Industrial

Industrial Sector Product Guide

Heavy duty fibreglass walkways, handrailing and structures plus composite cladding and screening

...designed for the future

Industrial Rail Marine Landscaping Architectural

dura™ composites

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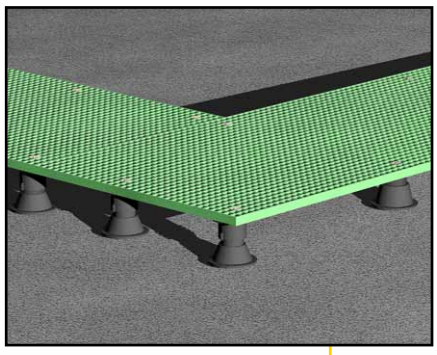
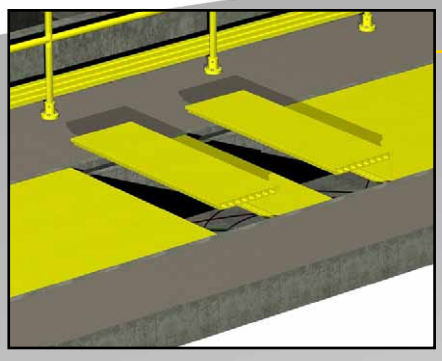
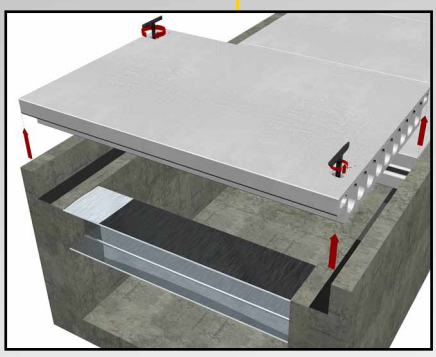
Raised Walkways PAGE **14**

