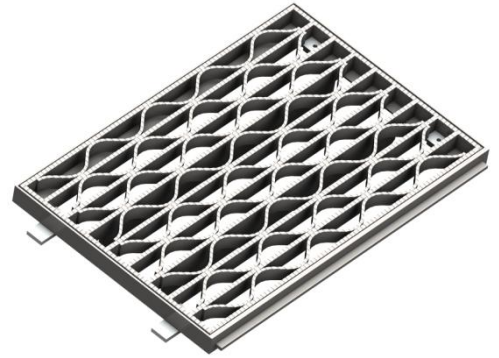
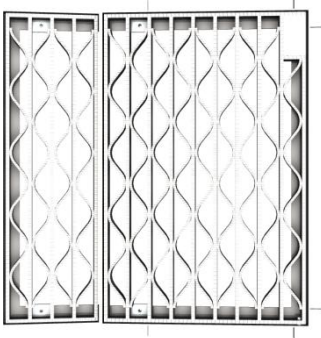
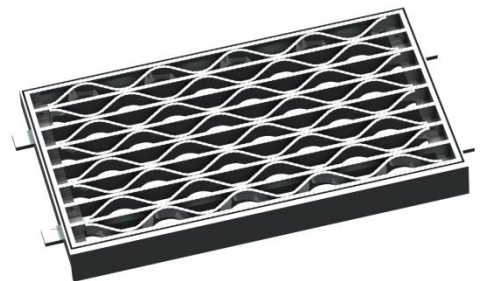
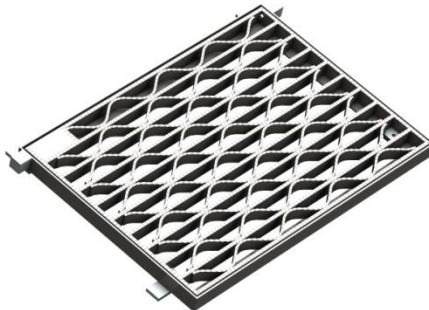
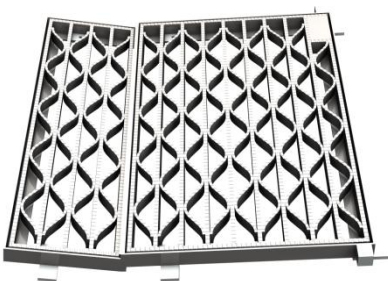


We're changing!



Weaved Grates



13 Healey Rd
Dandenong South VIC 3175

PH (03) 9238 5888
Fax (03) 9238 5800
www.grating.com.au



Contents

2 Introduction

3 How We're Changing

- 3 Optimised Design
- 3 Hinging
- 4 Bolt Down (Security)
- 4 Slide Resistance

5 Available Products

- 5 Medium Duty (Class C)
- 6 Heavy Duty (Class D)
- 7 Converted Side Entry
- 8 Custom Made Products

8 How We're Not Changing

Introduction

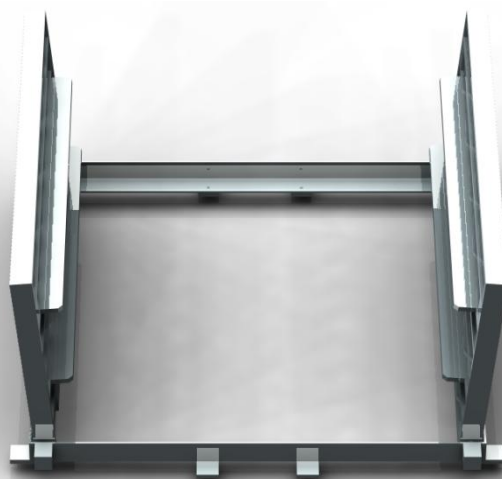
Road Safety Grating has always prided itself on leading the charge in product innovation for the stormwater drainage and management industry. Throughout 2012 we have been aggressively redesigning our range of sump grating, trench grating and access covers. Taking advantage of the latest in design techniques and materials technology and building on our almost 40 years of experience in the industry, we have sought to provide our customers with the most optimised and innovative range of products. These changes have been made as a result of extensive consultation with our customer base and local governments, addressing concerns about safety and security, while offering a cost-effective solution.

