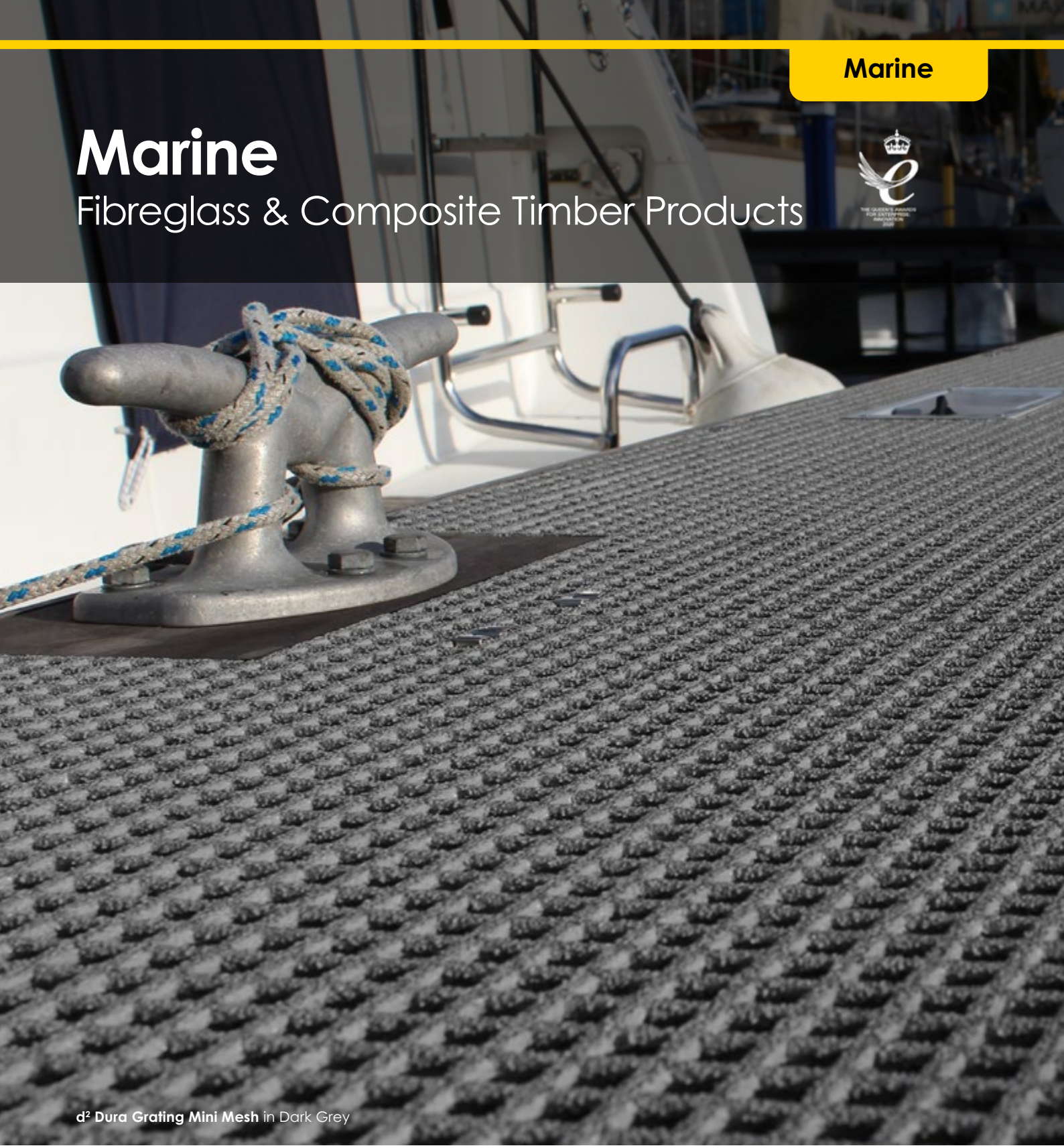
Marine

Fibreglass & Composite Timber Products



d² Dura Grating Mini Mesh in Dark Grey

High-performance GRP grating, duct covers, fenders, ladders, handrailing and structures featuring unique technology and manufacturing methods. For Ports, Marinas, Shipping, Aquaculture, Piers and Promenades.

Unlocking the Power of Composites™
» for the Marine Industry

dura™ composites

Contents

About Us d^2

Discover the d^2 product range from Dura Composites - the next generation of performance-improving composites. Available exclusively from Dura Composites, d^2 products feature unique designs, new material technology or manufacturing methods AND deliver class-leading performance.

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

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 materials.

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 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 Composites for your Marine Project?

Advanced Product Performance

Composites have been around since the 1930s, and were first developed for use within boat hulls, plane fuselages and wings. Today's composites are used in a wide range of solutions from bridges to oil rigs and water slides to drum sets, and the design possibilities are vast.

One of the most popular emerging composites of the past 40 years has been Glass Reinforced Polymer (also known as GRP or fibreglass), which is a resin-based composite that's reinforced with a glass fibre. Dura Composites has a proven track record in supplying innovative GRP solutions for a variety of marine and leisure projects across the globe –including open mesh grating, duct covers and safety access ladders. For marine and waterside environments that are more tailored to leisure users, we also offer a composite timber decking solution known as Dura Deck®. Dura Deck® is manufactured from a combination of recycled plastics and hardwood waste and is an immensely versatile material which combines the traditional appearance of timber with the durability of an engineered composite.

Both product ranges (GRP Dura Grating and Composite Timber Dura Deck®) require no painting or treating over their long lifetime and in many cases are suitable for new build projects, or as a replacement for degraded timber decking where safe anti-slip qualities are required, thanks to their proven ability to withstand the harsh side effects of marine conditions better than traditional materials. Our knowledgeable team have decades of experience in the industry and are available now to discuss your project on 01255 440297.

Built-in Sustainability

It's not just the initial outlay costs that you should consider when deciding on a material for your project. It's important to consider the whole lifecycle of the material and all its associated costs, including installation, how long it will last and what kind of maintenance (if any) it will require to keep it functioning and looking it's best.

In marine environments, Dura Grating is algae resistant and low maintenance, making it not only one of the safest, but also one of the most cost effective marina walking surfaces on the market. Available in Standard, Mini and Micro Mesh each offering varying hole sizes to suit the environment in which it is laid, the unique patent-pending design of Dura Composites's d^2 grating offers improved light transmittance to support the needs of diverse marine life.

Dura's GRP products offer considerably low life cycle costs due to their maintenance free, corrosion resistant and impact resistant characteristics compared with traditional materials. They also have a design life in excess of 60 years and a reassuring 25 year product warranty.

Even after the products have been used for their intended purpose and reach the end of their lifecycle in the original context, they can be up-cycled or repurposed in other ways. We are happy to advise all customers on their specific scenarios.

Varying hole sizes allow **light transmittance** to support marine life

d^2 Dura Grating Mini Mesh in Dark Grey

Key Benefits

Anti-Slip Surface

Saves Time

Saves Money

Long Lifecycle

Non Corrosive

Product

GRP Grating

Dura Grating

Commercial ports, RNLI stations, working harbours and many marinas require structural grating walkways with heavy duty capabilities that are designed to resist greater forces than standard leisure pontoon equipment. Safe and level walkways should be provided in all areas where pedestrian traffic such as ship crew members, pilots, passengers and contractors have cause to walk, as well as in areas where trolleys and servicing equipment may regularly need to travel.

Made from Glass Reinforced Polymer (GRP, also known as fibreglass), our d^2 Dura Grating features a unique design and advanced manufacturing methods that can't be found anywhere else. The anti-slip surface is tested to withstand even the wettest, oiliest and iciest conditions, thus ensuring a safe and highly durable walkway that allows access throughout the year. Incredibly, the low slip potential of the surface has been rigorously tested and proven to reduce by a mere 5% after 1.1 million footfalls.

Dura Grating's load capacity is extremely high and it also provides excellent impact resistance and exceptional traction on walkways subject to tidal inclines. It is available in standard open mesh, mini mesh and micro mesh variants and also with a solid top finish for applications where maximum strength and no light transmittance are required.