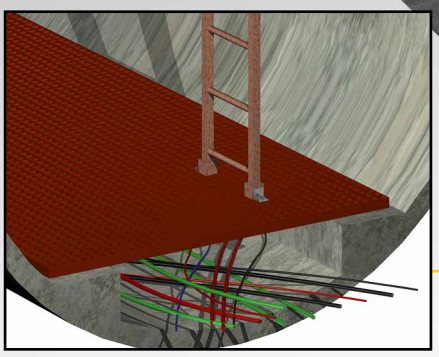




Pedestrian Trench Covers PAGE **18**

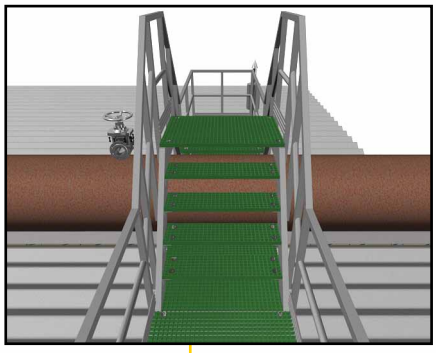


Vehicular Trench Covers PAGE **19**

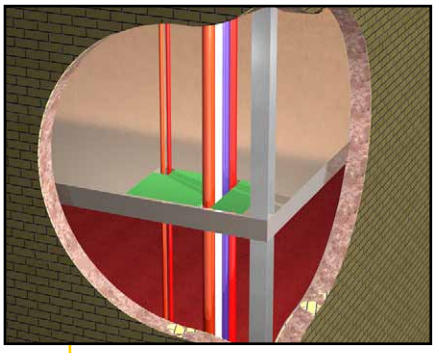


Phenolic Fire Safety Flooring PAGE **23**

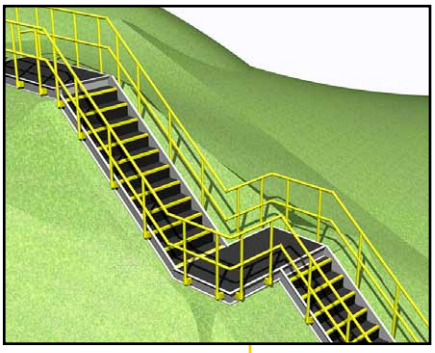
Roof Walkways PAGE **6**

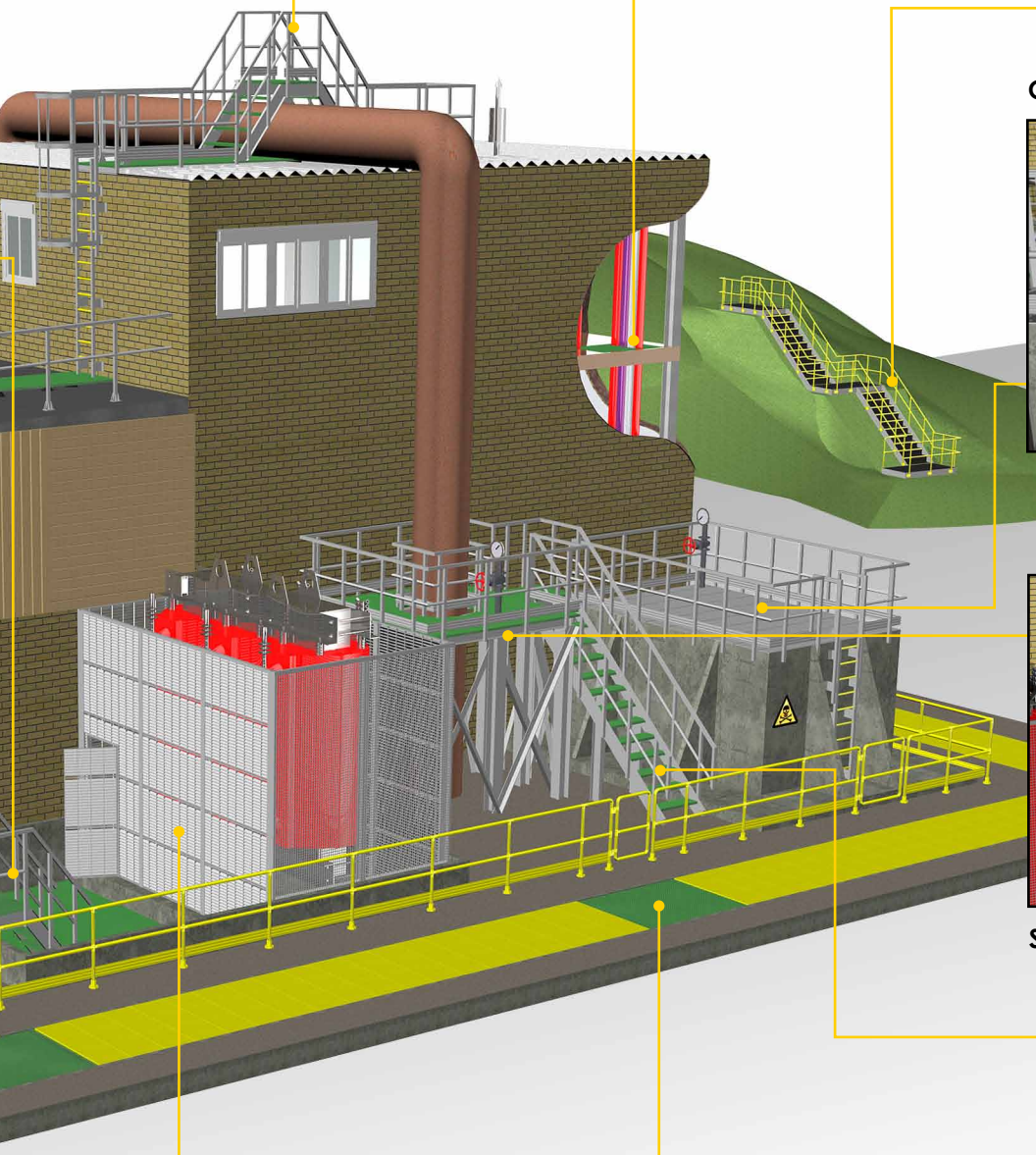


Floor Risers PAGE **13**



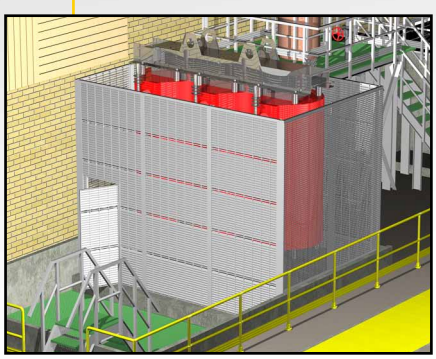
Stair Access Systems PAGE **9**



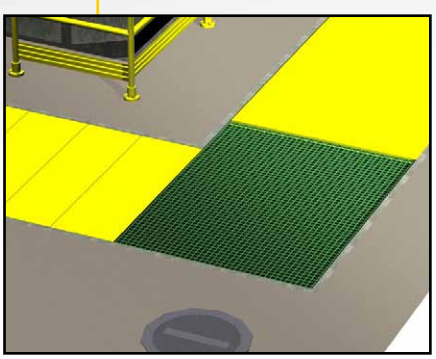


Chamber Covers PAGE **21**

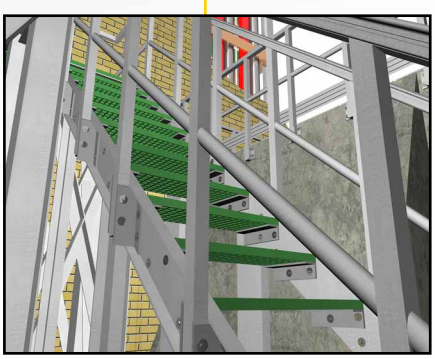
Structures PAGE **5**



Protective Screens PAGE **8**



Utility Walkways PAGE **12**



Grating Stair Access PAGE **10**

Introduction

Dura Composites Ltd. is a leading global supplier of composite products for flooring, structures and façades, ideal for rail, industrial, marine, landscaping and architectural applications, many of which are hugely eco-friendly. Incorporated in 1996, it has since supplied a wide range of blue chip organisations with products from the standard range and also with bespoke project solutions.

Typical Dura Grating Pedestrian Walkway installation at London Array Electrical Sub-Station

The UK headquarters is dedicated to innovation to ensure that Dura Composites is always at the forefront of composite material technology. The growing team have extensive knowledge and practical experience of fibreglass reinforced plastic, timber composites and other related emerging materials.

The range of products on offer is vast, from floor walkway grating, through decking, cladding and hand railing to lift risers or trench covers. All products offer customers a low life cycle cost thanks to their long life expectancy and also low maintenance requirements. Dura Composites sells directly to a wide variety of customers, from a global contractor to a local landscaper. It also sells through a well-established global distribution network.

Vision

To be revered by raving fan customers as experts and inventors supplying breakthrough product solutions when compared to traditional materials in scalable project applications anywhere in the world using composite technology.

Mission Statement

Our goal is to provide the best value, ecological composite solutions by really understanding customer needs globally in the industrial, rail, marine, landscaping & architectural sectors and making customers feel great about choosing us.

This is to be done through commercialising pioneering solutions based around composite materials that solve problems on a wide scale, providing lower life cycle costs to the end user.

The fuel for Dura Composites is provided by a happy, motivated and empowered team that want to be the best in their profession through constant learning and achievement of stretching life goals.

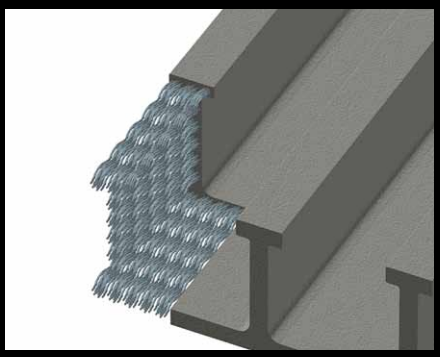
FRP Composite Technology

Composite products are now becoming more widely specified as the advantages of fibreglass reinforced plastic (FRP) materials in particular are recognised by clients and contractors alike. Whilst traditional materials will always have their place, as the emphasis on speed and durability increase, FRP engineered composite products will become more and more mainstream for specific applications.

Dura Composites employs two main processes for the production of its high quality FRP flooring, handrailing and associated products - **Pultrusion** and **Moulding.** Both processes use a combination of resin and pure glass fibres to produce 'thermoset' products, which means once fully cured; they are stable and cannot be re-shaped other than by machine processes. This combination of themoset resin and fibre reinforcement produces load-bearing properties that can be adapted to suit many applications illustrated in this guide.

The terms 'FRP' (Fibre-Reinforced Polymer) and 'GRP' (Glass Reinforced Plastic) can both be used to describe Dura Composite products. For this guide we have decided to use FRP for consistency.

For a point of clarity the term FRP could also be used to describe composites using reinforcements other than glass, such as carbon fibre or kevlar.

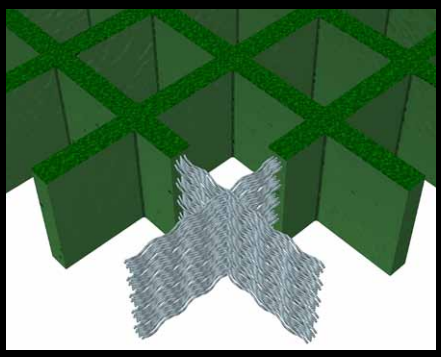


Pultrusion Technology

Pultrusion is an automated process of forming profiles of continual cross section. The process allows the production of structural profiles with comparatively high glass content[1], creating a product of extraordinary strength and resilience. The resultant profiles offer a combination of benefits and mechanical properties, which can, in some cases, exceed those of steel.

