

GRP

GRP Cable Trough & Trench Cover Lids



Moulded and pultruded open mesh and solid top GRP trench covers, trough covers and drawpit lids with excellent strength-to-weight ratio and non-conductive properties.

Unlocking the Power of Composites™
»» for the Energy Industry

dura™
composites



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About Us

Dura Composites is a leading supplier of composite products with over 25 years' experience in delivering durable, performance-improving and cost-effective composite solutions to a wide range of industries.

We help companies of all sizes unlock the power of composites, and our client base includes businesses in the Industrial, Leisure, Marine, Construction, Rail, Transport and Landscaping sectors.

Our success is driven by our commitment to innovation and by empowering our staff to inspire, educate and problem-solve for customers.

In 2017 and in 2020, Dura Composites was awarded the Queen's Award for Enterprise in recognition of our achievements at the forefront of composite material technology.

Dura Composites' products are also available through a well-established global distribution network. Your local distributor can be found on our website.

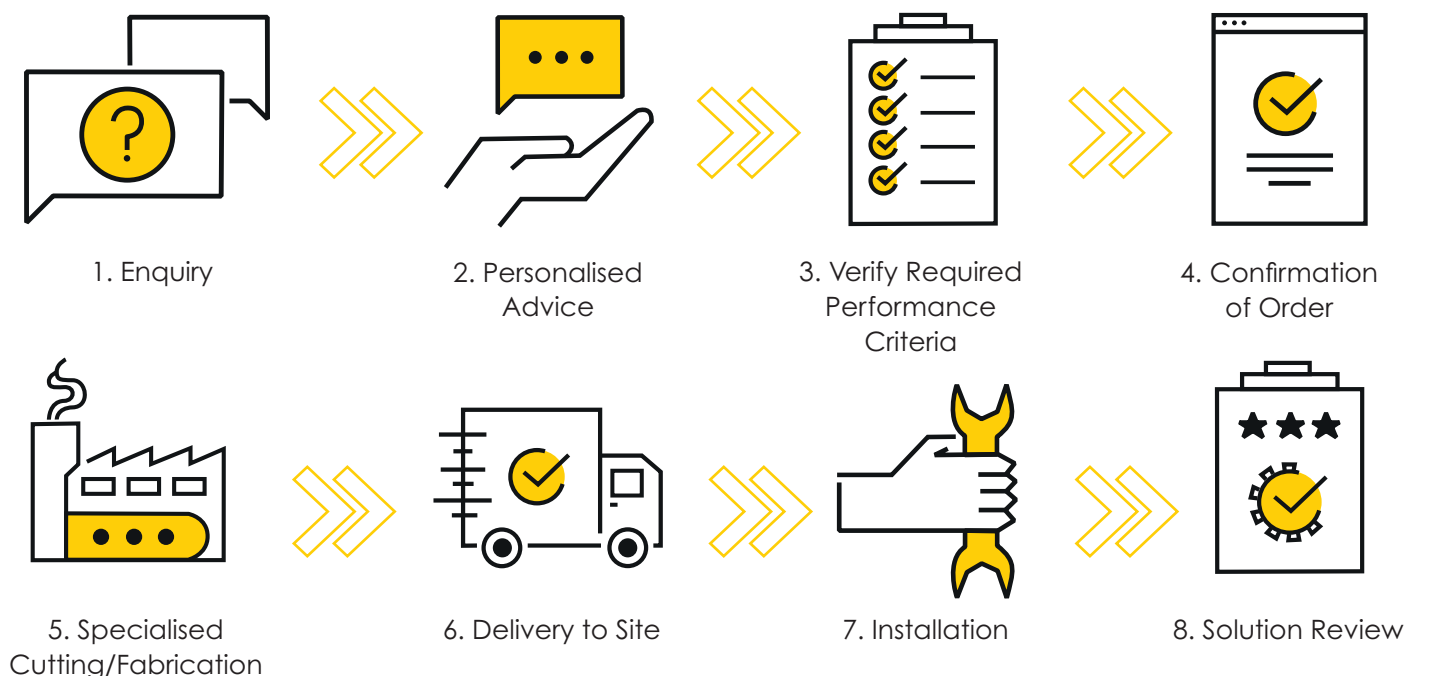
Let Dura Composites Unlock the Power of Composites for Your Next Project

Dura Composites is one of the world's leading suppliers of composite products.

Here are a few great reasons to work with us:

- 1 Unique products backed up by demonstrably better specification**
 - We can help support your design services across all phases of the project lifecycle by providing detailed technical specifications for our award-winning product range.
 - Our live load testing data is available within our searchable Online Product Selector database to help you make decisions based on real data to ensure maximum safety for your project.
- 2 We only offer the right solution**
 - We believe that decisions on which products to use should be based on facts, not guesses or theories.
 - Whatever your scenario, you can be confident that we'll help ensure your project will meet the load performance and specification needed, otherwise we won't supply it!
- 3 25 Years of Multi-Industry Expertise**
 - We've had a reputation as leaders in innovation for over a quarter of a century and take a collaborative approach to working with our Public and Private sector clients. We were awarded the prestigious Queen's Awards for Enterprise in 2017 and 2020 in recognition of our success in growing and championing the use of composite materials across the globe.
 - Our added value services include in-house CAD and Structural Engineering teams who can be utilised both for stand-alone design and as part of larger integrated design scheme.
 - Our specialist cutting and fabrication teams offer a full range of services to ensure you can install with confidence.

Your process with us at Dura:



Why Choose GRP Trench Covers?

Dura Composites has a wealth of experience in the manufacture and supply of Trench and Access covers - both for new constructions and refurbishment applications. Let us help you Unlock the Power of Composites with a low maintenance, durable and simple to install composite Glass Reinforced Polymer (GRP) alternative to heavy & cumbersome steel or concrete covers.

Our trench and trough covers are designed for maximum versatility and work with both precast flat top concrete troughs as well as with precast concrete troughs with a factory formed recess which enable a flush fitting with the floor surface.

Open mesh and solid top versions are available using the latest GRP moulded and pultruded designs and technology to meet the needs of even the most demanding applications.

Key Benefits:

- Easily Lifted for Access
- Long Design Life
- Anti-Slip Surface
- Non-Conductive
- Fire Resistant
- Corrosion Resistant
- Impact Resistant
- Minimal Maintenance
- Versatile Designs

Dura Composites Application Examples

With an innovative design that can include either manual lifting eyes or mechanical lifting arms, the trench cover lids can meet the needs for straight sections, curved sections, right angles and Ts and have an excellent strength to weight ratio. The lightweight nature of the covers mean routine inspections and repairs can be made easily, by simply removing the appropriate covers.

Some recent project installation examples are shown below:

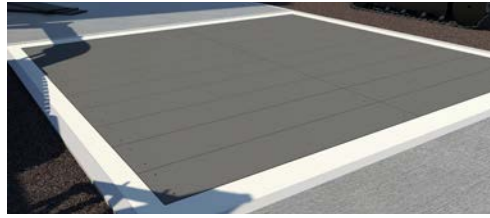
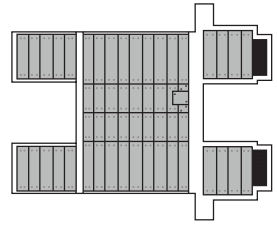

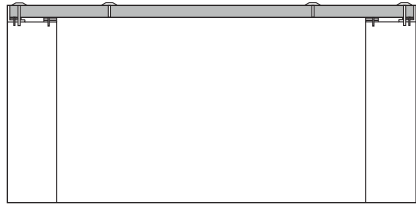

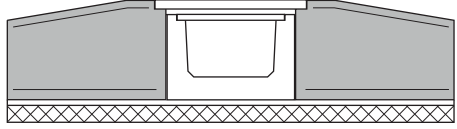
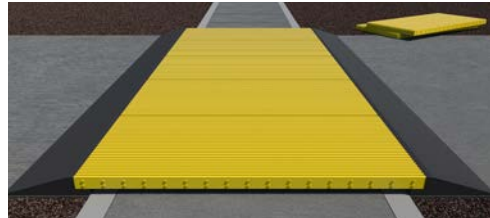
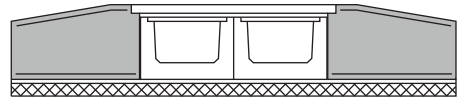