A primary concern for local governments has become the increasing number of thefts of grates, driven by rising raw material values. This trend is leaving a serious number of pits exposed, posing an obvious risk to pedestrians and motorists alike. Road Safety Grating has addressed this issue by making bolt down points a standard feature of our entire range of weaved grates. In addition to the bolt down points, all junction pit weaved grates are now being provided with a removable hinge, adding an additional level of security. The bolt down measure not only makes Road Safety Grating's grates more theft-resistant, but also helps prevent rocking and rattling in the frame, minimising noise and adding to longevity of the grate by minimising stress.

The hinge also addresses concerns about ease of access by reducing the required lifting weight when opening the grate. Opening well past 110°, the grate can then be left safely in the open position while work is carried out, or the removable hinge allows the grate to be completely removed when necessary.

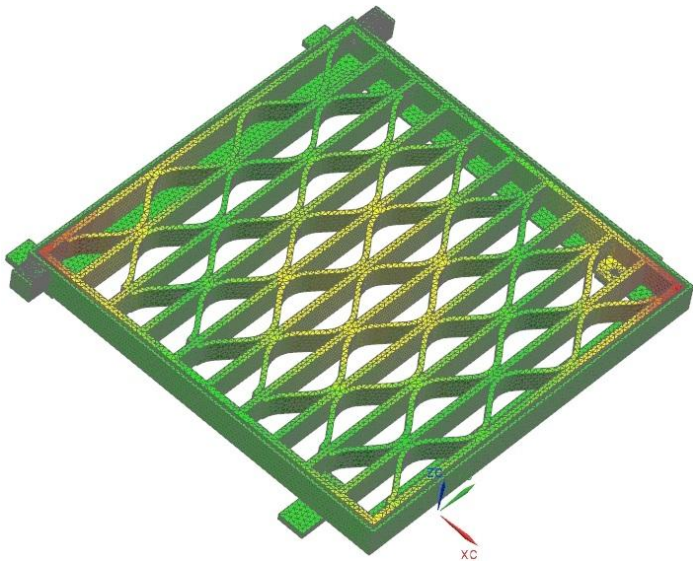
In addition to the hinging and bolting down of weaved grates as standard, Road Safety Grating has also utilised serrated steel in the redesign of the weaved grate range. The serrated steel serves to provide grip and greatly increases the slide resistance of the range, designed primarily to provide grip for car and motorcycle tyres, but also providing good grip for footwear.

Road Safety Grating remained highly conscious of the cost-competitiveness of our products while redeveloping the range. A major component of the redesign was the ability to streamline the manufacturing process while reducing material waste. As a result of the optimised design and streamlined manufacturing process, Road Safety Grating weaved grate prices have now been significantly reduced across the entire range. Road Safety Grating's customers can now benefit from the design improvements to the weaved grate range at more market competitive prices than ever before.



How We're Changing

Optimised Design



One major goal of redeveloping the weaved grate range was to optimise the design of each grate in the range, maximising the strength of the product while minimising the materials used to accomplish this. This was achieved through the use of simulations, varying the dimensions and curvature of weaved bars to ensure that loads were effectively distributed to the load bars.

Stress and deflection analyses were then performed, with an emphasis on the potential for rocking. Once the optimised design was achieved, samples were made and ultimate limit state and serviceability limit state load tests were carried out.

One noticeable difference in the new design is shorter weaved bars, which were found to make no difference to the strength of the grate, but reduced the potential for splatter during welding, eliminated the risk of clogging from debris, as well as reducing the overall weight of the grate, while still complying with bicycle tyre penetration resistance (BTPR) requirements.

Hinging

All Road Safety Grating junction pit weaved grates are now being supplied with a removable hinge. One of the main advantages of the hinged weaved grate is the ease of access that it facilitates. Hinging allows the lifting weight of the grate to be significantly reduced, by around 30% on average. Opening past 110° , the grate can be opened and left safely in the open position while work is carried out. All junction pit weaved grates and frames are now being supplied with all-around frames (four sides bearing). This means that, when opened, the grate is completely clear of the pit, allowing full, unobstructed access to the pit.