Ideal for **heavy duty** applications

Dura Grating and d² Dura Grating Product Range

In 2020, following years of research, prototyping and extensive design and testing, the Dura Grating range was enhanced with the launch of d² Dura Grating. d² Dura Grating offers a unique patent-pending design that can't be found anywhere else and delivers an outstanding performance to weight ratio. The design allows for easier manual handling on-site, increasing safety and the speed of installation. The high specification composition is proven to retain 95% of its low-slip potential, even after an astonishing 1 million footfalls (in accordance with BS7676). A helpful Technical Installation Manual is available from your Dura Composites representative.

Applications

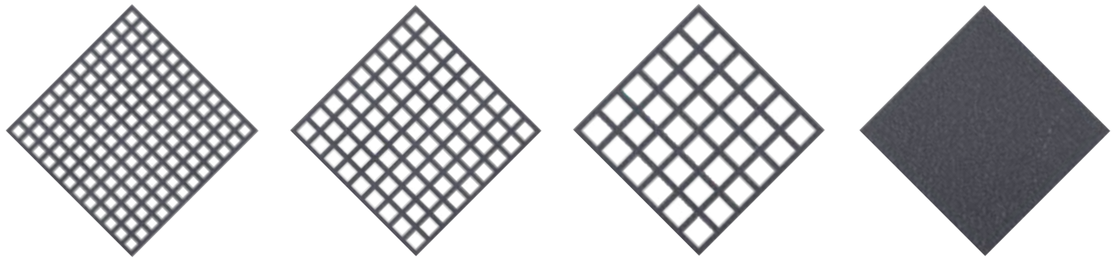
- Pontoons & Jetties Boardwalks
- Balcony Decking
- Patios
- Public Areas
- Roof & Garden Terraces
- Yacht Clubs

Features

- Natural Wood Look and Feel
- Concealed Fixings
- Doesn't Rot, Splinter Or Warp
- UV Colour Stable
- Recycled Content
- Anti Slip Surface
- Water Resistant

Benefits

- Ideal Wood Replacement
- Barefoot Friendly
- Minimum 10 Year Warranty
- Looks Fresh For Years
- Environmentally Friendly
- Prevents Slips, Trips and Falls
- Suits Wet Environments



Micro Mesh | Mini Mesh | Standard Mesh | Solid Top

Product	Weight (kg/sqm)	Open Mesh Size (mm)	Max Span (mm) at 1.5kN Point Load
Dura Grating Micro Mesh			
d² Dura Grating Micro Mesh 23mm	11.5	10.5 x 10.5	660
Dura Grating Mini Mesh			
d² Dura Grating Mini Mesh 23mm	11.1	13 x 13	630
d² Dura Grating Mini Mesh 35mm	13.2	19.5 x 19.5	1590
d² Dura Grating Mini Mesh 45mm	15.3	19.5 x 19.5	2210
d² Dura Grating Mini Mesh 55mm	19.0	19.5 x 19.5	2500
Dura Grating Mini Mesh 30mm	18.1	13 x 13	1200
Dura Grating Mini Mesh 38mm	22.0	13 x 13	2110
Dura Grating Standard Mesh			
d² Dura Grating Standard 26mm	10.3	32 x 32	860
d² Dura Grating Standard 38mm	13.2	31 x 31	2500
d² Dura Grating Standard 50mm	15.7	28 x 28	2770
Dura Grating Solid Top			
d² Dura Grating Solid Top 29mm	16.7	None	1450
d² Dura Grating Solid Top 41mm	21.09	None	2100
d² Dura Grating Solid Top 53mm	22.9	None	Full Panel

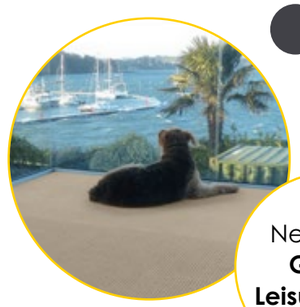
Load data based on deflection of L/100 using a point load of 1.5kN.

Single span simply supported and unfixed.

Micro Mesh

Dura Composites NEW Micro Mesh GRP grating features an anti-slip surface with a new finer grit which is ideal for water sports facilities and other recreational areas. The 10.5mm x 10.5mm open mesh prevents virtually all objects from falling through and is suitable for a wide range of footwear and sporting equipment.

d² Dura Grating Micro Mesh is available in Dark Grey as standard, with Sand and other colours available as special order. Minimum order quantities apply. If your project requires access ramps, 23mm Micro Mesh can be easily combined with other heavy grit products in the range.



New **Finer Grit** for **Leisure Users**

d² Dura Grating Micro Mesh					
Product	**Length (mm)**	**Width (mm)**	**Weight (kg/sqm)**	**Open Mesh Size (mm)**	**Max Span (mm) at 1.5kN Point Load**
23mm	3042	1041	11.5	10.5 x 10.5	660
	4076	1300			
	4076	1560			

Load data based on deflection of L/100 using a point load of 1.5kN.

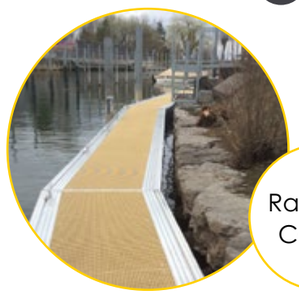
d² Dura Grating Micro Mesh in Dark Grey, on a watersports jetty

Mini Mesh

Dura Composites Mini Mesh GRP grating has all the benefits of our standard Dura Grating but with a smaller open mesh area.

The smaller openings of our Mini Mesh Dura Grating prevents small objects from falling through, and complies with BS EN14122 Category B and the European 20mm Ball Falling Test requirement.

Mini Mesh Dura Grating is available in Dark Grey, Sand, Light Grey, Green and Teak colours and in a variety of thicknesses. For further information please refer to the table below.



Range of Colours

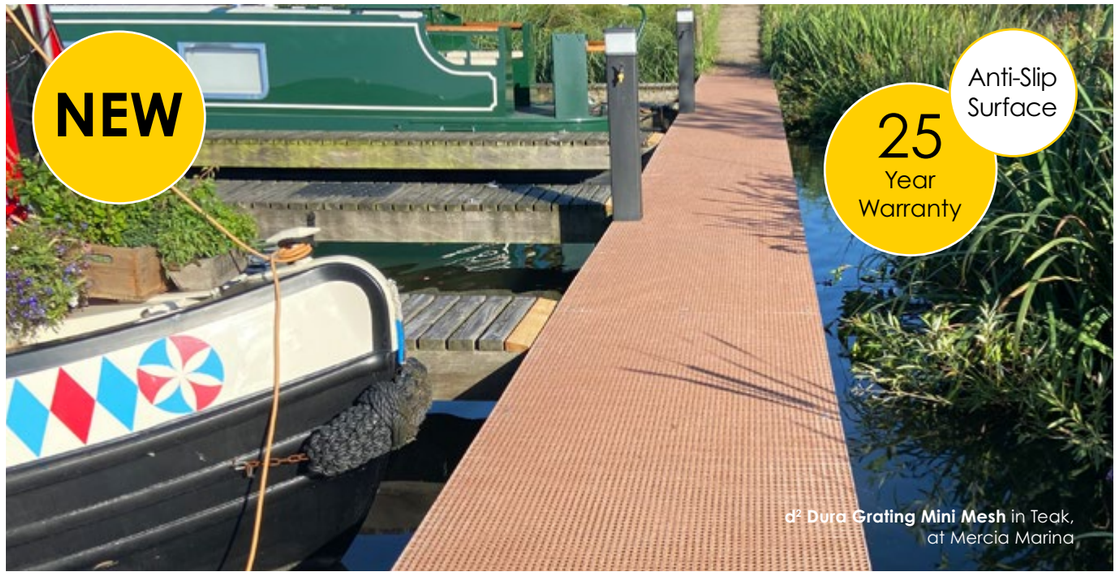
d² Dura Grating Mini Mesh

Product	Length (mm)	Width (mm)	Weight (kg/sqm)	Open Mesh Size (mm)	Max Span (mm) at 1.5kN Point Load
23mm	3012	1029	11.1	13 x 13	630
	4033	1269			
	4033	1511			
35mm	3030	1041	13.2	19.5 x 19.5	1590
	3667	1200			
45mm	3030	1041	15.3	19.5 x 19.5	2210
	3667	1200			
55mm	3030	1041	19.0	19.5 x 19.5	2500
	3667	1200			

Dura Grating Mini Mesh

Product	Length (mm)	Width (mm)	Weight (kg/sqm)	Open Mesh Size (mm)	Max Span (mm) at 1.5kN Point Load
30mm	3007	1007	18.1	13 x 13	1200
	4047	1007			
	4047	1247			
38mm	3007	1007	22.0	13 x 13	2110
	4047	1247			

Load data based on deflection of L/100 using a point load of 1.5kN.



d² Dura Grating Mini Mesh in Teak, at Mercia Marina

The Rothen Group

Mancetter MARINA

d² Grating Mini Mesh Grating in Light Grey

Case Study

d² Dura Grating Mini Mesh

Mancetter Marina

Mancetter, Antherstone, United Kingdom.