Pultruded items tend to offer the highest strength but that is normally uni-directional.

[1] *Typically 60% glass content by weight*



Moulded Technology

Moulded[2] products are made using a combination of resin and pure glass fibres - manually orientated within special moulds to produce a wide range of grating depths and mesh patterns.

Moulded panels are formed of a single-piece construction with bi-directional load-bearing properties, providing greater options for site cutting and fabrication.

[2] *Typically 30-35% glass content by weight*

Resin Systems

Isophthalic Polyester
A high quality industrial grade which is standard on the vast majority of our product range. It features high levels of chemical resistance[1] and fire retardancy[2].

Orthophthalic Polyester
A general purpose economic resin with good corrosion and chemical resistance[1] that is standard for Dura Grating mini mesh range to suit less harsh environments.

Vinylester*
Enhanced chemical resistance, higher operating temperature and increased fatigue resistance.

Phenolic*
Enhanced fire and smoke properties[3], for use in areas where fire resistance, low smoke and toxicity are important factors, such as rail tunnels and off-shore platforms.

[1] *Please contact our sales team for further information on our Chemical Resistance guide.*

[2] *Fire retardant and self-extinguishing with spread of flame to ASTM E-84 Class 1, 25 or less and BS476 Pt7 Class 2.*

[3] *BS476 Class 0, bs6853 d8.4*

**Available to special order only*

Structural Beam Sections

Dura Profile

Dura Profile comprises of a range of FRP sections made using pultruded technology that has a range of applications typically to replace steel or wood. Weighing up to 50% less than the equivalent steel, Dura Profile offers equivalent performance for considerably less weight. This results in major cost savings due to more economical transportation, handling and on-site fitting. Supplied as single profiles, flat pack or pre-fabricated structures anywhere in the world, Dura Profile is fast becoming the material of choice for structures, roof walkways, ladders, protective screens, cable trays and much, much more.

Applications

- Work / Public Platforms
- Sub Floor Platforms
- Bridge Decking / Structures
- Ladders / Stair Cases
- Cable Trays
- Protective Screens

Features

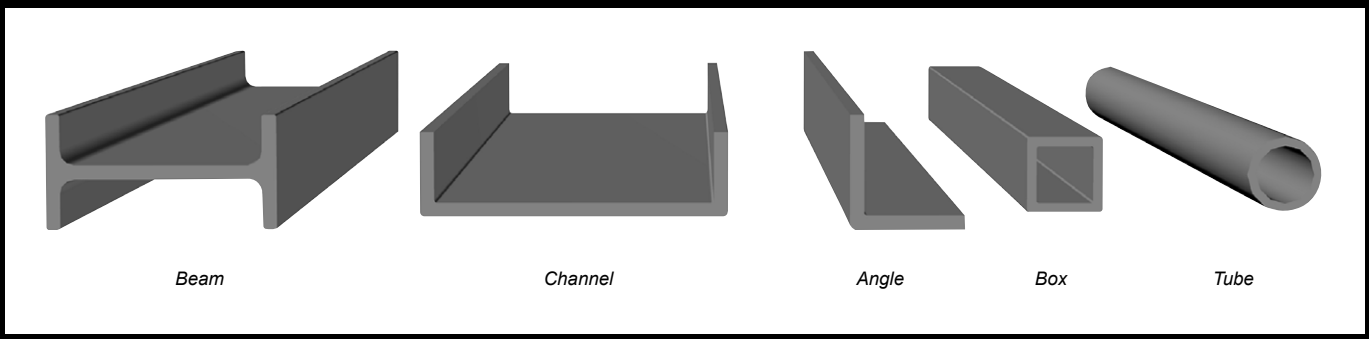
- Corrosion Resistant
- High Strength / Low Weight
- Non Conductive
- Fire Resistant
- UV Resistant
- 25 Yr Warranty / 60 Yr Life Span

Benefits

- Suitable For Harsh Environments
- Ideal For Manual Handling
- Suitable For High Voltage Areas
- Suitable For Fire Escapes
- No Painting
- Fit and Forget

Standard Range

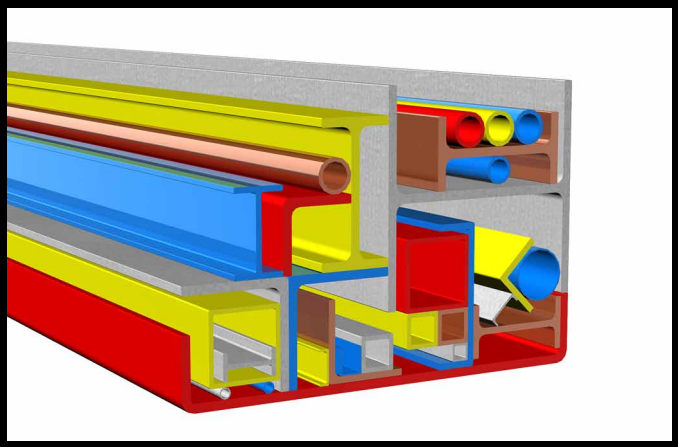
Dura Profiles are stocked in various sizes in the shapes shown below and produced using Isophthalic Polyester resins with reinforcements for resistance to harsh environments.



Custom Range

A wide range of alternative profiles are available by special order to provide cost effective, lightweight solutions for virtually every common application and project, with reasonable lead times.

Custom profile shapes can be produced to meet strict specification, dimension and performance requirements for items such as cable trays, rail point anti-freeze protection and trough lids.



For technical specifications on our Dura Profile range please visit:
www.duracomposites.com/dura-profile-fibreglass-structures/

Fabrication Methods

Fabrication methods used with conventional materials can also be used with Dura Profile. The most common form of connections are made by mechanical fasteners. Bonded joints are also an option and selection of the appropriate method will depend on the:

- Distribution of loads within the assembled structure.
- Necessity to disassemble the structure components at a later stage.
- The environmental conditions during fabrication
- The environment in which the assembled structure will be used.

Bolted connections

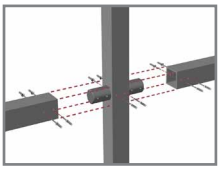
Bolted connections are the most common method of jointing Dura Profile. Stainless steel (or galvanised) nuts and bolts are used, with washers larger than usual to reduce local compressive stresses. It is good practice for the bolt to be a tight fit in the hole as this substantially reduces local stresses. It is also important that the bolt shank length (un-threaded) is sufficient to avoid threaded sections within the thickness of the joint materials.