The hinging design has been standardised to include a 16mm attached pin on one side of the grate, with a removable 16mm pin on the other side of the grate, both of which are housed through a 30mm diameter hole on both sides of the frame. This recess is protected by 40 x 40mm SHS on the outside of the frame. For full specifications of the hinging mechanism, refer to **AVAILABLE PRODUCTS**.

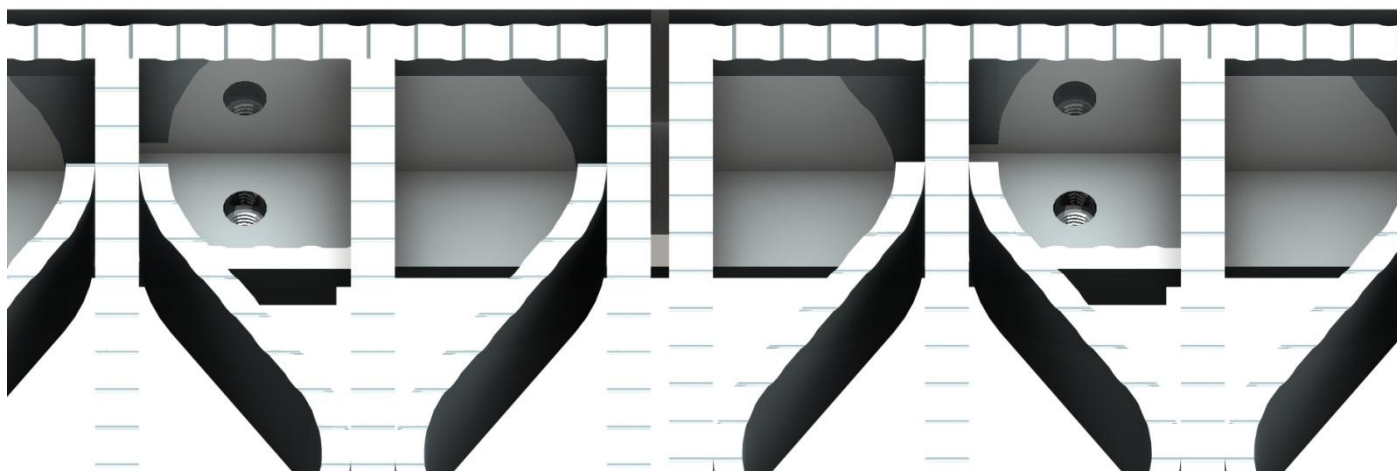
While all junction pit weaved grates are now being supplied with a removable hinge, side entry pit weaved grates will not incorporate a removable hinge. Hinging of the side entry weaved grates is not possible due to opening restrictions caused by lintels. Converted side entry grates and frames are available with the back, larger grate hinged and bolt down, with the smaller, channel grate being supplied bolt down as standard.



Bolt Down (Security)