Anti-slip, safe and durable d² Dura Grating was recently selected for the new Mancetter Marina in North Warwickshire. This beautiful rural setting has a 60-berth capacity and opened to the public in October 2020.

The remarkable design draws extensively on the expertise of local ecologists who advised on the careful balance of hard and soft engineering to create infrastructure that would provide practical longevity whilst maintaining the rural feel of the space.

The unique bowl-like shape of the marina required the use of specialist machinery and lightweight materials to carry out work on the site. Experts in marina repair, marina maintenance and waterfront marine construction The Rothen Group were able to utilise their adapted fleet to build-in the necessary stability for the marina's structures.

Whilst traditionally jetties have been made from sheet piles and timber walkways, these degrade over time - and as the timber walking surface rots, it results in hazardous walking conditions for marina users.

In this project, The Rothen Group opted to deploy the latest innovation in GRP grating technology to deliver the safest, most cost-effective, user-friendly and aesthetically pleasing jetties on the marine market, by using NEW mini mesh d² Dura Grating made from Glass Reinforced Polymer (GRP) as the walking surface.

If you're looking for high specification jetty materials to safeguard the wellbeing of marina users, why not get in touch?

Standard Mesh

Our Standard Mesh GRP grating is most suited for use within commercial marine applications as a walkway or slipway solution to help minimise the risk of slips or falls.

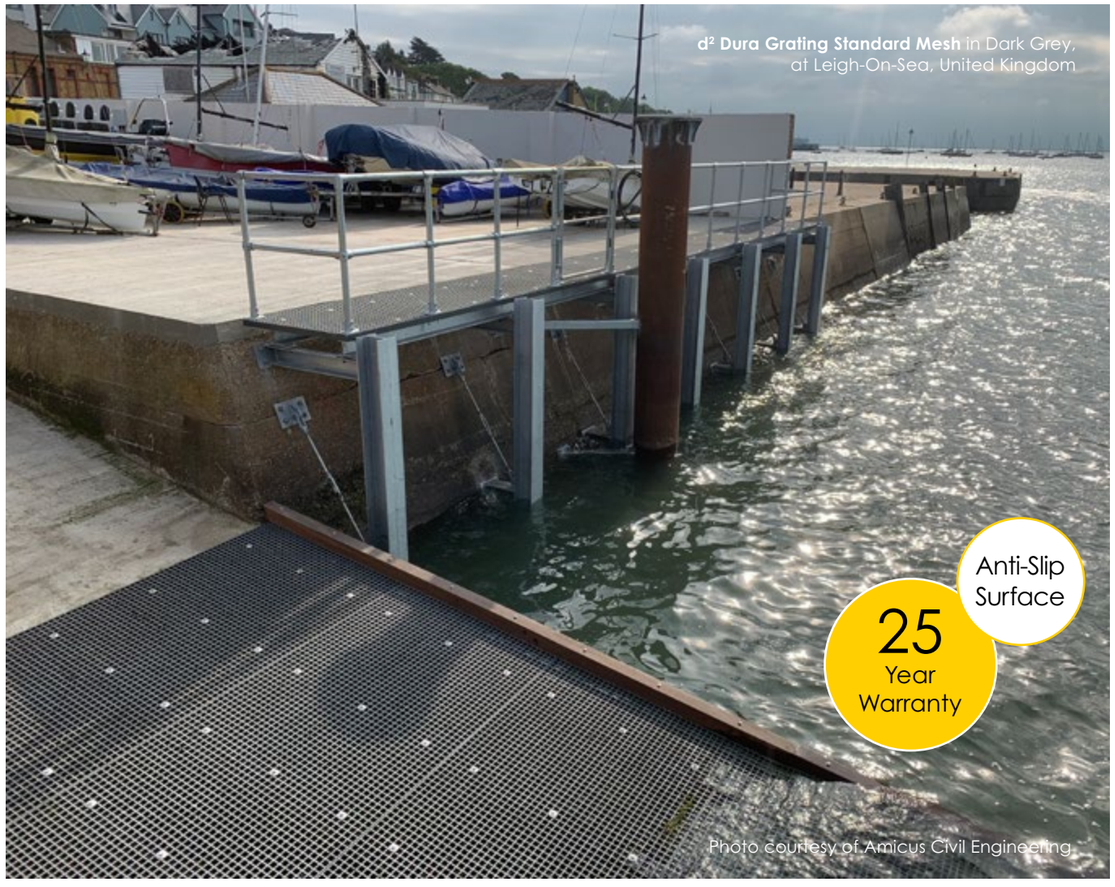
Dura Grating Standard Mesh is available in Dark Grey, Yellow, Green or Light Grey as standard, and our most popular grating thicknesses are 26mm, 38mm and 50mm. The uniform construction of Dura Grating provides excellent bi-directional mechanical properties.

Standard Dura Grating is light, strong and non corrosive and can be supplied with a full range of stainless steel clips, clamps and hold down fixings to suit all situations.

d² Dura Grating Standard Mesh

Product	Length (mm)	Width (mm)	Weight (kg/sqm)	Open Mesh Size (mm)	Max Span (mm) at 1.5kN Point Load
26mm	3043	993	10.3	32 x 32	860
	3669	1239			
38mm	3054	996	13.2	31 x 31	2500
	3664	1224			
50mm	3052	1057	15.7	28 x 28	2770
	3682	1267			

*Phenolic available in select sizes. Load data based on deflection of L/100 using a point load of 1.5kN.



d² Dura Grating Standard Mesh in Dark Grey, at Leigh-On-Sea, United Kingdom

Photo courtesy of Amicus Civil Engineering

Solid Top Grating

Dura Composites Solid Top GRP grating is lightweight with an extremely good anti-slip walking surface, suitable for wheeled trolleys or equipment often used in loading and storage areas.

One of the key benefits of Solid Top grating is the exceptional breaking strength under lateral force. The uni-directional continuous fibreglass reinforcement offers numerous advantages including rigidity, shock resistance, with no permanent deformation after overloading. These factors provide excellent mechanical strength and safety in marine environments.

Solid Top Grating is available in Dark Grey and Light Grey. See the below table for our available thicknesses.

Suits all **footwear types** in commercial applications

d² Dura Grating Solid Top

Product	Length (mm)	Width (mm)	Weight (kg/sqm)	Open Mesh Size (mm)	Max Span (mm) at 1.5kN Point Load
29mm	3699	1239	16.7	None	1450
	3043	993			
41mm	3663	1224	21.09	None	2100
	3054	996			
53mm	3682	1267	22.9	None	22.9
	3052	1057			

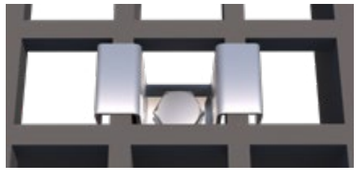
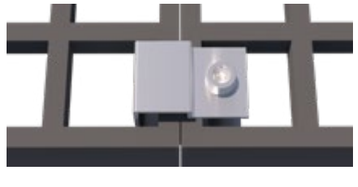
Load data based on deflection of L/100 using a point load of 1.5kN.

