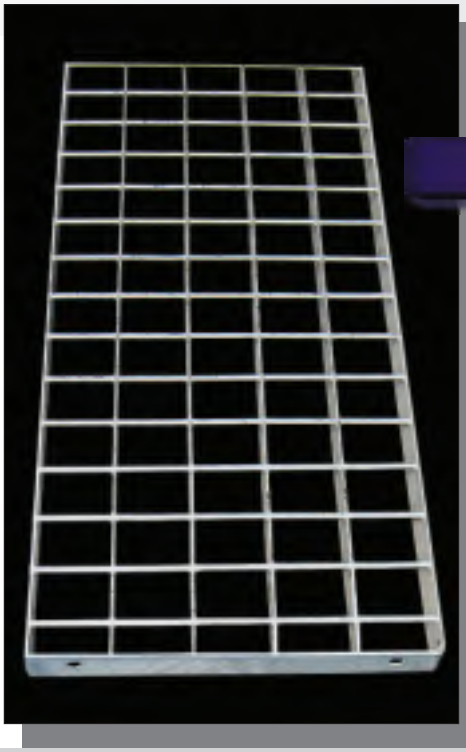
See Stormwater gratings.

SAFE LOAD TABLES AND STANDARD SIZES

Bearer Bar Size mm	Standard Size mm	Uncoated Mass kg	Pneumatic Wheel Load kg	Uniformly Distributed Load kg/m^2	Concentrated Load kg/m width
25 x 4.5	325 x 1000	11	700	11400	2400
30 x 4.5	325 x 1000	13	1100	19600	3450
40 x 4.5	325 x 1000	16	1900	37300	6200
30 x 4.5	500 x 1000	19	600	8300	2250
50 x 4.5	500 x 1000	29	1700	25000	6250



TRENCH COVER



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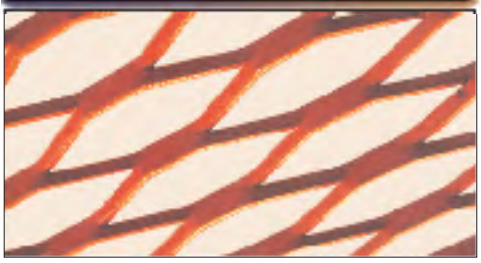
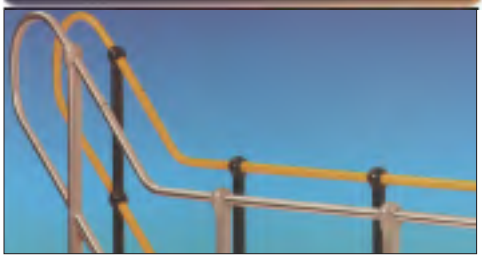
EXPANDED METAL



MENTRAIL

DIE - LINE

HANDRAILING



mentis AFRICA

SABS ISO 9001

Andrew Mentis (PTY) Ltd Reg no: 1960/002319/07 T/A Mentis Africa

PRODUCT RANGE

* *Rectagrid Grating*
* *Gripweld Grating*
* *Mentex & Flatex Expanded Metal*
* *Industrial Handrail Systems*
* *Die-Line Safety Walkways*
* *Grating Trench Covers*
* *Stormwater Gratings and Frames*
* *Steel Scaffold Planks*
* *Mentrail Guardrails for Roads*
* *Hexmesh Refractory Reinforcements*
* *Armourment Steel Floor Tiles*
* *Building Products*

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