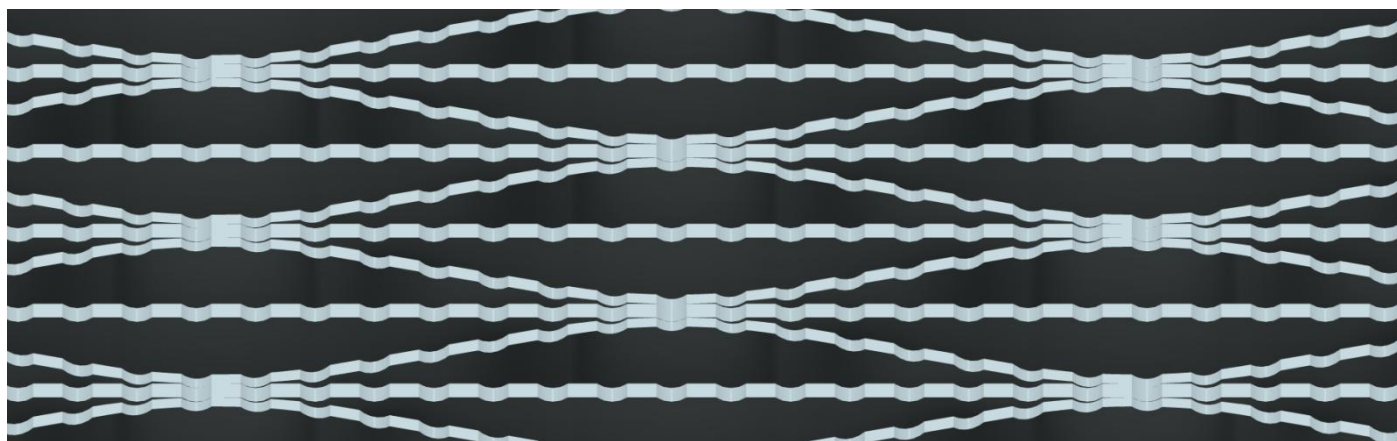
Local governments, the private sector and individuals alike are increasingly finding their pits exposed, with grates having been stolen for scrap value. Road Safety Grating has experienced a sharp increase in the number of products being ordered with provisions for bolting down and so a security bolt down method has now been standardised in the weaved grated range. In addition to making the weaved grate range theft-resistant, the bolt down measure also helps prevent the grate from rattling in the frame under moving loads, minimising stress in the grate as well as reducing noise.

Junction pit weaved grates are now being supplied bolted down in two points, with the hinge acting as a secondary security measure. Side entry weaved grates are now being supplied bolted down in four points. The bolt down mechanism utilises a threaded 50 x 12mm plate, welded under the frame and a 40 x 8mm plate welded into the grate. The system is designed to use an M10 x 25mm mechanically galvanised cap head bolt, however other security bolt down options are available upon request.



Slide Resistance

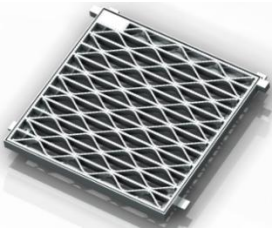



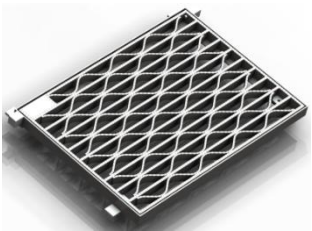

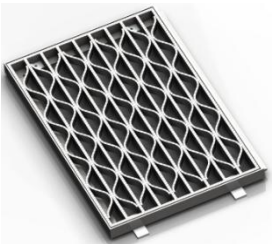

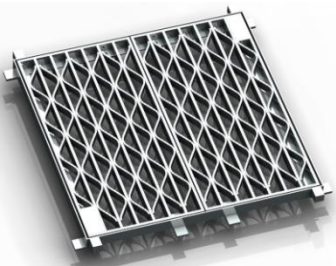

Road Safety Grating weaved grates now utilise serrated flat bar steel throughout the range. The serrated steel serves to add grip for both footwear and tyres and greatly increases the slide-resistance of the range. This is particularly useful in roads where cars or bikes may need to brake rapidly, where traditional flat bar steel (without serration) offered little slide-resistance. The slide-resistance of the serrated steel is also useful in public areas, where extra grip is now beneficial to bikes, wheel chairs, pedestrians and vehicular traffic alike.



Available Products

Class C (Medium Duty)