Photo courtesy of Amicus Civil Engineering

d² Dura Solid Top Grating in Light Grey, at Ha' Penny Pier, Harwich

Grating Fixings

A wide range of stainless steel fixing solutions are available to cater for the huge number of applications that our **Dura Grating** and **d² Dura Grating** is suited to. These are as follows:

Fixing	Fixing Usage Scenario	Notes
Micro Dome Washers 		• EU design registration No. 6173286. • Available in Dark Grey. • 22mm diameter. • Fits directly to substrate. • Extra slim reduces slip hazard. • Suitable for screw down fixing. • Cost effective.
Small Dome Washers 		• 30mm diameter. • Fits directly to substrate. • Dome shape reduces slip hazard. • Suitable for screw down fixing. • Suits M6 Fixing. • Cost effective.
Large Dome Washers 		• 45mm diameter. • Fits directly to substrate. • Use in conjunction with J Clamps using M8 bolts. • Dome shape reduces slip hazard. • Suitable for screw down fixing. • Suits M8 fixing. • Cost effective.
M Clip 		• Fits directly to substrate. • Recessed design sits 1.5mm proud on bar. • M6 bolt Soc Cap Head compatible. • Shallow and deep available for different thicknesses of grating.
J Clamp 		• 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 Nuts are essential. • Multiple versions are available depending on your project and grating. • *Available for 23mm Mini and Micro in 2022.
G Clamp 		• Used to join panels together. • M6 stainless steel bolt assembly. • Ensure bearers are close to panel joints for further support.
Square Recessed Clip 		• Direct fix to substrate. • Heavy Duty fixing clip. • Use in conjunction with J Clamps using M8 bolts. • Compatible with various fixing systems. • Recessed design only 1.5mm proud.

Fixings Product Selector

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

Fixing Product Selector

Micro Dome Washers

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✔	✔	✔	✔	✘	✘	✘	✘	✘	✘	✘	✘	✘

Small Dome Washers

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✔	✔	✔	✔	✔	✔	✔	✘	✘	✘	✘	✘	✘

Large Dome Washers

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

M Clip

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✘	✔	✔	✔	✘	✘	✘	✔	✔	✔	✘	✘	✘

J Clamp

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✘*	✔	✔	✘*	✔	✔	✔	✔	✔	✔	✘	✘	✘

G Clamp

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✘	✔	✔	✔	✘	✘	✘	✔	✔	✔	✘	✘	✘

Square Recessed Clip

Micro Mesh	Mini Mesh						Standard Mesh			Solid Top		
d²	d¹		d²				d²			d²		
23	30	38	23	35	45	55	26	38	50	29	41	53
✘	✘	✘	✘	✘	✘	✘	✔	✔	✔	✘	✘	✘

Case Study

d² Dura Grating Mini Mesh in Grey

d² Dura Grating Mini Mesh

Noss-on-Dart Marina

Bridge Road, Kingswear, Dartmouth, TQ6 0EA.

Owned by Premier Marinas, Noss-on-Dart Marina is situated within an Area of Outstanding National Beauty in South Devon and is currently undergoing a £75m redevelopment which includes a boatyard, hotel and spa.

Updates to the Marina also include new boatyard facilities, the highlight of which is a closed loop boat wash-down water recycling system. Dura Composites was engaged by Premier Marinas to work with their engineering company to produce a composite floor structure around their travel hoist supported by large 305mm GRP Dura Profile beams between 6-10m in length. The team chose the GRP material over steel due to its superior performance in corrosive salt-water environments. Unique in the market, Dura Profiles exceed the higher performance E23 grade requirement of the BS EN 13706 standard.

Dura carried out a full FEA study and CAD service to enable the fabrication and supply of materials to Teignmouth Maritime Services ready for installation. The lightweight nature of the GRP profiles versus steel meant that installation was much quicker and more efficient.

Also central to the efficient operation of the washdown and hoist are Dura Grating and Dura Platform 40 flooring made from moulded and pultruded high-performance GRP panels which are unique in design to Dura. The open mesh section utilises 55mm d² Dura Grating Mini Mesh in dark grey, which facilitates drainage whilst maintaining strength and unrivalled anti-slip properties. The solid surface sections were created using patented d² Dura Platform 40, which are crankable to create an in-built fall to aid water runoff.

d² Dura Grating in Dark Grey and Yellow GRP Dura Handrail

Case Study

d² Dura Grating Standard Mesh

Grieg Seafood

Girlsta Hatchery, Shetland, ZE2 9SQ.

This £15 million hi-tech salmon hatchery in the Girlsta area of the Shetland Islands is fed by water from the local loch and uses advanced recirculation technology to maximise water efficiency. The facility is where the lifecycle of the salmon begins and is a major economic asset to Shetland's economy. The facility is now owned by Scottish Sea Farms.

When tasked with coming up with a solution to allow access to one of the water treatment areas in the Recirculating Aquaculture System, Technical Manager Steven Nicolson turned to Dura Composites.

With over 25 years experience in the Marine industry, Dura Composites was able to work with Steven to devise a bespoke GRP grating platform and safety handrailing system to allow staff to gain access for water sampling and cleaning as well as access and egress when the system was shut down.

As this system is completely unique, it required a custom design and build. Using it's in-house CAD and Technical team, Dura Composites was able to design an anti-slip, safe and durable solution using its state of the art Glass Reinforced Polymer (GRP) d² Dura Grating and handrail components.

The patented grating design offers the ultimate in safety and durability for aquatic environments and is a cost-effective alternative to timber platforms which degrade over time - and therefore result in hazardous walking conditions.

If you're looking for high specification materials with maximum longevity and safety for your marine or aquaculture project, why not get in touch?

Key Benefits

Resists Fire | Resists Load | Resists Fade | Resists Stains | Resists Expansion | Anti Slip

Product

Composite Timber Decking

Dura Deck®

Dura Deck® has an attractive natural appearance and is made from hard-wearing composite timber (also known as WPC). It is the ideal alternative to traditional wood which requires staining or painting to maintain its original appearance. Furthermore, Dura Deck® features a very low absorption rate which means that its strength is retained over its entire life cycle.

Our unique Composite Timber formula produces an extremely durable decking that is environmentally friendly, easy to install and requires minimal maintenance.

Our boards have a more traditional appearance and closely resemble natural wood planks. All Dura Deck® composite timber boards are reversible to allow the installer to choose from two attractive finishes.

For instances where a cut board edge will be visible, solid boards are available for a neater finish. They are also useful for stair landings where ultimate strength is required.

Ideal for **commercial** and **leisure applications**

Dura Deck® Range

Discover our Dura Deck® 'Flip' boards . This stunning product takes the two most popular colours from our range and combines them into one single decking board profile.

With 8 different board colours to choose from in 4 combinations, this innovative product allows the customer to create attractive deck designs featuring both complementary board colours, or to flip their boards at a later date for a whole new look.

Available in lengths of 3.66m, Dura Deck® Flip is easy to install and has a reassuring 15 year warranty. The innovative subsurface fixing system means no nails or screws are needed to go through the deck itself, creating a smart, uniform and barefoot friendly deck.