Typical bolt separation distances are:

- Bolt dia x 3 from **end of profile**/x 2.5 from **edge of profile**/x 5 bolt c**entre to centre**
- In certain circumstances, FRP nuts, bolts and washers can be specified to suit aggressive environments or for electrical isolation.
- Due to the transverse mechanical properties of Pultruded profiles, the following connections should be avoided.

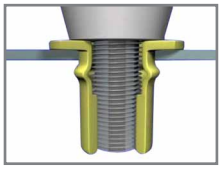
Rivets

Stainless steel and aluminium riveting is a very effective method of joining Dura Profiles. Pop-rivets are commonly used in conjunction with back washers to help distribute and minimize local stresses. The assembly should be designed so that the rivets are not in tension.



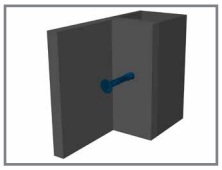
Captive Inserts

Captive Inserts are a fast, blind fixing system suitable for use with all materials. They are of particular use when there is no reverse access and can be installed at any stage of fabrication.



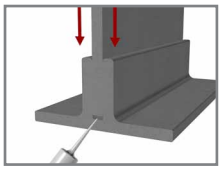
Screw Connections

Self-tapping screws can be used successfully in many applications involving mechanical connections when high-strength fasteners are not required. Self-tapping screws may also be used in combination with adhesives.



Bonded Joints & Preparation

Structural adhesives distribute stress more evenly and are used successfully to join Dura Profile and for sealing joints and exposed surfaces. Exceptional bonds can be obtained as long as the joint is designed to avoid excessive peeling stresses, the surfaces are properly prepared and the correct adhesive is used. Epoxies and toughened acrylics are suitable for use with Dura Profiles.



Preparation

To achieve an optimum bond, the surfaces must be degreased with a suitable solvent. The bonding areas must be abraded until the surface gloss is removed then cleaned of dust and degreased again. The adhesive should be mixed and applied according to the manufacture's recommendations. The bond area should be clamped or mechanically fastened to maintain bond pressure and to ensure that there is no movement until the adhesive has fully cured.

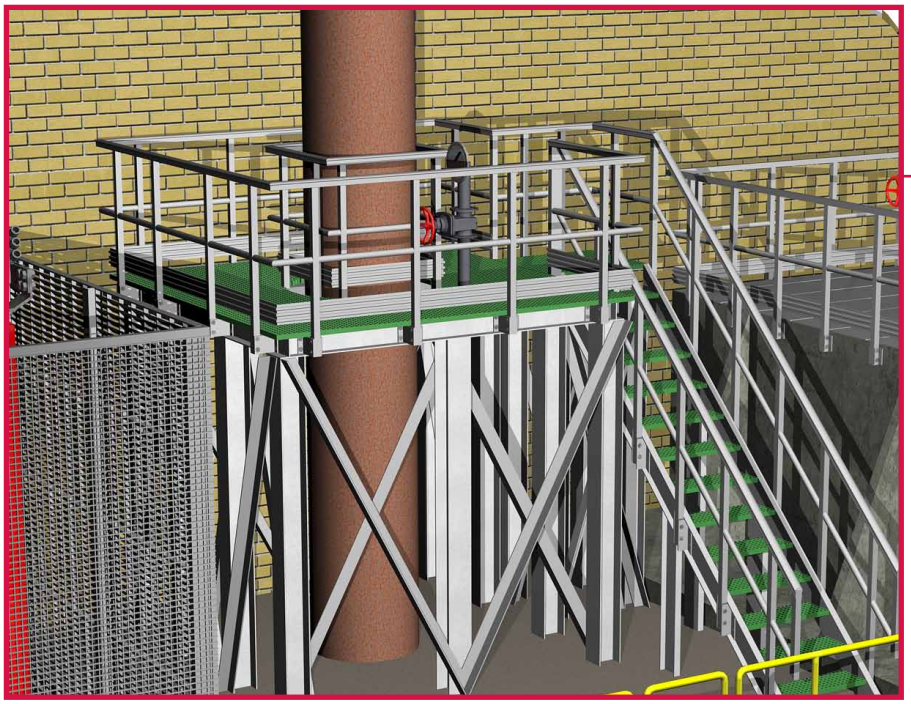
Assembly Methods

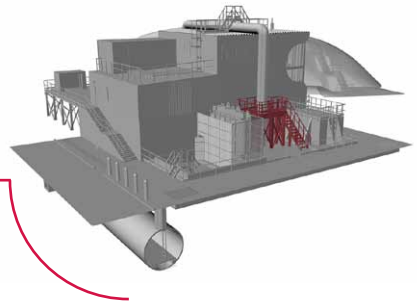
Almost all assembly methods used for wood, aluminium, steel or other materials can be adopted to assemble Dura Profiles. The following techniques should be followed:

- Router bits and saw blades should be diamond-coated.
- Carbide tipped drill bits. Speeds should take whole size and thickness into consideration.
- Counter support is necessary when drilling hollow profiles.
- A medium course grinding wheel is preferable to the finer grades.
- 'Lag' screws/bolts are not recommended for fastening Dura Profile.
- Punches work better with a slight sheer edge.
- Solvents, such as methylene chloride or acetone should be used to prepare surface for bonding.

It is good practice to seal all exposed edges with a suitable resin sealant.