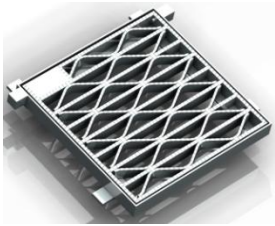

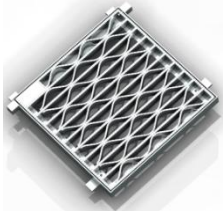

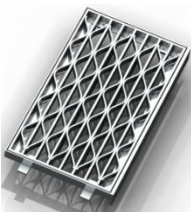

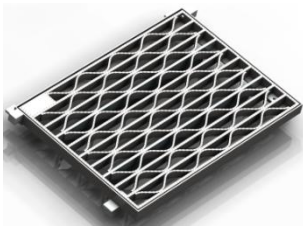

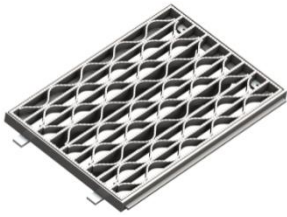

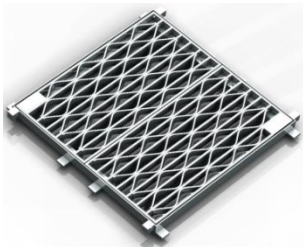

Medium duty (Class C of AS3996 – 2006) weaved grates are recommended for residential properties and areas experiencing slow moving commercial vehicles. Some smaller sizes are only available in heavy duty (Class D), due to their smaller spans.

Pit Size	Image	Specifications	Product Specification QR Code*
750 x 750 mm		Pit Size: 750 x 750 mm Product Code: sg-m-msg-w7575 Overall Grate Size: 852 x 850 x 50 mm Overall Frame Size: 875 x 870 x 55 mm Grate Weight: 85 kg Grate & Frame Weight: 101 kg Features: Hinged, bolt down, slide-resistant.	
900 x 450 mm (Side Entry)		Pit Size: 900 x 450 mm Product Code: sg-m-msg-w9045s Overall Grate Size: 1000 x 556 x 50 mm Overall Frame Size: 1020 x 588 x 55 mm Grate Weight: 69 kg Grate & Frame Weight: 93 kg Features: Bolt down, slide-resistant.	
900 x 600 mm (Junction)		Pit Size: 900 x 600 mm Product Code: sg-m-msg-w9060j Overall Grate Size: 1000 x 702 x 50 mm Overall Frame Size: 1020 x 725 x 55 mm Grate Weight: 83 kg Grate & Frame Weight: 99 kg Features: Hinged, bolt down, slide-resistant.	
900 x 600 mm (Side Entry)		Pit Size: 900 x 600 mm Product Code: sg-m-msg-w9060s Overall Grate Size: 1000 x 651 x 50 mm Overall Frame Size: 1020 x 693 x 55 mm Grate Weight: 76 kg Grate & Frame Weight: 94 kg Features: Bolt down, slide-resistant.	
900 x 900 mm		Pit Size: 900 x 900 mm Product Code: sg-m-msg-w9090 Overall Grate Size: 1000 x 502 x 50 mm (one grate) Overall Frame Size: 1035 x 1020 x 55 mm Grate Weight: 60 kg (one grate) Grate & Frame Weight: 141 kg Features: Hinged, bolt down, slide-resistant.	

* To view the product specification on your smart phone or tablet, scan this code. Alternatively, product specifications can be found at www.grating.com.au. For help on using the QR code, refer to the last page of this booklet.

Class D (Heavy Duty)

Heavy duty (Class D of AS3996 – 2006) weaved grates are recommended for areas with fast moving commercial vehicles and forklifts.