Applications

- Leisure Areas
- Balcony Decking
- Patios
- Public Areas
- Roof & Garden Terraces
- Yacht Clubs

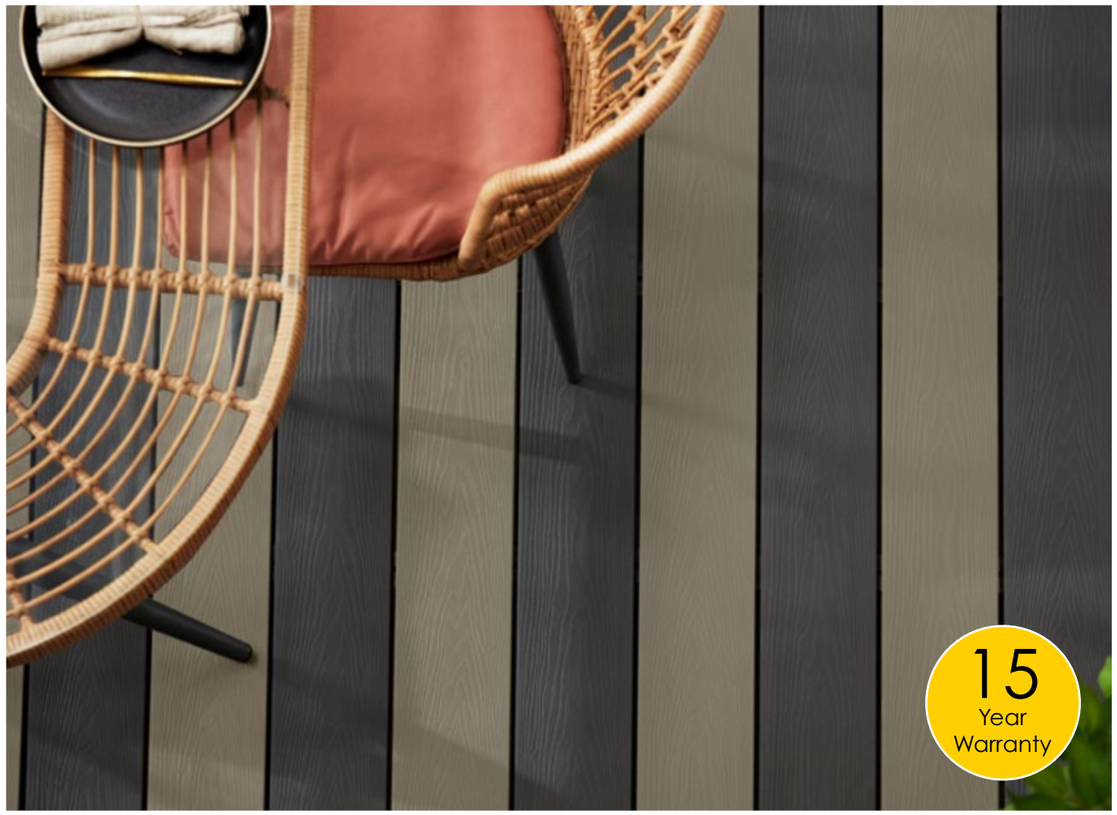
Features

- Natural Wood Look and Feel
- Concealed Fixings
- Doesn't Rot, Splinter Or Warp
- UV Colour Stable
- Recycled Content
- Anti Slip Surface
- Water Resistant

Benefits

- Ideal Wood Replacement
- Barefoot Friendly
- Minimum 10 Year Warranty
- Looks Fresh For Years
- Environmentally Friendly
- Prevents Slips, Trips and Falls
- Suits Wet Environments

Product	Board Type	Board Thickness (mm)	Board Length (mm)	Board Width (mm)	Max Span (mm)	Weight/Lin m (kg)	Weight per Length (kg)	Boards per Pallet
Dura Deck® Flip								
Dura Deck® Flip	Hollow	25	3660	150	400	3.10	11.35	168 Pcs
Dura Deck® Flip	Solid	25	3660	150	400	4.94	18.05	100 Pcs
Fascia	Solid	10	3660	180	Infill Only	2.19	8.56	100 Pcs



Dura Deck® Flip

This stunning product combines two colours into one single decking board profile so you can experiment, or 'flip' your deck at a later date for a whole new look. It features our most beautiful surface ever and is designed to achieve the most natural wood look on the market.

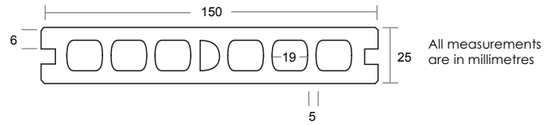
This deck is produced via a co-extrusion process where a 360° outer armour is used to protect the core of the deck from the elements. As a result, Dura Deck® Flip is fire resistant to Class C, colour fade resistant, strength load resistant, stain resistant and also highly slip resistant.

With four different colour combinations (one colour on one side and another on the other), this innovative product allows you to create attractive deck designs featuring both complementary colours, or to flip the boards over at a later date for a whole new look.

Available in lengths of 3.66m, it is easy to install and has a fantastic 15 year warranty. Dura Deck® Flip never requires painting or treating and is easy to clean.

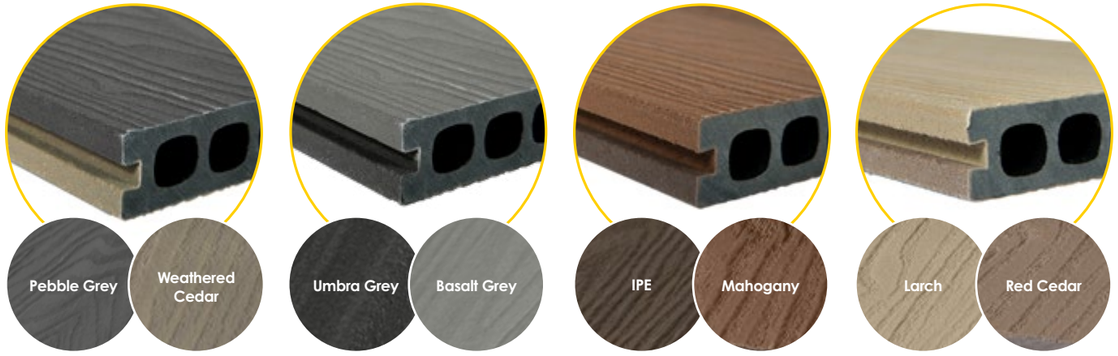
FSC™ certified products available in the UK. For International enquiries contact your Dura representative.

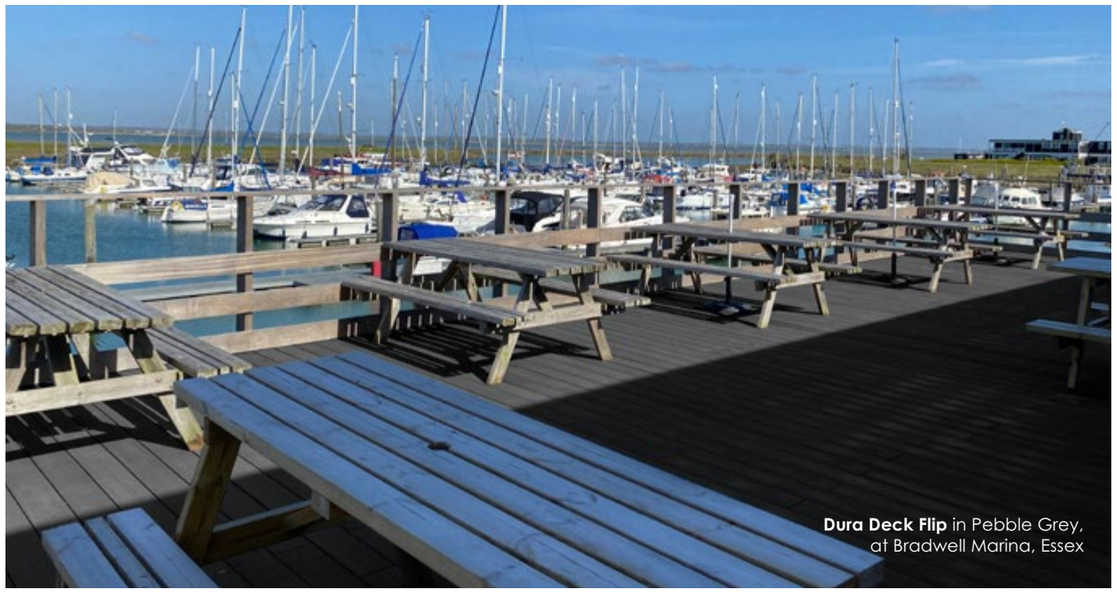
Dimensions



All measurements are in millimetres

Colour Combinations





Dura Deck Flip in Pebble Grey, at Bradwell Marina, Essex

Install Steps

Dura Composites' innovative subsurface fixing systems means no nails or screws need to go through the deck itself, creating a smart, uniform and barefoot friendly deck. Our unrivalled range of fixings cater for a wide range of installations in different environments. Our expert team and downloadable Installation and Technical Manual can provide further guidance on appropriate use of these fixing solutions and screw types. A full Technical Installation Guide is available from your Dura Composites representative as well as details of recommended spans and loadings.