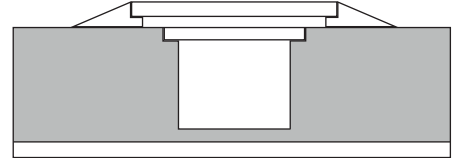

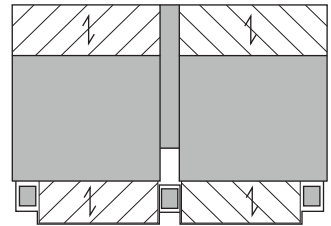



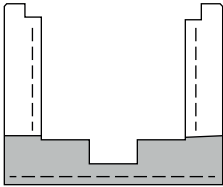
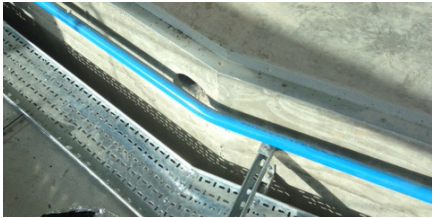
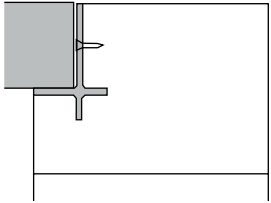

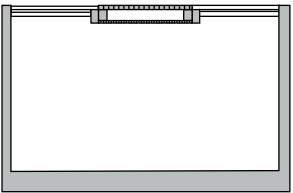
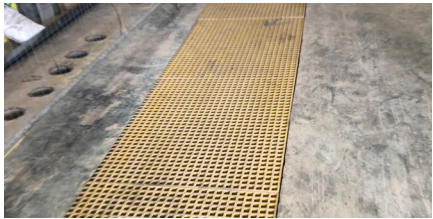
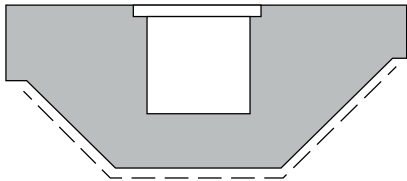



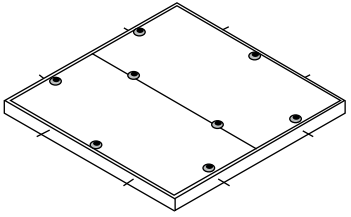
Solid Covers


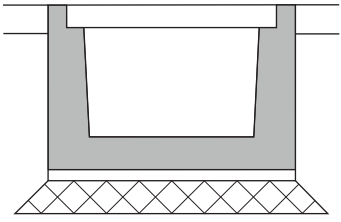

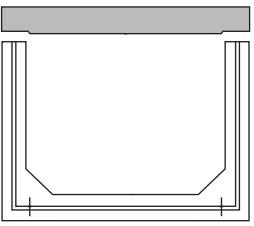

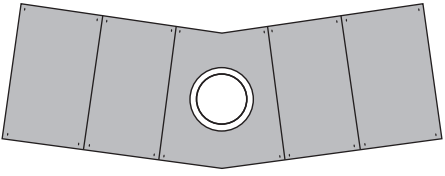



Open Mesh Covers

Types of Application

Type	Drawing	Moulded/Pultruded
Cable Pits & Wide Span Trenches 		<ul style="list-style-type: none"> ✓ All Solid Covers
Concrete Cover Refurb/Rebate Changes 		<ul style="list-style-type: none"> ✓ All Solid Covers
Crossing Points: Single 		<ul style="list-style-type: none"> ✓ Pultruded Open ✓ Pultruded Solid
Crossing Points: Double 		<ul style="list-style-type: none"> ✓ Pultruded Open ✓ Pultruded Solid
Overlay Crossing Points 		<ul style="list-style-type: none"> ✓ Pultruded Open ✓ Pultruded Solid
Load Barrier Transition 		<ul style="list-style-type: none"> ✓ Pultruded Solid

Type	Drawing	Moulded/Pultruded
Drawpits/Manholes 	Precast 	<ul style="list-style-type: none"> ✓ Moulded Solid ✓ Pultruded Solid
Concrete Trough Construction 	Cast In Rebate 	<ul style="list-style-type: none"> ✓ All Solid Covers
	Post Fix Support 	<ul style="list-style-type: none"> ✓ All Solid Covers
	Timber Shutter Rebate 	<ul style="list-style-type: none"> ✓ All Solid Covers
Ventilation Control Trough Covers 		<ul style="list-style-type: none"> ✓ Pultruded Open ✓ Pultruded Solid
Water Tight Trough Covers 		<ul style="list-style-type: none"> ✓ Pultruded Solid

Type	Drawing	Moulded/Pultruded
Precast Trough Construction 	Rebated 	<ul style="list-style-type: none"> ✓ All Solid Covers
	Flat Top 	<ul style="list-style-type: none"> ✓ All Solid Covers
Shaped Covers & Cut Outs 		<ul style="list-style-type: none"> ✓ All Solid Covers
		

Type

Pedestrian Loading Moulded Covers

Dura Composites Moulded GRP Trench Covers are typically used for areas of pedestrian traffic and are available in a range of load ratings to suit every application and budget.

Lightweight but high-strength, they dramatically reduce the cost of installation, maintenance and transport versus concrete covers. Many of our trench and trough access covers are available from stock for immediate despatch.

Key Benefits



Unique Designs



In Stock Now



In-house CAD team



ISO 9001 Quality

d² Dura Grating Standard Mesh

Product	Quick Ref. Code	Open Hole Size (mm)	Open Area (%)	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight (kg)
Light Duty							
26mm	M26A 32 60	32 x 32	60%	A 600mm	3043 3669	993 1239	32 52
38mm	M38A 32 60	32 x 32	60%	A 1150mm	3054 3664	996 1224	43 63
50mm	M50A 28 63	28 x 28	63%	A 1500mm	3052 3682	1057 1267	52 74
Heavy Duty							
50mm	M50B 28 63	28 x 28	63%	B 730mm	3000 3660	1000 1220	126 188
63mm*	M63B 28 63	28 x 28	42%	B 900mm	3000 3660	1000 1220	162 241

d² Dura Grating Mini Mesh

Product	Quick Ref. Code	Open Hole Size (mm)	Open Area (%)	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight (kg)
Light Duty							
23mm	M23A 13.3 44	13 x 13	44%	A 500mm	3012 4033 4033	1029 1269 1511	34 54 67
35mm	M35A 19.5 54	19.5 x 19.5	54%	A 800mm	3030 3667	1041 1200	44 62
45mm	M45A 19.5 54	19.5 x 19.5	54%	A 1150mm	3030 3667	1041 1200	53 74
55mm	M55A 19.5 54	19.5 x 19.5	54%	A 1500mm	3030 3667	1041 1200	62 87