Pit Size	Image	Specifications	Product Specification QR Code*
450 x 450 mm		Pit Size: 450 x 450 mm Product Code: sg-h-msg-w4545 Overall Grate Size: 550 x 548 x 50 mm Overall Frame Size: 571 x 570 x 55 mm Grate Weight: 39 kg Grate & Frame Weight: 50 kg Features: Hinged, bolt down, slide-resistant.	
600 x 600 mm		Pit Size: 600 x 600 mm Product Code: sg-h-msg-w6060 Overall Grate Size: 702 x 700 x 50 mm Overall Frame Size: 722 x 720 x 55 mm Grate Weight: 59 kg Grate & Frame Weight: 73 kg Features: Hinged, bolt down, slide-resistant.	
900 x 450 mm (Side Entry)		Pit Size: 900 x 450 mm Product Code: sg-h-msg-w9045s Overall Grate Size: 1000 x 556 x 50 mm Overall Frame Size: 1020 x 588 x 55 mm Grate Weight: 78 kg Grate & Frame Weight: 102 kg Features: Bolt down, slide-resistant.	
900 x 600 mm (Junction)		Pit Size: 900 x 600 mm Product Code: sg-h-msg-w9060j Overall Grate Size: 1000 x 702 x 50 mm Overall Frame Size: 1020 x 725 x 55 mm Grate Weight: 94 kg Grate & Frame Weight: 110 kg Features: Hinged, bolt down, slide-resistant.	
900 x 600 mm (Side Entry)		Pit Size: 900 x 600 mm Product Code: sg-h-msg-w9060s Overall Grate Size: 1000 x 651 x 50 mm Overall Frame Size: 1020 x 693 x 55 mm Grate Weight: 88 kg Grate & Frame Weight: 106 kg Features: Bolt down, slide-resistant.	
900 x 900 mm		Pit Size: 900 x 900 mm Product Code: sg-h-msg-w9090 Overall Grate Size: 1000 x 502 x 50 mm (one grate) Overall Frame Size: 1035 x 1020 x 55 mm Grate Weight: 71 kg (one grate) Grate & Frame Weight: 163 kg Features: Hinged, bolt down, slide-resistant.	

* To view the product specification on your smart phone or tablet, scan this code. Alternatively, product specifications can be found at www.grating.com.au. For help on using the QR code, refer to the last page of this booklet.

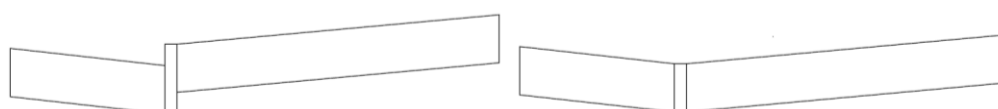
Converted Side Entry

Converted side entry grates and frames have also undergone the weaved grate redevelopment. Road Safety Grating's converted side entry now use serrated steel for slide-resistance, are provided bolted down for theft resistance and the larger, back grate is now being provided hinged. Converted side entries are stocked in both Class C and Class D of AS3996 -2006, for the conversion of standard 900 x 600mm side entry pits.







Bullnose or rollover?

Road Safety Grating stock converted side entries in medium and heavy duty, with frames available for rollover and bullnose driveways.



Driveway with a bull nose.

Rollover driveway.

Pit Size	Specifications	Rollover	Bull Nose	Product Specification QR Code*	
				Rollover	Bull Nose
Class C (Medium Duty)	Pit Size:	900 x 600 mm	900 x 600 mm		
	Product Code:	sg-m-msg-cse-9060	sg-m-msg-cse-9060bn		
	Large Grate Size:	1000 x 651 x 50 mm	1000 x 651 x 50 mm		
	Small Grate Size	1000 x 298 x 50 mm	1000 x 298 x 50 mm		
	Overall Frame Size:	Refer specification.	Refer specification.		
	Large Grate Weight:	75 kg	75 kg		
	Small Grate Weight:	36 kg	36 kg		
	Total Weight:	135 kg	135 kg		
	Features:	Bolt down, hinged, serrated slide-resistance.			
Class D (Heavy Duty)	Pit Size:	900 x 600 mm	900 x 600 mm		
	Product Code:	sg-h-msg-cse-9060	sg-h-msg-cse-9060bn		
	Large Grate Size:	1000 x 651 x 50 mm	1000 x 651 x 50 mm		
	Small Grate Size	1000 x 298 x 50 mm	1000 x 298 x 50 mm		
	Overall Frame Size:	Refer specification.	Refer specification.		
	Large Grate Weight:	83 kg	83 kg		
	Small Grate Weight:	44 kg	44 kg		
	Total Weight:	151 kg	151 kg		
	Features:	Bolt down, hinged, serrated slide-resistance.			