Structures

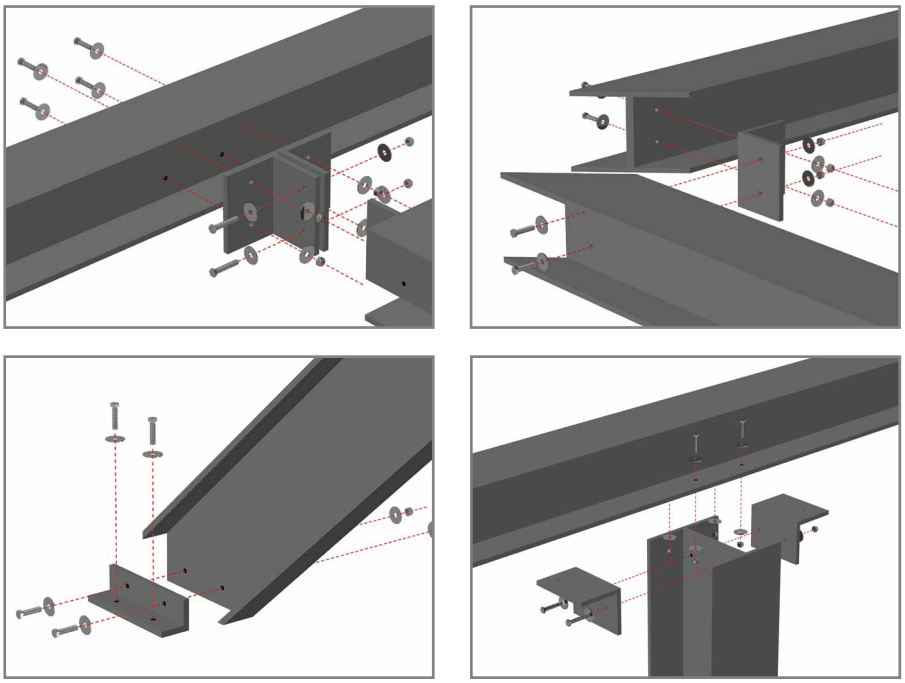




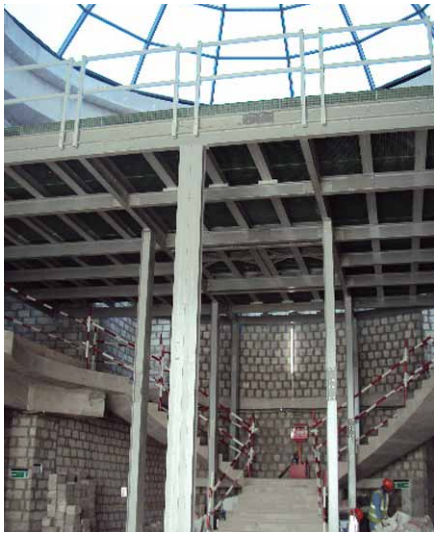
Bespoke structures can be developed to accommodate existing infrastructure and obstacles

Ideal choice in corrosive and hard to access environments where low weight is key

Access Platform and safety handrailing



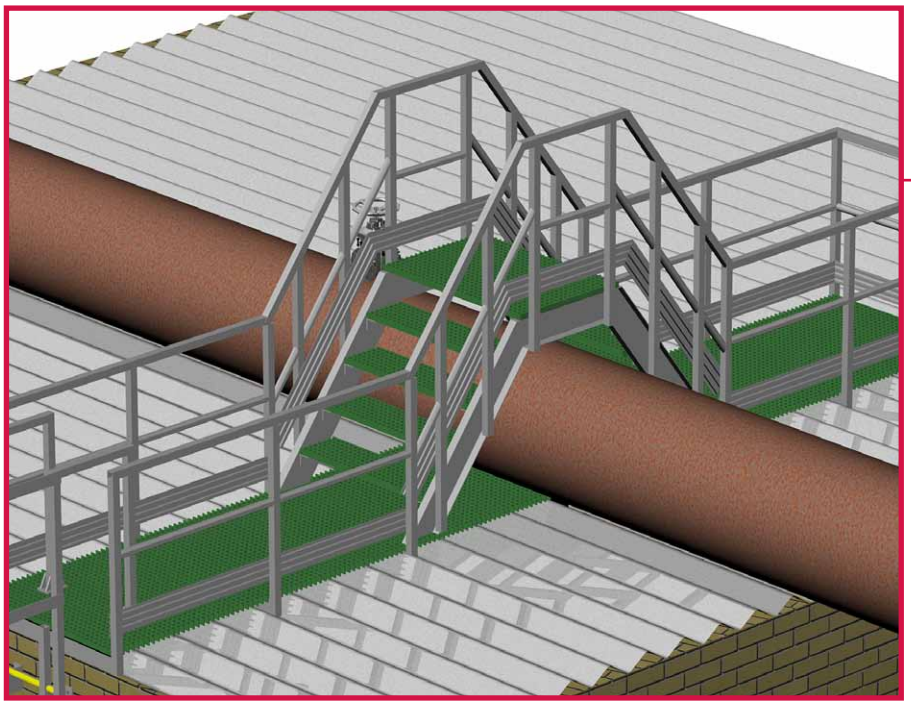
Illustrations to show simple fabrication of components to form structures



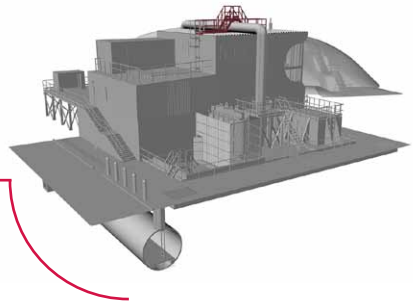
FRP I Beam structure for temporary work platform in luxury hotel construction

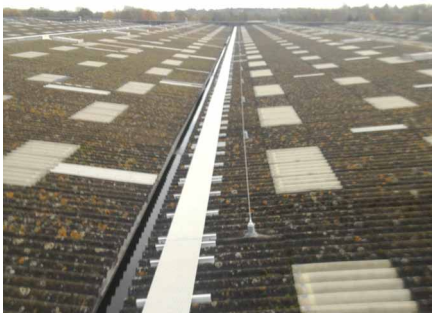
For technical specifications on our Structure Fabrications range please visit: www.duracomposites.com/fibreglass-fabrications/