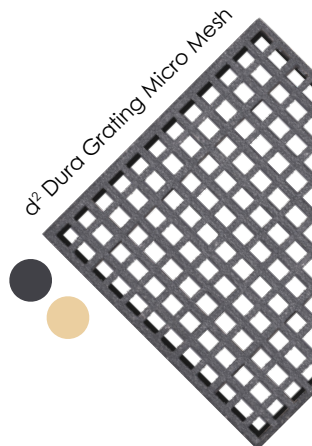
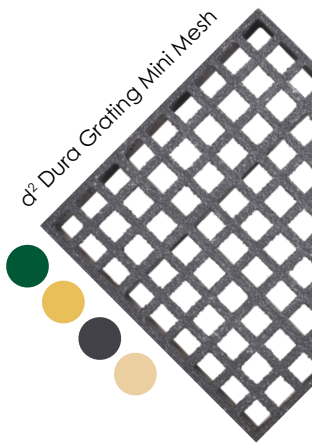
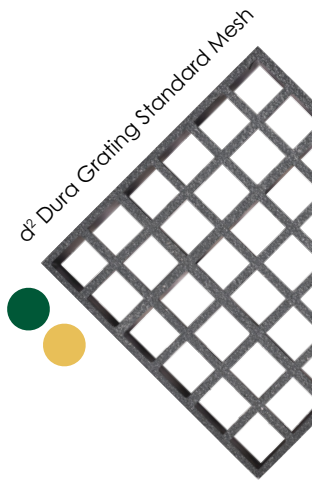
d² Dura Grating Micro Mesh

Product	Quick Ref. Code	Open Hole Size (mm)	Open Area (%)	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight (kg)
Light Duty							
23mm	M23A 10.5 42	10.5 x 10.5	42%	A 500mm	3042 4076 4076	1041 1300 1560	36 60 72

d² Dura Grating Solid Top

Product	Quick Ref. Code	Open Hole Size (mm)	Open Area (%)	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight (kg)
Light Duty							
29mm	M29A 32	32	N/A	A 1150mm	3043 3699	993 1239	51 77
41mm	M41A 32	31	N/A	A 1800mm	3054 3663	996 1224	65 95
53mm	M53A 32	28	N/A	A 1900mm	3052 3682	1057 1267	74 107
Medium Duty							
53mm	M53B 28 53	28	N/A	B 730mm	3660	1220	210

*Special order only.
Please use the Quick Reference Code when searching for your product type in a price list.



Type

Vehicular Loading Pultruded Covers

Dura Composites' one piece heavy duty trench covers are pultruded in one mass to produce a consistent quality and incredible strength to weight ratio. They are ideally suited to vehicular loading requirements for infrastructure installations including power, telecoms and utility projects.

Available from stock, the covers are easy to lift, transport and install, unlike bulky concrete trough and access covers.

Key Benefits



Single Unit Construction



In Stock Now



Heavy Duty



ISO 9001 Quality

Dura Open Mesh Pultruded Grating

Product	Quick Ref. Code	Open Hole Size	Open Area	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight
T-Beam/I-Beam							
Light Duty							
38mm I-Beam*	P38A I-Beam 10 40	10mm	40%	A 1300mm	3660	1220	100kg
	P38A I-Beam 23 60	23mm	60%	A 1600mm	3660	1220	71kg
50mm T-Beam*	P50A T-Beam 10 40	10mm	40%	A 1800mm	3660	1220	105kg
	P50A T-Beam 23 60	23mm	60%	A 1700mm	3660	1220	71kg
63mm T-Beam*	P63B T-Beam 10 40	10mm	40%	A 1900mm	3660	1220	121kg
	P63B T-Beam 23 60	23mm	60%	A 1800mm	3660	1220	84kg
Flat Beam							
Heavy Duty							
38mm Flat Beam*	P38B Flat Beam 10 40	10mm	40%	B 900mm	3660	1220	241kg
	P38B Flat Beam 23 60	23mm	60%	B 730mm	3660	1220	149kg
50mm Flat Beam*	P50B Flat Beam 10 40	10mm	40%	B 1200mm	3660	1220	317kg
	P50B Flat Beam 23 60	23mm	60%	B 1000mm	3660	1220	196kg
63mm Flat Beam*	P63C Flat Beam 10 40	10mm	40%	C 600mm	3660	1220	353kg
	P63C Flat Beam 23 60	23mm	60%	C 600mm	3660	1220	255kg
100mm Flat Beam*	P100D Flat Beam 10 40	10mm	40%	D 700mm	3660	1220	527kg
	P100D Flat Beam 23 60	23mm	60%	C 700mm	3660	1220	353kg

*Special order only. Other colours are available upon request.

Dura Slab

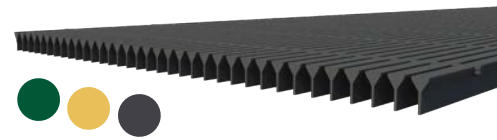
Product	Quick Ref. Code	EN124 Load Class/Max Span	Length (mm)	Width (mm)	Panel Weight
Light Duty					
45mm*	P45A 725 Solid Lap	A 2000mm	3660	725	64kg
Medium Duty					
50mm	P50B 500 Solid Lap	B 1200mm	3660	500	63kg
100mm Easy Lift*	P100B 350 Solid Lap	B 1900mm	3660	375	67kg
Heavy Duty					
75mm	P75C 650 Solid Lap	C 1200mm	3800	650	148kg
100mm*	P100D 650 Solid Lap	C 2300mm	2800	650	143kg

*Only available in Dark Grey.

Dura 38mm I Beam



Dura 50mm T Beam



Dura 63mm T Beam



Dura 63mm Flat Beam



Dura 100mm Flat Beam



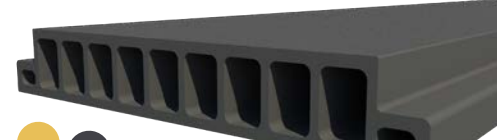
Dura Slab 50mm



Dura Slab 100mm Easy Lift

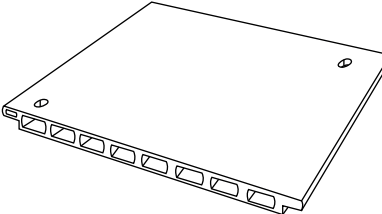
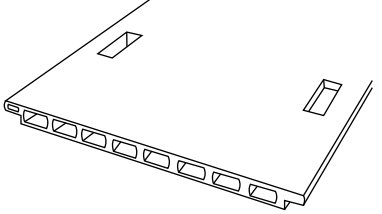
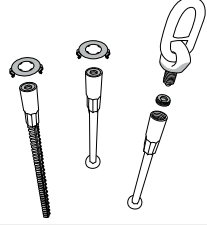
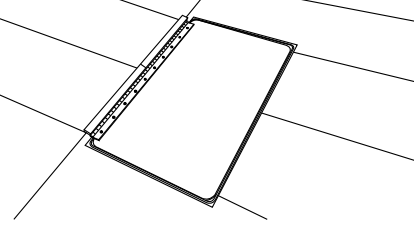
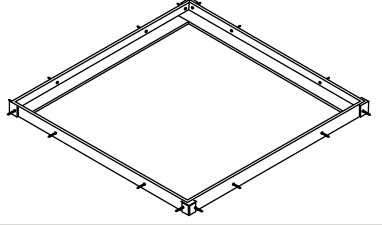
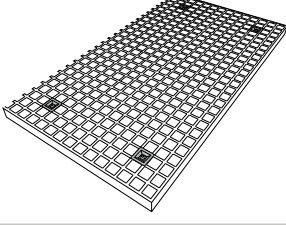
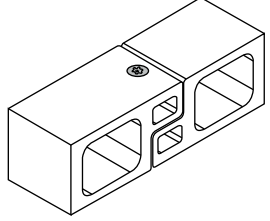


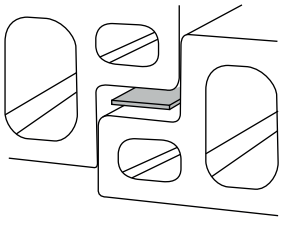
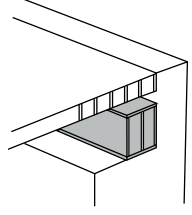
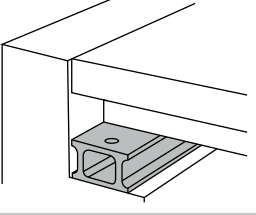
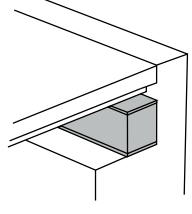
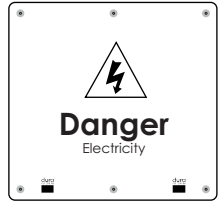
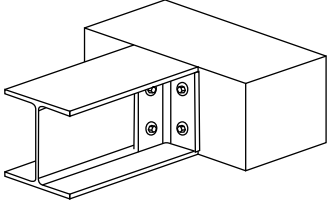
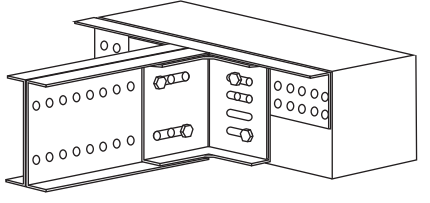
Dura Slab 100mm



Accessories

Dura Composites offers a range of compatible accessories to complete your Trough Cover solution. Many accessories are available from stock, but some are custom manufactured to order, so please ensure you advise us of any accessory requirements at the earliest possible stage. The table below details the available accessory types and their suitability for specific project areas.