Step 1

Screw Start/Stop Clips onto the start of all bearers ready to accept first board.

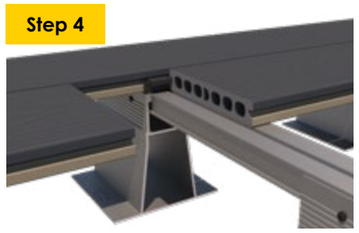
Step 2

Slide board into position. Position Fixing Clip (6mm or 10mm) into rebate at the side of the board and screw down. Ensure you do not over-tighten.

Step 3

Position Half Clip (6mm or 10mm) into rebate at the side of the board and screw down. Ensure you do not over-tighten.

Step 4



Fixing Clips can be used to fix across butt joints. Ensure you leave a gap for expansion. Please refer to Dura Deck Technical Manual.

Step 5

Repeat process until all boards are in position. Start/Stop Clip should be used to secure the final board into position.

Top Tip

If there is a small gap and the board needs to be cut down the length, please use a solid board for this.

Top Tip

When installing deck fittings i.e. mooring cleat, we always recommend drilling and bolting through a solid board. Please also allow for an oversized hole to allow for expansion.

Optional: Step 6

Place End Caps into the end of the boards to finish your deck.

Optional: Step 7

You can use the top board fender or finger fender with matching colours.

Universal Fixings

Gap Fixing Clip
6mm or 10mm

Start/Stop Clip

50mm Black Screw
(If using Timber Bearers)

30mm Black Screw
(If using Aluminium Bearers)

Additional Fixings:

Half Clip
6mm or 10mm

Central Fixing Clip

Why Choose Dura Deck® Flip?

Product Comparison Table

Easily compare the benefits of composite timber Dura Deck Flip and its clever 360° outer amour versus traditional materials and most other composite decking brands.

	1.4kN at 400mm Span 0.5% Deflection, against BS 6399-1: 1996	**Fire Resistance** (Class C)	**Low Slip Potential** (Wet and Dry)	**Water Absorption** (less than 0.2%)	**Minimal UV Colour Fade** (Min 5.7 / 1000 hrs)	**FSC™ 100% Available**	**Woodgrain Surface**	**Wipe Clean Stains**
Dura Deck® Flip	✔	✔	✔	✔	✔	✔	✔	✔
Other Co-extruded Composites	✘	✘	✔	✘	✘	✘	✔	✔
Soft Wood Decking	✘	✘	✘	✘	✘	✔	✔	✘
Hard Wood Decking	✘	✘	✘	✘	✘	✔	✔	✘

Material Specifications

Dura Deck Flip has undergone a rigorous testing regime to provide you with complete transparency and surety when it comes to important criteria such as fire performance, strength and durability.

Test Item	**Test Parameter/Method**	**Dura Deck Flip Test Results**
Tensile Strength	ASTM D638-14	28.3 MPa
Flexural Strength (MOR)	ASTM D7032-17 Section 4.4 and ASTM D4761-19	35.1 MPa
Flexural Stiffness (MOE)	ASTM D7032-17 Section 4.4 and ASTM D4761-19	2894 MPa
Low Temperature Effect (-29±2˚C)	ASTM D7032-17 Section 4.5.1 and ASTM D4761-13 Section 8	50.3 MPa
High Temperature Effect (52±2˚C)	ASTM D7032-17 Section 4.5.1 and ASTM D4761-13 Section 8	125.1 MPa
Moisture Effect 85%RH	ASTM D7032-17 Section 4.5.2 and ASTM D4761-13 Section 8	36.0 MPa
Freeze-Thaw Effect	ASTM D7032-17 Section 4.7 and ASTM D4761-13 Section 8 Freeze-thaw exposure cycle: ① Submerge underwater for 24h→② -29˚C, 24h→③ 23±2˚C, 24h→ Step ①-③ as one cycle, total three cycles	36.1 MPa
Resistance to Indentation	EN 15534-1:2014 Section 7.5	Brinell hardness: 89 MPa
Charpy Impact Strength	EN ISO 179-1:2010	10.5 kJ/m^2
Water Absorption	EN 317:1993	0.25% (24 hours)
Water Absorption	EN 15534-1:2014 + 2017 Section 8.31 EN 317: 1993	1.48% (28 days)
Density	ASTM D792-13 Method B	1.25 g/cm^3
UV Light/Ageing Test	ASTM G154-16 & ASTM D2244-16 UV Exposure cycle: Duration = 1000h	ΔE* = 0.58
Linear Thermal Expansion (Lengthways)	ISO 11359-2: 1999 Method A. Rate of Temperature: 3˚/min	No Data
Flammability Resistance	EN 13501-1 (EN ISO 9239-1 and EN ISO 11925-2)	Cfl-s1 - As Standard

Anti-Slip Resistances

Dura Deck Flip has been tested in accordance with BS 7976* and achieves low slip potential in both wet and dry conditions, whatever the direction of travel.

Slip Resistance Values - BS 7976*		**Type 150**
Direction	**Condition**	**Woodgrain**
Longitudinal	Dry	40
Transverse	Dry	46
Diagonal	Dry	42
Longitudinal	Wet	38
Transverse	Wet	36
Diagonal	Wet	37

*(4S Rubber Slider)
Pendulum Test Values (PTVs)
- Low Slip Potential (36+ PTV)
- Moderate Slip Potential (25-35 PTV)
- High Slip Potential (0-24 PTV)

Case Study

Dura Deck Flip in Pebble Grey/Weathered Cedar

Dura Deck® Flip

Bradwell Marina

Bradwell Marina Bar & Restaurant, Bradwell-on-sea, Essex, United Kingdom, CM0 7RB

Bradwell Marina is located in the Blackwater Estuary of the River Blackwater in Essex, on the south-east coast of England. The marina is accessible at all states of the tide for shallow draft craft and provides berths for 350 yachts.

The clubhouse overlooks the Marina and has a fully licensed bar and restaurant which now features the latest in Dura Composites' composite timber decking range, Dura Deck Flip in Pebble Grey.

Marina owner Arthur Thurtle turned to Dura Composites to provide a safe, practical and easy to fit alternative to the previous wooden decking which was badly degraded and which required significant ongoing maintenance which was proving unsustainable.

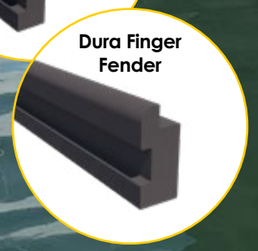
In choosing Dura Deck Flip, Bradwell Marina were able to benefit from a low maintenance, barefoot friendly composite timber decking which looks and feels like natural wood but is made from a combination of recycled hardwood and polymers.

Dura Deck Flip has advanced UV resistance and anti-slip properties, never needs painting or staining and far outperforms timber in harsh marine and waterside conditions.

Bradwell Marina can now provide customers with exceptional facilities for special events, gatherings and everyday dining, ensuring that the marina stands out as a location of choice in a competitive marketplace.

Key Benefits

- Anti-Slip Surface
- Quick Install
- Flush Fixings
- No Painting or Staining



Product

Composite Timber Fendering

Dura Fender

As every marina owner and operator knows, good pontoon fenders are essential to the smooth running of marinas, as they add a much-needed layer of protection for boats during rough weather.

Traditionally these fenders are made from standard timber, which is prone to rotting and splitting and can become a safety hazard over time.

Dura Composites are the first in the world to offer a composite timber fender that has been developed to integrate into pontoons, with and without a duct cover. Further, they are available in Teak and Charcoal.

Dura Fenders help solve the inherent problems with traditional timber thanks to their lower water absorption rate which prevents the surface from becoming waterlogged and protects the boards from algae, mould and mildew.