Roof Walkways



Roof access walkway featuring up and over stair system





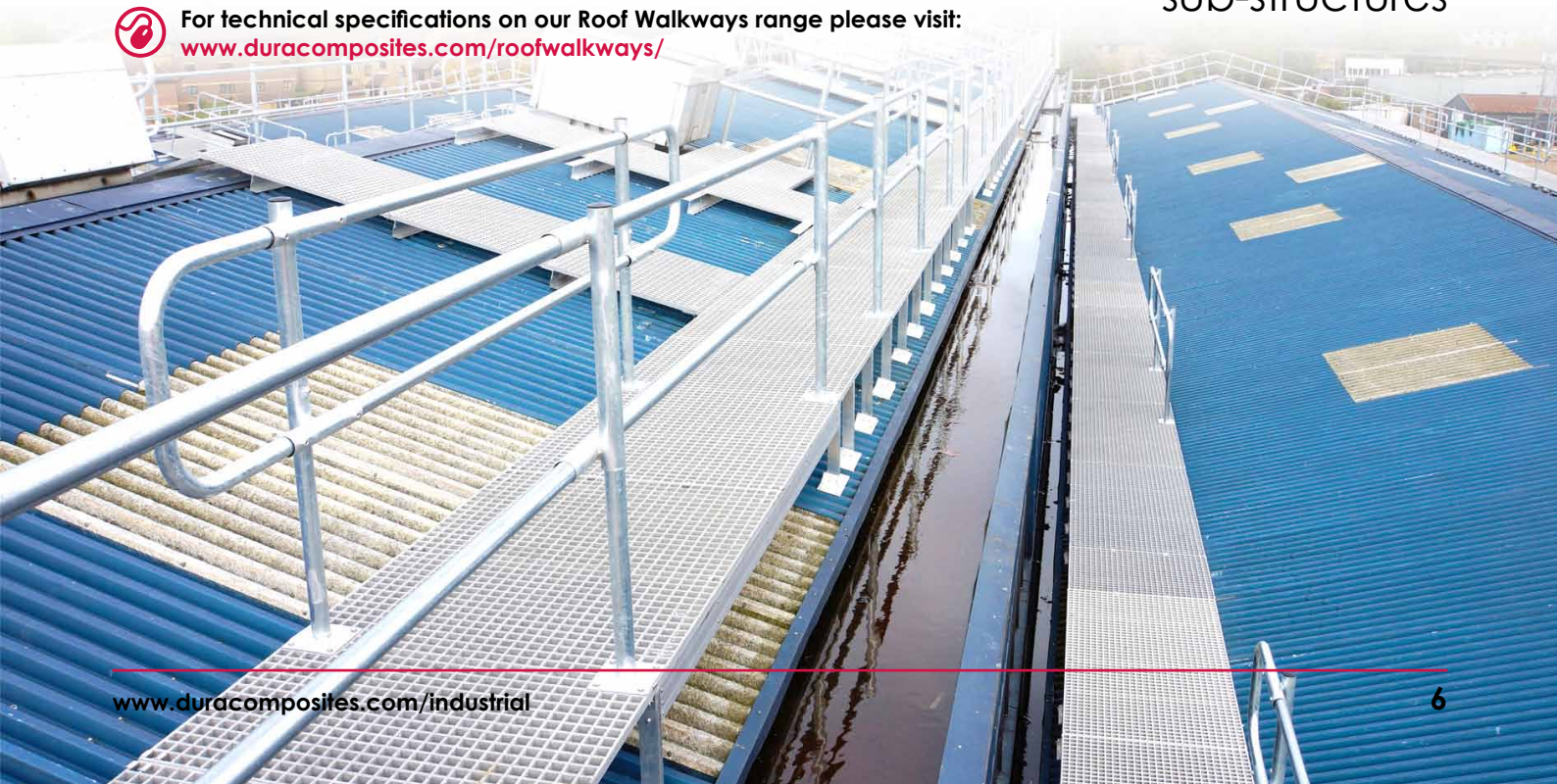
Grey Dura Grating walkway featuring Dura Profile support system

Grey Dura Grating walkway incorporating safety handrail

High visibility yellow Dura Grating Mini-Mesh walkway

Dura Profile is fast becoming the material of choice for work platforms, ladders, handrailing, cable trays and floor sub-structures

For technical specifications on our Roof Walkways range please visit:
www.duracomposites.com/roofwalkways/



Access Ladders

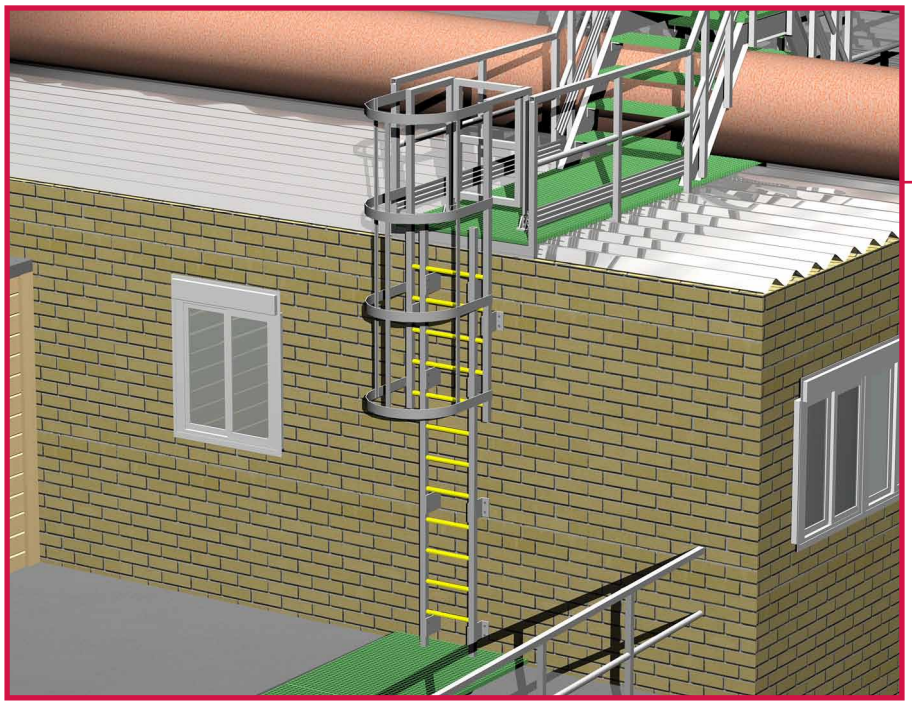
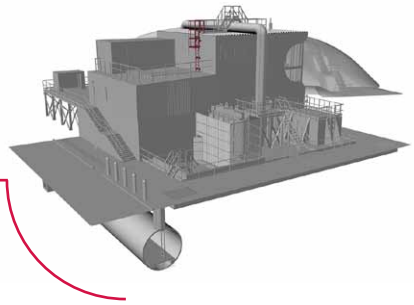


Illustration to show how access to a roof can be gained safely using a ladder system incorporating a safety cage and walk through



Dura's FRP Access Ladders are manufactured using fibreglass pultruded profiles which are lightweight, chemical resistant and are easily installed to provide solutions for vertical access.

They can be supplied in any specification to any length up to 6 metres and can be equipped with safety cages and walk throughs.

The access ladder stringers are pultruded for maximum strength and the ladder rungs have an anti-slip surface. The rungs are both mechanically jointed and epoxy glued for long term durability and safety.

Flexible high performance ladder systems for safety and longevity

Basic wall mounted ladder

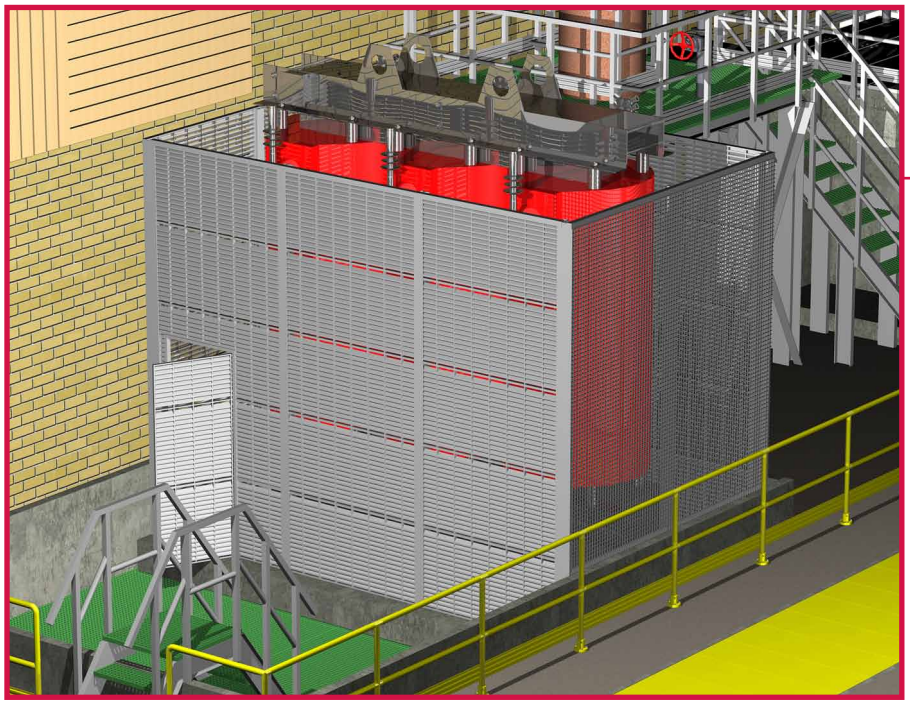
Ladder incorporating safety walk through module