Accessory	Image	Suits Trough Cover Product
Lifting Eyes & Keys Supplied as standard to suit typical manual lifting requirements. Requires a traditional lifting key which engages with slots in the cover.		✓ All Solid Covers
Hand Holes Larger lifting eye, so no key is required. Can have an affect on panel integrity due to cut out size.		✓ All Solid Covers
Mechanical Lift Ideal for scenarios where lifting equipment is preferred to reduce the number of personnel required to lift e.g. in the case of heavy covers used in call-out maintenance areas.		✓ Covers deemed too heavy for manual lifting, or to limit number of people required to lift
Access Hatch Hinged covers to offer easier access to utilities without lifting keys.		✓ All Covers
Perimeter Frames Creates rebate for cover to sit on.		✓ All Covers
Cover Retention Used if there is no rebate present to retain cover position.		✓ All Covers
Lockable Panels Used to fix panels together as anti-tamper device. Also removes risk of panel uplift in floods.		✓ Pultruded Solid

Accessory	Image	Suits Trough Cover Product
Rubber Seal Watertight seal helps reduce sound when being walked on.		✓ Pultruded Solid
Packers Light Duty Panels can be built up to finished level in cases of incorrect rebate height. Also suited to refurb projects.		✓ All Covers
Packers Medium Duty Panels can be built up to finished level in cases of incorrect rebate height. Also suited to refurb projects.		✓ All Covers
Packers Heavy Duty Panels can be built up to finished level in cases of incorrect rebate height. Also suited to refurb projects.		✓ All Covers
Badges Used for product identification (normally the cover load rating).		✓ All Covers
GRP Supports Substructure for trench covers to bear onto for large spans, direction changes or cut outs.		✓ All Covers
Steel Supports Substructure for trench covers to bear onto for large spans, direction changes or cut outs.		✓ All Covers

Type

Fixings

We have a large range of fixings and accessories for our GRP product range available from stock. As well as GRP trough covers, our fixings are able to cater for a vast number of GRP Dura Grating applications, such as walkways, step overs, access ramps, footbridges and staircases.



Key Benefits



Single Unit Construction



Cost-Effective Quantities



Suitable For Many Existing Substrates









Suits High Performance Applications





Trough Cover Substrate Fixings

To compliment Dura Composites range of fixing clips, we can also offer a compatible substrate fixing, so you have the full fixing set for your project. Due to the significant variety of substrate conditions, Dura do not hold all of these fixings in stock but will look to supply on a project basis. Here is a range of substrate fixing types we have used on trench cover projects which suit our fixing clips or another Dura accessory.

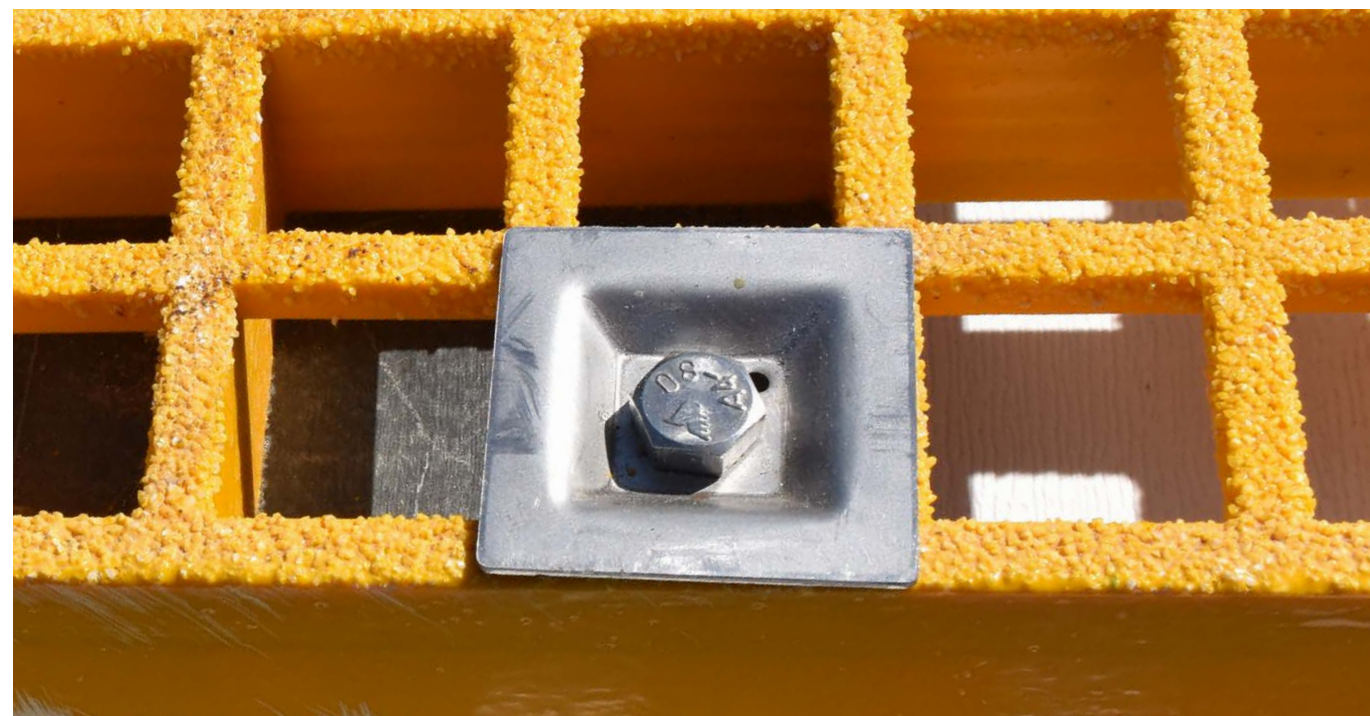
Metal & Polymer Support Fixings

Anchor Type	Fixing Clip Suitability	Comments
Hex Bolt, Nut & Washer 	<ul style="list-style-type: none"> Shallow Recessed Collar Deep Recessed Collar M Clip Square Recessed Clip CAM Cover 	<ul style="list-style-type: none"> Access below is required for tightening the nut. Low cost fitting option to supports. Positive fix arrangement.
Countersunk Bolt, Nut & Washer 	<ul style="list-style-type: none"> Small Dome Washer Large Dome Washer Countersunk Panel Top (Some Dura solid top products only) CAM Cover 	<ul style="list-style-type: none"> Access below is required for tightening the nut. Low cost fitting option to supports. Positive fix arrangement.
Countersunk Self-Drilling Screws 	<ul style="list-style-type: none"> Small Dome Washer 	<ul style="list-style-type: none"> Only suit metal supports. Not recommended for continual removal. Ideal for permanent fixing. Can typically be fixed without access below. Various types are available to suit metal thickness.
Pan Self-Drilling Screws 	<ul style="list-style-type: none"> Large Dome Washer 	<ul style="list-style-type: none"> Only suit metal supports. Not recommended for continual removal. Ideal for permanent fixing. Can typically be fixed without access below. Various types are available to suit metal thickness.
Hex Self-Drilling Screws 	<ul style="list-style-type: none"> Extra Large Dome Washer 	<ul style="list-style-type: none"> Easiest screw to drill into steel. Not recommended for continual removal. Only suit metal supports. Ideal for permanent fixing. Can typically be fixed without access below. Various types are available to suit metal thickness.
Rivit Nut 	<ul style="list-style-type: none"> Small Dome Washer Large Dome Washer Shallow Recessed Collar Deep Recessed Collar M Clip Square Recessed Clip Countersunk Panel Top (Some Dura solid top products only) CAM Cover 	<ul style="list-style-type: none"> Ideal for fixing down covers when the panels need to be removable. Suits metal and polymer support. Requires specialist guns for installation. Available in a range of types to suit all types of metal and polymer thicknesses. Used with Hex, Countersunk or other bolt type.