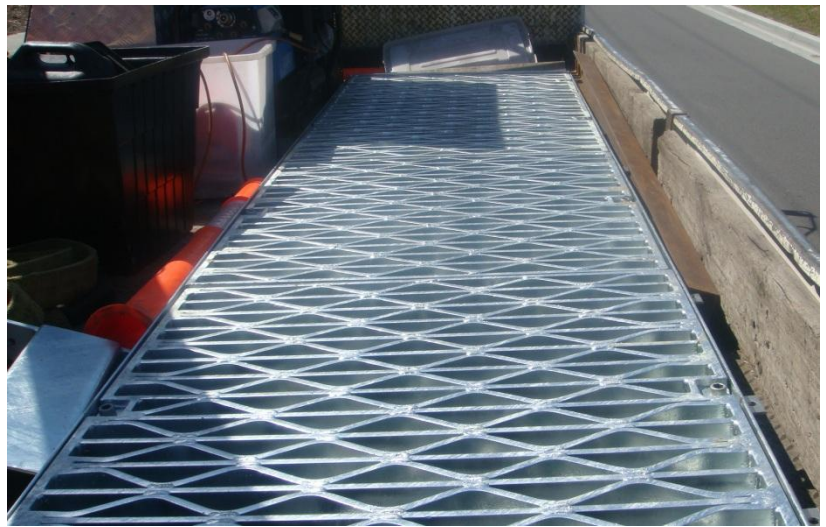
* To view the product specification on your smart phone or tablet, scan this code. Alternatively, product specifications can be found at www.grating.com.au. For help on using the QR code, refer to the last page of this booklet.

Custom Made Products

Road Safety Grating specialises in the manufacture of custom sized weaved grates and frames. We retain product specifications for a variety of standard pit sizes that are not stock lines, or can manufacture to a customer's specific dimensions and we routinely manufacture replacement grates to suit an existing frame. Weaved grates present the ideal replacement for grates that have failed under a given load.

To order a custom made replacement grate, Road Safety Grating requires the overall dimensions (length, width and depth), as well as the anticipated traffic. If the grate is utilising an existing frame, bolt down and hinging may not be possible. To order a custom made grate and frame, Road Safety Grating requires the internal, pit size dimensions and the anticipated traffic. Custom made grates and frame for a new installation can be provided bolted down and hinged. Serrated, slide-resistant steel is used in all stock line weaved grates, and can be used in custom made weaved grates if the necessary steel size is available serrated.

Custom made grates range from the very small to the very large. Road Safety Grating specialise in both.