Full ladder system incorporating safety cage and walk through modules

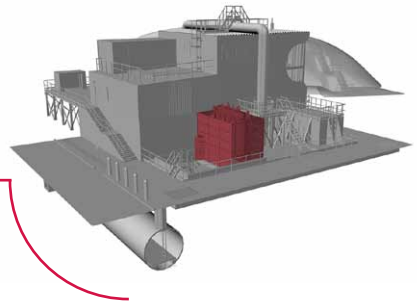
Bespoke specifications such as long lengths available to order

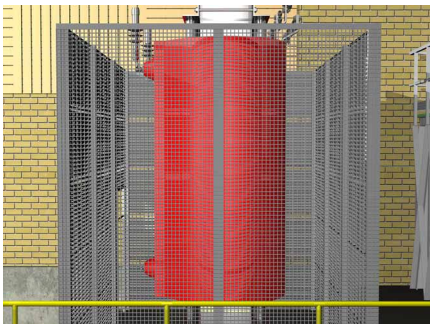
For technical specifications on our Access Ladders range please visit:
www.duracomposites.com/fibreglass-ladders/

Protective Screens

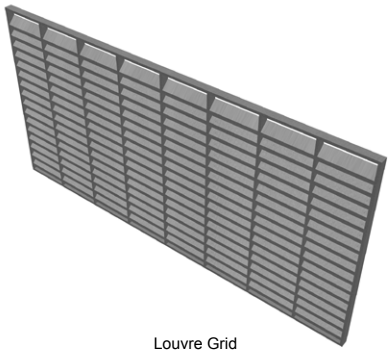


Protective Screen system incorporating safety door and featuring both louvred panels for security and safety to front and Open Grid for easy inspection to side.



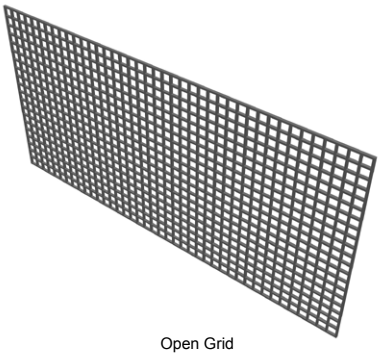


Open Grid system allows visuals checks



Louvre Grid

FRP high strength, lightweight & strong systems for security of contents, yet allowing for visual inspection and ventilation, providing a non-conductive protective barrier with no metallic parts to touch.



Open Grid

Louvre system minimises risk of escaping debris yet allows ventilation

Open grid system ideal to screen items at height and to blend with walkway floor grating

For technical specifications on our Protective Screens range please visit:
www.duracomposites.com

Stair Access Systems

Dura Fast Step & Dura Stair Grating

Providing safe stair access for both the public and to works staff is a priority aim for many companies. Dura Fast Step is a ground breaking pultruded FRP rapid install stair system ideal for use on embankments to provide safe access to works staff and also to passengers in the event of evacuation. It is designed as a modular system allowing the contractor huge flexibility both at the design stage and also on-site and features an anti-slip solid surface to cater all types of footwear. Dura Stair Grating is also very versatile and features a quartz embedded anti-slip gritted surface with an open mesh FRP finish to allow light transmittance and major weight savings. Both products are precision engineered and feature permanent hi visibility strips on each stair nose for maximum pedestrian safety. The products can be manually handled and are available on short lead times to provide maximum workability on and off site allied to fast installation.

Applications

- Embankments
- Road Access Points
- Field Access
- Signal Boxes
- Work Platforms
- Temporary Access

Features

- High Strength To Weight Ratio
- Bespoke Construction
- Pre-Fabricated
- Corrosion Resistant
- Easy To Install With Minimal Plant
- Assembled In Modules

Benefits

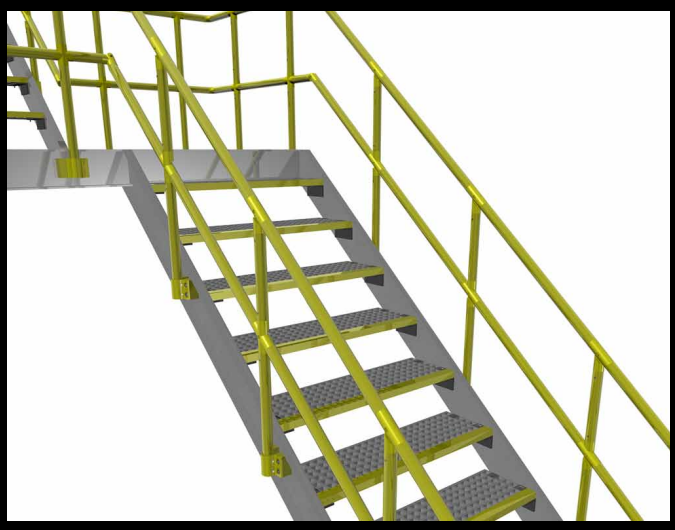
- Modular Systems / Rapid Installation
- Design Flexibility
- Saves On Possession Times
- Can Be Used In Harsh Environments
- Ideal For Manual Handling
- Temporary & Permanent Applications