Concrete Anchor Fixings

Anchor Type	Fixing Clip Suitability	Comments
Throughbolt with Nut 	<ul style="list-style-type: none"> Shallow Recessed Collar Deep Recessed Collar CAM Cover 	<ul style="list-style-type: none"> Generally has quite high minimum edge distance, which can mean a wider rebate width is required than normal. Not the safest when panels are removed, as the anchors stay in position. Lowest cost anchor option.
Threaded Anchor with Bolt 	<ul style="list-style-type: none"> Small Dome Washer Large Dome Washer Shallow Recessed Collar Deep Recessed Collar M Clip Square Recessed Clip Countersunk Panel Top (Some Dura solid top products only) CAM Cover 	<ul style="list-style-type: none"> Varies in minimum edge distance, and allows for flush fit. Requires a setting tool. Safe when covers are removed, as this anchor has to be used with a bolt, which is the removable part.
Resin Anchor with Stud & Nut 	<ul style="list-style-type: none"> Shallow Recessed Collar Deep Recessed Collar CAM Cover 	<ul style="list-style-type: none"> Low edge distance. Requires chemical bond conditions. Not the safest when panels are removed, as the anchors stay in position. Used with Threaded Stud and Nut.
Resin Anchor with Thread 	<ul style="list-style-type: none"> Small Dome Washer Large Dome Washer Shallow Recessed Collar Deep Recessed Collar M Clip Square Recessed Clip Countersunk Panel Top (Some Dura solid top products only) CAM Cover 	<ul style="list-style-type: none"> Low edge distance. Requires chemical bond conditions. Safe when covers are removed, as this anchor has to be used with a bolt, which is the removable part. Used with Hex or Countersunk Bolt.

FX2080 Concrete Screws also available on request.



Dura Grating Fixing Clips

Anchor Type	Fixing	Notes
Dome Washers 		<ul style="list-style-type: none"> Versatile fixing. Direct fix to substrate. Domed shape reduces trip hazard. Cost effective.
Square Recessed Clip 		<ul style="list-style-type: none"> Compatible with 26mm & 38mm d² Standard Mesh. Direct fix to substrate. Recessed design only 1.5mm proud. Square Recessed Clip for 50mm d² Standard Mesh. Small Square Recessed Clip only to be used for 35mm, 45mm and 55mm d² Mini Mesh with a countersunk bolt.
M Clips 		<ul style="list-style-type: none"> Compatible with 26mm & 38mm d² Standard Mesh. BFX01030 Shallow compatible with 17mm hole Mini Mesh. Direct fix to substrate. Recessed design only 1.5mm proud. M Clip for 35mm, 45mm and 55mm d² Mini Mesh available for use with socket cap head bolt or pan head socket screw. Please consult your Dura Composites representative.
Uni-Strut Clamps 		<ul style="list-style-type: none"> Ideal for panel joins. Friction fixing clamp. Used to reduce differential deflection. M8 Bolt Thread compatible. M8 Easyfix style Nut essential.
Channel Clamp 		<ul style="list-style-type: none"> Friction fixing clamp. Structural panel join. Used where direct substrate fitting with Bolt/Screw is not permitted. M8 Bolt Thread compatible. M8 Square Nut essential.
Jaw Clamp 		<ul style="list-style-type: none"> Friction fixing clamp. Used where direct substrate fitting with Bolt/Screw is not permitted. Does not require tightening from underneath. M8 Bolt Thread compatible. M8 Square Nut essential. Suited for galvanised steel frames to avoid drilling through the framework. Fit J Clamp approx 20mm from the underside of the steel frame - do not fix the whole arm. J Clamps can be used in conjunction with either large Dome Washers or Square Recess Clips.

Fixings Product Selector

The fixings product selector tables below allow you to easily see the most suitable fixings for your chosen GRP product. If you need further advice or support, please contact your Dura Composites representative on 01255 440 290. Please see page 16 for the images for the Fixings.

Open Mesh Fixing Clips

Dome Washers

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
S	x	x	x	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	x	x	✓	✓	x	x	x	x	x	x
L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
XL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Square Recessed Clips

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
S	✓	✓	✓	✓	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

M Clips

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
L	✓	✓	✓	✓	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Uni-Strut Clamps

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Channel Clamp

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Jaw Clamp

	Standard					Mini				Solid			Pultruded I & T 40%			Pultruded I & T 60%			Pultruded Flat 40%				Pultruded Flat 60%			
	26	38	50	50HD	63HD	22	35	45	55	29	41	53	38	50	63	38	50	63	38	50	63	100	38	50	63	100
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Solid Top Fixing Clips

Dome Head Clips



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
S	✓	✓	✓	✓	✓	✓	✓
L	✓	✓	✓	✓	✓	✓	✓
XL	✓	✓	✓	✓	✓	✓	✓

Uni-Strut Clamps



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	✓	✓	✓	x	x	x	x

CAM Covers



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	x	x	x	x	✓	✓	✓

Channel Clamp



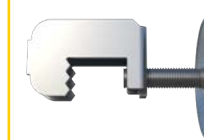
	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	✓	✓	✓	x	x	x	x

Deep Recessed Collar



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	x	x	x	x	x	✓	✓

Jaw Clamp



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	✓	✓	✓	x	x	x	x

Shallow Recessed Collar



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	✓	✓	✓	x	✓	✓	✓

J Clamp



	d² Solid			Pultruded			
	29	41	53	45	50	75	100
	✓	✓	✓	✓	✓	✓	✓



Trench Cover Loading Requirements:

BS EN 124

The loading application should be the first thing you look for when purchasing a trench or gully cover for your Energy Production or other Industrial facility. For reasons of suitability and safety, it is crucial that you select the right cover for the job. The applicable British Standard in the UK for access covers and gully grates is BS EN 124. This standard divides access covers and gully grates into a number of classes by static load test and categorises the various places where they may be installed from least demanding environments to most demanding environments. It provides guidance on the minimum class to be used against each installation group.

BS EN 124 has four main load classes which apply to manholes, catchpits, service trenches, road gullies, and service duct drawpits in normal circumstances. The classification denotes the test load expressed in kN. With an innovative design that can include either manual lifting eyes or mechanical lifting arms, the trench cover lids can meet the needs for straight sections, curved sections, right angles and Ts and have an excellent strength to weight ratio.

Key Benefits:

- Reduction in transport, machinery, time and labour vs. pure concrete lid solutions.
- Lids available in a diverse range of open mesh and solid options to meet differing load requirements.
- Cover lids and troughs available from a single source for convenience and time saving.
- Trench cover lids suitable for single person lift and install, in compliance with manual handling regulations.
- Concrete troughs and composite lids expressly designed to work together.
- Reduction in transport, machinery, time and labour versus pure concrete lid solutions.



Group 1 – minimum Class A15

Access covers and gratings capable of withstanding a 15kN test load. For use in areas where only pedestrians have access.