Key Benefits

- Durable
- Anti-Slip Surface
- Bespoke Designs
- Saves Time

Bespoke designs/cutting available

Product

Composite GRP Duct Covers

Dura Duct Covers

Dura Composites has utilised its expertise in composite technology to produce a world first – a highly anti-slip Duct Cover solution for Marinas made from high-performance Glass Reinforced Polymer (also known as GRP or fibreglass). GRP is fast becoming the material of choice in demanding marine environments, thanks to its incredible strength, lightness, ease of installation and excellent resistance to corrosion.

Dura Duct Covers are lightweight and allow for easy access and maintenance to be carried out to the cabling and equipment which runs through the service ducts which are commonly provided on both sides of marina walkways and pontoons.

Whilst duct covers have traditionally been made from anodised aluminium, these have a tendency to become very slippery when wet and are prone to theft, tarnishing and oxidisation – particularly in climates where extremes of temperature are common. By contrast, GRP Dura Duct Covers have superior anti-slip properties are non-conductive and have an excellent lifespan, making them cost-effective and environmentally sustainable.

Key Benefits

- Water Resistant
- Durable
- Non Conductive
- High Visibility

GRP Dura Ladders are now **available** in **1.5m, 2m & 6m** lengths

Product

Rescue & Emergency Ladders

Dura Ladders

Dura Composites GRP (Glass Reinforced Polymer) Rescue and Emergency Ladders are made from high strength, low weight and non-conductive material and come in 3 standard stock sizes. GRP Dura Ladders are manufactured from pultruded profiles of immense strength and durability and are lightweight and chemically resistant. Robust, rot resistant, rigid and very stable, they offer the ultimate safety for marine personnel and the public.

The ladder stringers are shaped for easy grip and the rungs have an anti-slip serrated surface. Brackets are included to attach the safety ladder to a wide range of marine structures. Dura Composites' GRP Rescue and Emergency Ladders outperform conventional steel, aluminium and wooden alternatives across all key criteria thanks to their high strength to weight ratio, low maintenance requirements, corrosion, electrical resistance and low installation costs.

Manufactured from the Dura Profile structural beam range, we can make bespoke safety ladders to meet specific customer requirements. Our experienced team can provide design support and CAD drawings from initial concept stage through to fabrication at our HQ facility.

Key Benefits

Anti-Slip Surface

Heavy Duty

Non Corrosive

High Visibility

Product

Deck Edging Ramps

Our 22mm pontoon deck edging ramps are ideal for providing trip-free pedestrian access along your pontoon or deck. Create easy access for trolleys, prams and pushchairs, wheelchairs and bikes with high visibility transition between pontoons and marina deck access ramps.

22mm edging ramps sit flush against our 22mm grating to provide seamless movement across surface-level changes. Currently available in 22mm thickness with 30mm and 38mm thicknesses also available (subject to extended lead times). 22mm edging ramps are available to purchase in lengths of 4047mm x 159mm wide and can be cut to your required lengths. Why not contact our specialist Marine Team to discuss your project?

Product

Dura Tread Nosing Strips

Dura Tread Nosing Strips can be applied to a variety of stair tread materials such as concrete, wood, chequer plate or GRP grating to help mitigate the risk of slipping, tripping and falling.

Quick and easy to install, Dura Tread Nosing Strips have a tough anti-slip gritted surface and are available in both Yellow and White to maximise visibility of the stair edge. Each piece is 1830mm long as standard and the profile dimension is 55mm x 55mm with a thickness of 4mm.

Choose Dura Tread Nosings for a quick, cost effective solution to improving safety in slippery or hazardous areas, and for areas used by the public.

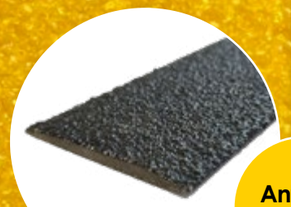
Key Benefits

Anti-Slip Surface

Quick Install

Flush Fixings

No Painting or Staining



Anti-Slip Surface

Product

Dura Tread Anti-Slip Strips

Want a Quick, Cost-Effective Solution to Improving Safety in Slippery Conditions?
Our Dura Tread Anti-Slip Strips are a really cost-effective way of boosting walkway safety, particularly in outdoor or wet areas.

Super-fast and easy to install, these 50mm strips can provide additional grip to almost any surface to give you peace of mind. Whether it's for timber pontoon decking, lakeside walkways, outdoor steps or access ramps, our gritted strips can be affixed to your existing floor surface to help mitigate the risk of slipping, tripping or falling.

Available in yellow, black or dark grey and can be easily combined for easy demarcation of transitional areas, differing floor levels, or to maximise visibility against the existing structural flooring material.

Key Benefits

- Anti-Slip Surface
- Quick Install
- Flush Fixings
- No Painting or Staining

Product

Dura Profile WFB and **Dura Profile Angle**

GRP Structural Profiles

We carry one of the largest stock holdings of Glass Reinforced Polymer (GRP) profiles in the industry, including Angle, Channel, Beam, Box and Tube sections. We can supply a cost-effective solution for virtually every common application, with no tooling costs and minimal delivery time on our standard stocked profiles.

Dura Profile is a collection of heavy duty, corrosion resistant fibreglass profiles suitable for a wide range of applications. The ability of Dura Profile to guard against deterioration from chemicals and environmental factors make it a logical and cost-effective alternative to carbon steel, aluminium, wood or other conventional materials. Dura Profile provides the engineer with a high degree of design freedom and offers exceptional material properties for a wide range of applications.

Custom Designed Fibreglass Profiles

The versatility and accuracy of the pultrusion process offer tremendous possibilities for complex shapes or special properties. Various Dura Profiles can be used as part of a custom structural design to gain access to waterways or raised storage areas. Supplied in 6000mm lengths. Pultrusion die sizes up to 600mm x 200mm can be accommodated.

Key Benefits

- Warm to the Touch Surface
- High Performance
- Weather Resistant
- High Visibility

Dura Key Clamp Handrailing in Yellow

Product

GRP Safety Handrailing

Dura Handrailing

When installing a composite walkway in a marina or harbour, it is often logical to also opt for a complementary low maintenance safety handrailing system so that the walkway, structure and railings all benefit from long design lives.

Dura Composites offers two handrailing solutions: Fabrication Handrailing and Key Clamp Modular Handrailing which are a cost effective alternative to conventional metallic materials.

Both allow the installer to benefit from simple construction and have warm-to-the-touch surfaces, are non-sparking, non-corrosive and non-conductive.

Both Dura Handrailing systems can be specified in signal yellow or grey colours that do not need painting, staining or galvanising. They are a great alternative to steel which can rust and corrode in saltwater over time and can be configured for a wide variety of applications and uses.

Dura Handrailing has a high strength to weight ratio, is designed to comply with relevant standards and provides a versatile and cost-effective alternative to metal railings.

What you get when you work with Dura Composites:

Online Tools & Samples

Use our website to order a selection of free product samples. Simply fill in the online form and we'll despatch your samples straight to you so you can appreciate the finish and quality of the material for yourself.

You can also use our website to customise, price and specify your own GRP access systems online from our next generation d² GRP Access Structure range. Dura Composites are experts in the design, fabrication and supply of composite GRP step-over access systems, up and over stairs and step units to help navigate obstacles such as pipework, plant equipment, bund walling or changes in level and to provide safe access.

We now offer a complete range of d² Fabrications (Reg. Design No. 008200554-0001), deploying the latest innovations in GRP technology to deliver the safest, most cost-effective, user-friendly and aesthetically pleasing GRP access systems on the market.

The d² GRP Access Structures have been designed to the stair configuration, height, and obstacle width of your specific project. Simply select your project site parameters and view available step-over designs with indicative pricing*.

All d² GRP Access Structures are designed in conjunction with relevant and provide a safe, low-maintenance, non-conductive

and cost-effective alternative to metal or wooden structures.