How We're Not Changing

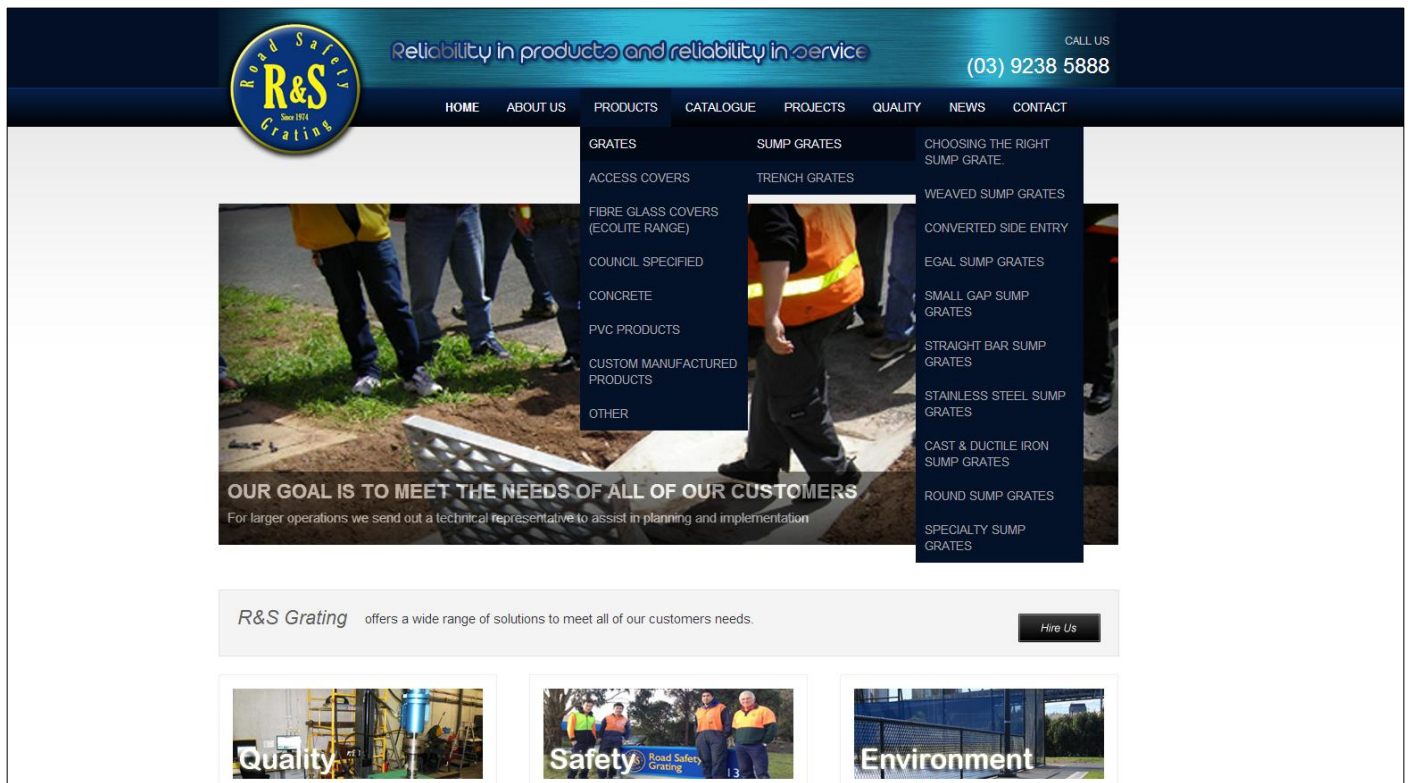
While Road Safety Grating is making many changes to our product range to offer our customers more innovative products at more market competitive prices, we don't want to lose some of the characteristics that have made us a market leader in the industry.

We'll continue to pride ourselves on the quality of our product, using high quality materials and skilled workmanship to supply strong, durable and value-for-money products. We pride ourselves not only on the quality of our product, but also the quality of our service. We'll continue to offer a fast turnaround on both stock lines and custom made products, striving to deliver next day on stock lines and to meet customer deadlines on custom made products.

In addition, we'll continue to offer free delivery within the Melbourne metropolitan region.

Our Website's Changing Too!

Our website has undergone a major redevelopment too! In line with our efforts to provide our customers with the most innovative products and the best service, we've upgraded our website. Visit www.grating.com.au to download product specifications, catalogues, brochures and booklets or to learn more about how we're changing and what the new look Road Safety Grating has to offer.



www.grating.com.au



Part of the redesign of our website includes a mobile site designed specifically for smart phones. Directly from your smart phone, you can:



Check it out now...

- Browse or search our full range of products.
- View product images, dimensions, weights and other details.
- Download or view product specifications.
- Download or view our latest catalogue and other publications.
- Stay up to date with the latest products and changes that we're introducing by subscribing to our newsletter.
- Upload images and details to our Custom Design Centre to receive a free quote.

Help with QR codes...

Those with smartphones can use the QR codes throughout this booklet to download product specifications to their phones or tablets. You can also forward the specification to yourself by email or print the specification (if supported by your device) by scanning the code. To make use of the QR codes, you'll need a QR reader. We've recommended some free ones (without advertising) below.

iPhone (3G, 3GS, 4, 4S, 5) or iPad (all)...

We recommend...



NeoReader – QR reader, barcode scanner, & more.

By NeoMedia Technologies, Inc.



Android devices...

We recommend...



Google Goggles

Google Inc.



Google play



13 Healey Rd
Dandenong South VIC 3175

PH (03) 9238 5888
Fax (03) 9238 5800
Email sales@grating.com.au
www.grating.com.au

We're also changing...



**Weaved
Grates**



**Small Gap
Grates**



**Access
Covers**



**EGAL
Grates**



**Trench
Grates**



Grab a digital copy with the QR codes above or call or email us for a hard copy.