Group 2 – minimum Class B125

Access covers and gratings capable of withstanding a 125kN test load. For use in pedestrian areas where only occasional vehicular access is likely.



Group 3 – minimum Class C250

Access covers and gratings capable of withstanding a 250kN test load. For use in industrial sites and areas with slow moving traffic.



Group 4 – minimum Class D400

Access covers and gratings capable of withstanding a 400kN test load. For use in areas where cars and lorries have access, including carriageways and pedestrian areas. All units must be either non-rocking or silent in operation.

Access Covers and the FACTA Standard:

The Fabricated Access Cover Trade Association (FACTA) standard is a recognised standard for steel access covers and frames. Under the FACTA standard fabricated manhole covers and access covers are graded by different loading applications, ranging from class A to F. As highways and carriageways are not listed in the typical applications of the FACTA standard, products rated by it are limited in use to certain areas and applications.

The main difference between BS EN 124 and FACTA is that BS EN 124 calculates the dynamic vehicle loading for fast moving traffic, to ensure that material types are rated against the highest possible installation requirements, whilst FACTA focuses its calculations on fabricated covers which are normally restricted to use in 20mph speed limit areas. For this reason, BS EN 124 and FACTA classifications cannot be directly compared with each other. Further information on the FACTA standard can be obtained by contacting the 'Fabrication Access Cover Trade Association'.

Dura Composites Testing Capability

Unlike any other manufacturer, Dura Composites has invested extensively in testing in order to best understand our products at (or near to) their performance capacity, so you can ensure that you specify the correct product for your project load and span requirements. We have completed extensive testing using UKAS accredited laboratories to comply with BS EN 124 as well as completing supplementary in-house testing, using our fully calibrated test facility.



We are able to offer specifiers, users, contractors and merchants comprehensive technical support from our experienced sales and structural engineering experts, as well as access to our industry-leading online product selector tool. If you have any doubt about the potential loads your trench cover may need to withstand, you should always opt for a higher rating. It is far better to over-estimate than under-estimate the loading requirement.

Product	FACTA								EN124			
	A	AA	AAA	B	C	D	E	F	A	B	C	D
Moulded Dura Grating												
d² Dura Grating 26mm Standard Mesh (Light Duty)	600	300							600			
d² Dura Grating 38mm Standard Mesh (Light Duty)	1150	600	400						1150			
d² Dura Grating 50mm Standard Mesh (Light Duty)	1500	1150	700						1500			
Dura Grating 50mm Standard Mesh (Heavy Duty)	2000	1500	1150	900	730				2000	730		
Dura Grating 63mm Standard Mesh (Heavy Duty)	2100	1600	1300	1000	900				2000	900		
d² Dura Grating 23mm Mini Mesh (Light Duty)	500								500			
d² Dura Grating 35mm Mini Mesh (Light Duty)	800								800			
d² Dura Grating 45mm Mini Mesh (Light Duty)	1150	600	300						1150			
d² Dura Grating 55mm Mini Mesh (Light Duty)	1500	1150	600						1500			
d² Dura Grating 23mm Micro Mesh (Light Duty)	500								500			
Moulded Dura Grating Solid Top												
d² Dura Grating 29mm Solid Top	1150	600	300						1150			
d² Dura Grating 41mm Solid Top	1800	1500	1150						1800			
d² Dura Grating 53mm Solid Top	1900	1700	1150						1900			
Dura Grating 53mm Solid Top	2000	1500	1150	900	730				2000	730		
Pultruded Open Mesh Dura Grating												
38mm I-Beam - 10mm Open Hole Size (Light Duty)	1700	1300							1300			
38mm I-Beam - 23mm Open Hole Size (Light Duty)	1600	1150							1600			
50mm T-Beam - 10mm Open Hole Size (Light Duty)	1800	1400							1800			
50mm T-Beam - 23mm Open Hole Size (Light Duty)	1700	1250							1700			
63mm T-Beam - 10mm Open Hole Size (Light Duty)	1900	1500							1900			
63mm T-Beam - 23mm Open Hole Size (Light Duty)	1800	1400							1800			
38mm Flat Beam - 10mm Open Hole Size (Heavy Duty)	2100	1600	1300	400	600				2000	900		
38mm Flat Beam - 23mm Open Hole Size (Heavy Duty)	2000	1500	1150						2000	730		
50mm Flat Beam - 10mm Open Hole Size (Heavy Duty)	2000	1800	1500	1500	1200				2000	1200		
50mm Flat Beam - 23mm Open Hole Size (Heavy Duty)	1800	1600	1300	1200	1000				1800	1000		
63mm Flat Beam - 10mm Open Hole Size (Heavy Duty)	2500	2300	2000	1500	900	1200	600		2500	1200	600	
63mm Flat Beam - 23mm Open Hole Size (Heavy Duty)	2300	2000	1700	1600	1200					1200	600	
100mm Flat Beam - 10mm Open Hole Size (Heavy Duty)	4000	3200	3100	3000	2700	1500	1380	700	4000	3000	1380	700
100mm Flat Beam - 23mm Open Hole Size (Heavy Duty)	3600	2800	3200	2800	1380	1200	700		3600	2500	700	
Pultruded Dura Slab												
Dura Slab 45mm (Light Duty)	2000	1500	1000						2000			
Dura Slab 50mm (Medium Duty)	2000	1800	1500	1200	1200				2000	1200		
Dura Slab 100mm EasyLift (Medium Duty)	3500	2300	2000	2500					3000	1900		
Dura Slab 75mm (Heavy Duty)	2500	2300	2000	2000	1500	1200			3000	1900	1200	
Dura Slab 100mm (Heavy Duty)	4000	3200	3100	3000	2700	2300	700		4000	3000	2300	600

All clear span data values shown in millimetres.

Key: ● Estimate ● Live Test

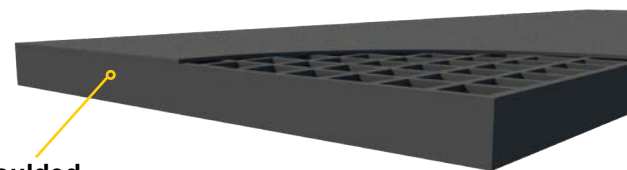
How to Correctly Specify GRP

At Dura Composites, our aim is to provide accurate information to architects, engineers, specifiers, and owners to assist them in the planning and preparation of specifications and designs. We also offer technical support regarding the selection and installation of GRP Trough and Trench Covers, including site visits where appropriate. It is the responsibility of the purchaser to ensure that the full range of duties to which the item may be exposed are carefully considered at the design stage to ensure correct performance and that the manufacturer's recommended installation technique is adhered to at all times.

Recap of the Advantages of GRP

GRP has two main advantages over traditional materials – firstly a high degree of environmental resistance which requires less maintenance than conventional materials offering reduced running costs over the life of the item. Secondly, GRP is lightweight when compared to other materials, which reduces its installation costs and, in many cases, the cost of supporting structures.

Dura's GRP Trough and Trench Covers are available in both moulded and pultruded formats and the choice of which to use is dependent on the load and span required for the application.



Moulded
Typically used for Pedestrian Covers.



Pultruded
Typically used for Vehicular Covers.

Comparing the Weights of Covers from Dura Composites Versus Competitor Suppliers:

The comparison table below shows the huge variance in cover weights between Dura Composites (DC) and the next most popular GRP cover supplier* and highlights that the alternative supplier has 6 out of 8 cover scenarios which fall outside of the cover weight recommended by National Grid.