Visit our website to have a go: https://www.duracomposites.com/grp-access-structures/d2-grp-access-structure-configurator/

Design Support

If you're working in marina design and construction or are looking to update your existing infrastructure, 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. We have an extensive library of previous projects which have been successfully installed in a wide range of marine and waterside locations. Our in-house CAD and Structural Engineering team can be utilised both for stand-alone design and as part of larger integrated design scheme. If you need an installation partner, we have a dedicated specialist installation team for our GRP products and bespoke fabrications, or can advise on a suitable 3rd party install partner.

Cutting – Standard & Specialist

We understand that each harbour, mooring or marina construction project is an individual contract with specific design requirements. Dura Composites' specialist cutting team offer a full range of services to ensure that our product meets your exacting requirements so you can install with confidence.

Our 2D, 3D, and 4-axis CAD team are the best people to help you get a first impression of how you can utilise our market-leading products.

Once the product is designed, our professional staff can cut it into life, using precision tooling to perform straight lines, complex cuts, routing – whatever you need.

Standard

Drawing on 20+ years' experience Dura's cutting team can cut to a 3mm tolerance.

Specialist

Alternatively, if you require a more specialised cutting service our team can help. We aim to optimise cuts per panel to ensure the best yield and that all panels are used in the most efficient way.

Routing

We can router holes suitable for lifting eyes or for other requirements as specified.

Material Availability & Next Day Delivery

All our products are designed to ensure safe access to leisure craft and commercial vessels and to provide a secure working environment for marine personnel.

Our core products are available from UK stock holdings from our 3 acre Operations Centre in East Anglia, saving you valuable time when you need to get product to site. Next Day Delivery applies to in-stock standard items of up to 200 grating panels processed before 11:15 am Monday to Friday – so you can order one day and install the next!* All our Dura Grating panels can be given a unique ID to allow for complete traceability through the project lifecycle.

We also have one of the largest stock holdings of GRP profiles in the industry, including Angle, Channel, Beam, Box and Tube sections, so you can create bespoke solutions that will stand the test of time.

*Service available on core in-stock items that do not require cutting or fabrication. To qualify, orders must be below 200 panels and be fully credit checked and processed by 11:15 am Monday to Friday. The vast majority of the country is covered by next working day delivery. However, there are a few outlying areas where this may not be possible. Check with us for service availability to your postcode area.

BIM Objects

Our Dura Composites BIM objects are hosted on NBS Source where they are available for use by architects, designers, engineer, contractors and specifiers.

Available free, our data-rich Dura Composites BIM Objects allow specifiers to see up-to-date, accurate data about Dura Composites products and to easily incorporate them into their overall design.

Authored to the trusted NBS standard, each BIM Object details the various surface finishes, profiles, sizes and colour options for each product, and provides specifiers and end clients with detailed information on how the products will perform during their expected lifecycle.

To access the Dura Composites BIM objects visit: https://source.thenbs.com/search-results/products?search=Dura%20Composites.

If you require any additional information or support, please contact us to discuss how our CAD team can work with your sales contact to unlock the power of composites for your project. We also offer a range of CPD training materials which are delivered by our experienced team.

CPD Training

With budgets under ever increasing scrutiny, it's never been more vital to ensure that the solutions provided to the rail industry are both future proof and have a measurable impact on efficiency.

Dura Composites now offer a series of training sessions for designers and contractors to understand the technical capabilities and install methodology of Dura products in a supportive and engaging environment. We can cater training sessions specifically to the requirements of your project. For more information please speak to a member of the Marine team.

Accreditations

From being accredited by the UK Marine Industry's leading professional and industry bodies to establishing and maintaining close working relationships with carefully chosen partners – Dura Composites constantly dedicates time and effort to ensuring our service to you is current, knowledgeable and effective.

Our range of accreditations are gained through a variety of methods, from comprehensive audit assessment to evaluation of approaches to health and safety, BIM and quality management to ensure we meet the highest possible standards.

In 2020, we were proud to have successfully earned recertification to ISO 9001: 2015, the internationally recognised standard specifying the requirements for quality management systems. This is a testament to Dura Composites' team members – from sales and marketing to fabrication, operations and installation – who thrive on improving customer value through quality management.

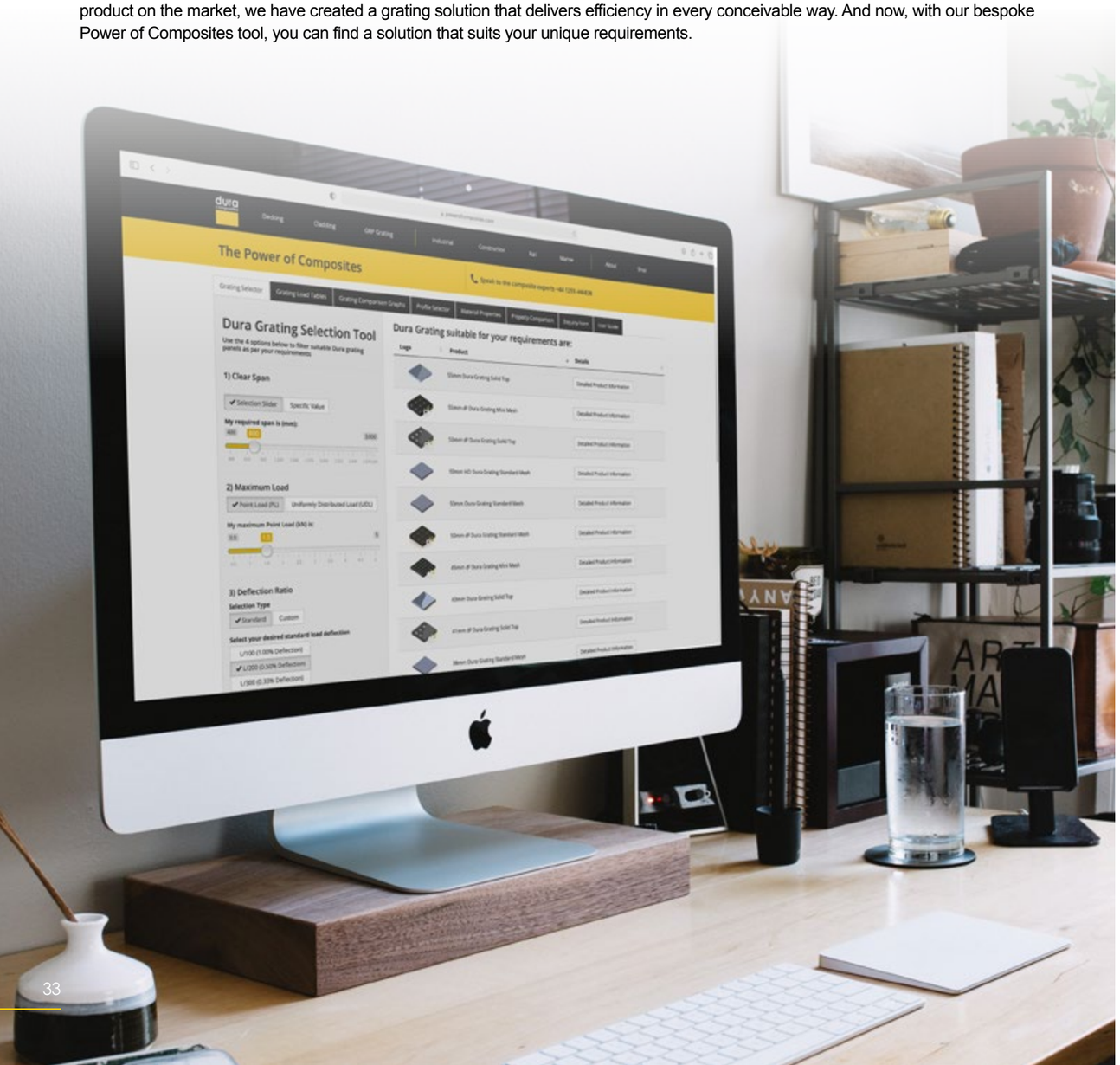
Make Data-Driven Decisions

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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June 2022

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dura™ composites

Unlocking the Power of Composites™
» for the Marine Industry