Trough	Load	Dura Cover Size	Other Cover Size	Clear Span	Dura Cover	Other Suppliers	Comments
600	B125	734x500x50	734x500x50	630	13kg	18kg	Both within limit
	C250	734x500x75	734x500x100		29kg	35kg	OS - Over limit
750	B125	929x500x50	929x500x50	830	16kg	22kg	Both within limit
	C250	929x600x75	929x500x100		36kg	44kg	Both over limit, DC lighter
1000	B125	1204x475x50	1204x500x100	1105	21kg	57kg	OS - Over limit
	C250	1204x600x75	1204x500x150		47kg	85kg	Both over limit, DC much lighter
1250	B125	1469x475x50	1479x500x150	1330	26kg	104kg	OS - Over limit by a large margin
	C250	1479x600x75	1479x500x150		58kg	105kg	Both over limit, DC much lighter

* Further details of competitive supplier provided on request.

Four out of the eight cover comparisons above also show a significant weight difference, sometimes of more than 50%! Heavier covers mean longer install times and more labour is required for each individual cover and there is the risk of personnel lifting beyond the recommended limits. Heavy covers can also be difficult to offload and manoeuvre around the project site which can lead to delays to project delivery times.

Dura Composites' covers can be supplied with mechanical lifting aids to keep labour costs to a minimum if regular access is required to the trench or trough, but this is not an option usually offered by competitors, so do be sure to discuss with us at an early stage of your project enquiry.

Things to Avoid to Ensure Long Term Performance

Bonded Covers

Some other suppliers only utilise moulded GRP technology for their trench covers and therefore must bond pieces together on top of one another to achieve the required loads and spans for vehicular rated covers.



Dura Composites does **NOT** supply bonded covers – and only supplies machine produced vehicular rated covers, for the following reasons:

- The latest standard for Trench Covers (BS EN 124-5 2015) stipulates that covers are produced using controlled automatic processes to a single cell structure. Manually bonded and stacked covers would not comply with this requirement.
- Manual bonding of covers is subject to human error. Bond preparation is key to secure adhesion and the covers are therefore prone to failure if proper preparation is not followed.
- Bonded covers are often not batch tested as part of the quality inspection on site.
- Bonded covers may consist of items from different manufacturing runs or facilities and therefore the individual components could vary wildly in manufacture quality.

Cutting Covers

Although the cutting of GRP is generally acknowledged to be straight-forward, appropriate cutting equipment is required, including specialist blades. In the example shown here, a competitor's product has been incorrectly cut on site without the correct equipment, resulting in an extremely poor finish which is likely to affect the long term performance of the cover.



Double and triple bonded covers (which are not recommended by Dura Composites as a suitable Trench Cover solution) are even more difficult to cut and require non-standard disc cutting machines, which can be expensive to hire. On-site cover cutting can be avoided by ensuring that any required cuts are completed off site in factory conditions by a GRP Fabrication specialist.

Beware of trench cover suppliers who do not fabricate covers to suit the pre-cast/insitu transition pieces (3 & 4 Way Tees, 45° and 90° - to suit the utilities requirements) and who do not include the necessary lifting points as part of the cover design. If your chosen supplier suggests supplying oversized covers for cutting on site, you should re-evaluate your project requirements and consult an alternative supplier such as Dura Composites for a second opinion. We are always happy to advise or conduct a site visit to assist.

Ideal Specification

Dura Composites is an acknowledged GRP Fabrication expert and therefore Dura's straight and transition cover pieces can be easily supplied for all projects. Dura Composites' tried and tested method is to supply the straight cover units first, and once these are installed, the remaining openings for the transition pieces are measured. Dura Composites then supplies covers already fully fabricated to size, to account for site and product tolerances and including compulsory lifting points – thereby removing all site cut difficulties and extra cost.

All of Dura Composites GRP Trough Covers and Trench Covers are held in stock at our East Anglian HQ. This can be extremely useful should changes arise or fresh challenges present themselves. Alternative suppliers will typically have a +12 week long lead for even a small quantity, but this is not the case with Dura Composites thanks to our large stockholding.





Pultruded Dura Grating's innovative design offers clear views of cabling in the trenches below and great efficiency for high loads at large spans.

Converter Station

Case Study

Open Mesh, Dura Grating and Solid Top Dura Slab Trench Covers

Converter Station

Chilling, Hampshire, United Kingdom.

The IFA2 project aims to connect the electricity systems of Great Britain and France using high voltage subsea cables and will be capable of exporting or importing 1000MW of power between the UK and France, enough to power up to 1 million homes. It is currently scheduled to be commissioned in early 2021.

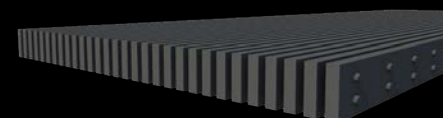
Contractor Morgan Sindall was appointed to design, build and commission the new converter station and chose to work with Dura Composites to provide safe and accessible composite covers for multiple utility trenches.

Dura Composites specialise in the design,

supply, fabrication and installation of advanced Glass Reinforced Polymer (GRP) components and have a wealth of experience in the Power & Energy Sector.

In this project, our open mesh and pultruded **Dura Grating** proved the ideal trench cover alternative for heavy steel and concrete. Our ingenious mechanical lifting system eliminated the need for heavy plant machinery whilst ensuring accessible inspection at all times.

With a large variety of trenches which varied in load, span and ventilation requirements, we were able to provide extensive design support to ensure that the resulting covers



met the required load ratings. A combination of moulded open mesh, pultruded open mesh and pultruded solid Dura Grating products were used, often within the same trench run.

Bespoke colour coding was employed to visualise the different load ratings - and all design work was all backed up by our unrivalled real-world test data.

For help and technical support with your substation or converter station project please call Joe Hunt on +44 1255 440290 or email info@duracomposites.com.

Dura Composites is your Unique Start-to-Finish Single Source Supply Partner

Why were Dura Composites' products so appropriate for this project?

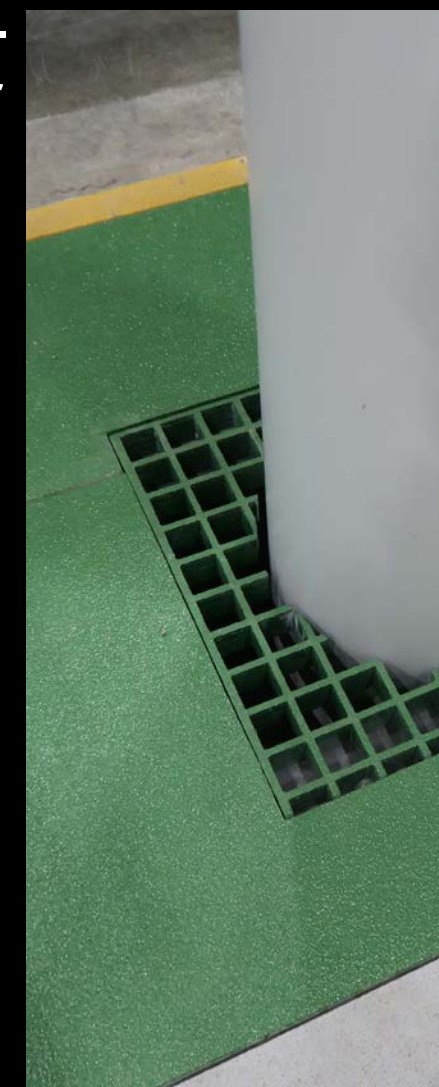
Helped the client achieve vast savings on the materials, programme and installation cost versus a hybrid steel-concrete trench cover solution.

The use of pultruded Dura Grating offered superb efficiency for high loads at large spans. When used in conjunction with the other trench cover options in the Dura Composites portfolio, we were easily able to meet the varied required load ratings of 0.65t, 6.9t, 5t, 10t & 12.5t of the different trenches.

Multiple Dura Grating products were able to integrate seamlessly within the same trench run to meet the client's bespoke requirements for ventilation and colour coding.

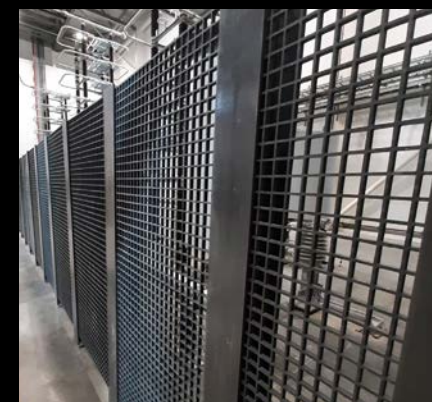
Covers could be fitted with Dura designed mechanical lift points to enable two people to remove the covers instead of four - to ensure efficient future inspection, repairs or cable replacement.

The gritted anti-slip surface is safe for all converter station personnel to walk on and help improve overall site safety.



GRP is an appropriate material for electrical applications in demanding environments as it is non-conductive, non-sparking and virtually maintenance free. Dura Composites provided wide-ranging project support and was able to adapt its products to account for the design changes needed for the cut outs.

Other Dura Composites GRP solutions employed at this converter station project include:



Fencing:
Internal utility safety fencing for the AC/DC hall areas.



Stairs:
Plant access up & over stairs to bund and building areas.



Handrailing:
Ramp building access with key clamp handrailing.

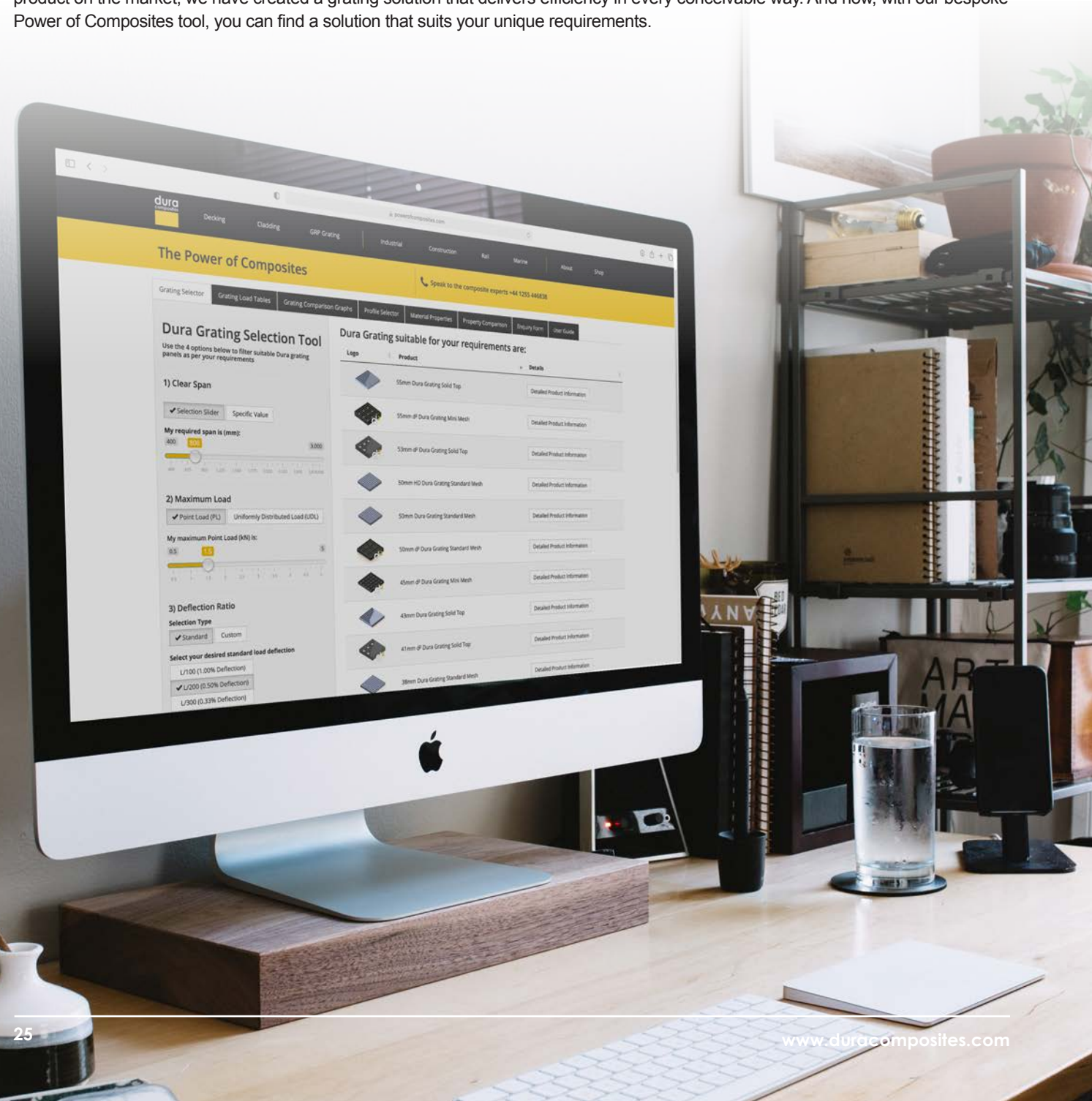
Make Data-Driven Decisions >>

Dura Composites now offers an advanced composite materials data analysis tool – to help you get the most from your next GRP project. In a few clicks, you'll be able to explore our range of tools and technical information, helping you specify composite GRP Grating and GRP Profile products with ease – based on your application's specific technical requirements.

What does the Power of Composites mean for your business?

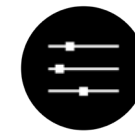
At Dura Composites, we believe that composite materials can revolutionise every industry – and we want our customers to be part of that journey. We want to help you unlock the power of composites and discover a new way of doing business; a way that leaves the traditional ways behind, and opens the door to the 21st Century way of building.

Our complete range of highly-engineered GRP floor grating takes structural flooring to the next level. With an unbeatable anti-slip surface – tested to 1 million footfalls – a leading Class B fire rating, and a better strength-to-weight ratio than any other composite product on the market, we have created a grating solution that delivers efficiency in every conceivable way. And now, with our bespoke Power of Composites tool, you can find a solution that suits your unique requirements.



What does the Site Feature?

Say goodbye to lengthy technical datasheets, protracted quotes, and sub-par results. Welcome to the future of composite grating. With this one, seamless tool, you are able to input your precise requirements and receive a bespoke GRP grating product to match, complete with market-leading data feedback so you can see the difference for yourself.



GRP Grating Selection Tool

Create a list of grating products that meet your exacting criteria. Adjust the Load, Deflection and Fire Rating parameters accordingly; export detailed information such as Product Variations, Product Dimensions and Full bar guide.



Create Bespoke Grating Load/Deflection Tables and Graphs

Select product and options to display customised information in downloadable assets to back up your specification. Adjust the load and span range and interval to create your very own dynamic load and deflection table.



Grating Comparison Graphs

Compare the performance of grating panels against one another using a graphical format. Set Load Type between Point Load (PL) and Uniformly Distributed Load (UDL) then select an unlimited amount of products to compare.



Profile Selector

Understand the performance of GRP profiles in comparison to traditional materials, for example using GRP instead of timber, steel or aluminium. Understand the specification and suitability of a product based on your intended application.



Material Properties

The material data reported has been compiled to allow engineers and specifiers to quantify the material properties with those contained within specifications.



Property Comparison

A visualisation of the difference between various properties for traditional materials versus our products. The values quoted are for representation only and are typical within the range of values for the given material.

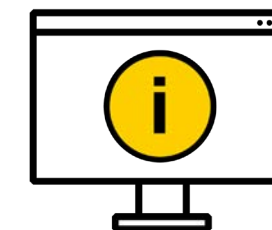
So what are you waiting for? Unlock the Power of Composites and discover the Dura difference for yourself.



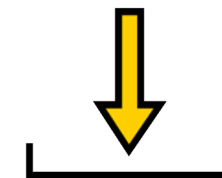
1. Register



2. Insert Specifications



3. Get Product Recommendations



4. Download Technical Data

Visit www.duracomposites.com/powerofcomposites today



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