Product Range

Dura Fast Step - Embankment Steps

- Embankment Stairs
- Solid Treads
- No Sub-Structure

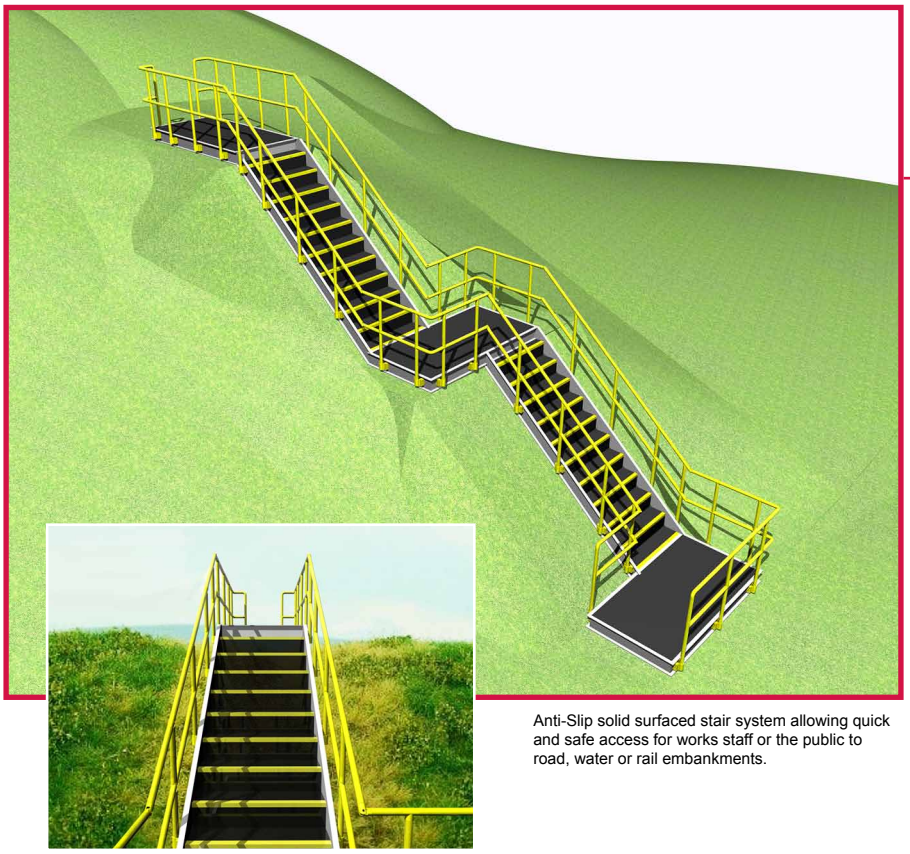
Dura Stair Grating - Grating Stair Access



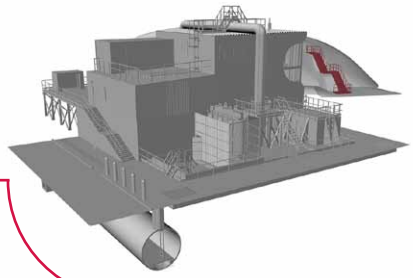
- Stair Access For All Purposes
- Open Mesh Treads
- Provides Sub-Structure

For technical specifications on our Dura Fast Step or Dura Stair Grating range please visit:
www.duracomposites.com/dura-grating-fibreglass-grating/anti-slip-stair-treads-structural-anti-slip-steps

Dura Fast Step

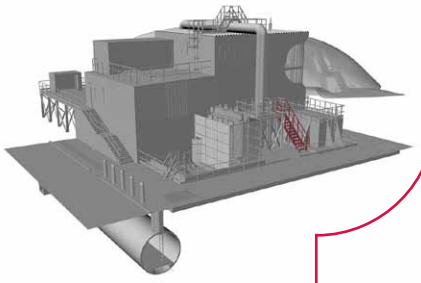


Anti-Slip solid surfaced stair system allowing quick and safe access for works staff or the public to road, water or rail embankments.



Dura Fast Step is a ground breaking pultruded FRP rapid install stair system ideal for use on embankments to provide safe access to works staff and also to members of the public in the event of emergency. It is designed as a modular system allowing the contractor huge flexibility both at the design stage and also on-site and features an anti-slip solid surface to cater all types of footwear.

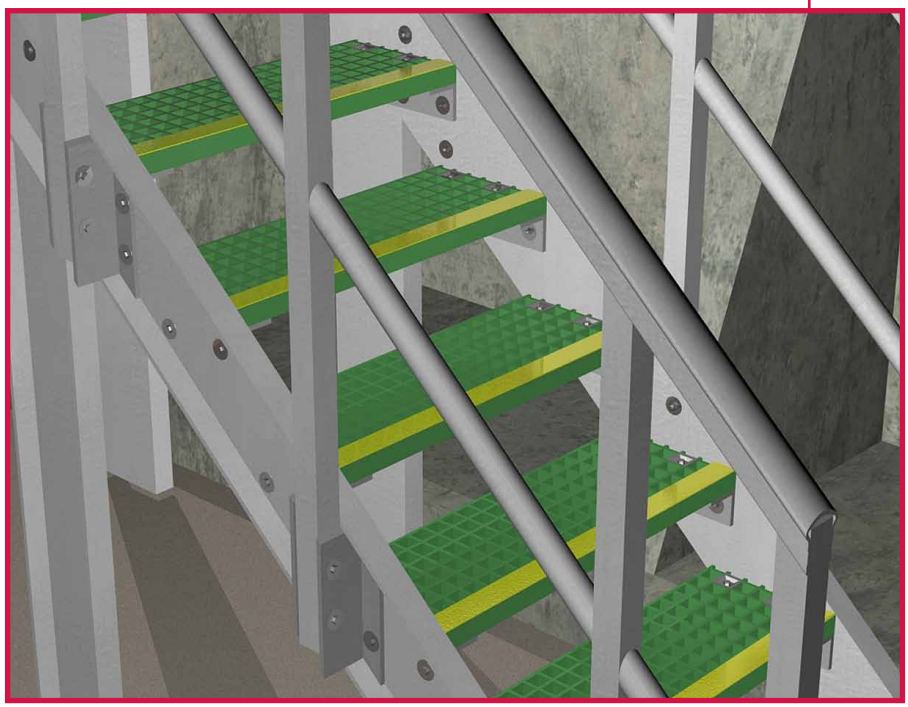
Dura Stair Grating



Dura Stair Grating is very a versatile, moulded structural walkway and features a quartz embedded anti-slip gritted surface with an open mesh FRP finish to allow light transmittance and major weight savings.

It is precision engineered and can feature permanent hi visibility strips on each stair nose for maximum pedestrian safety.

Up and over stair system to reduce the possibility of safety issues on utility premises



FRP components designed and fabricated for permanent or temporary installations

Structural Walkways & Risers

Dura Grating

Dura Grating is a highly engineered open mesh structural flooring system manufactured using advanced composite technology. It features one of the highest degrees of slip resistance ever measured for a walking surface and can be used in a variety of internal and external applications to replace steel, metal or wood.

Applications

- Industrial Flooring
- Walkways
- Platforms
- Assembly Lines
- Wash Bays
- Work Stations
- Stairs
- Riser Flooring
- Offshore Platforms

Features

- Anti-Slip Surface
- High Load Capacity
- Easy installation
- Lightweight
- Corrosion Resistant
- Fire Retardant
- Impact Resistant
- Low Maintenance
- Non Conductive

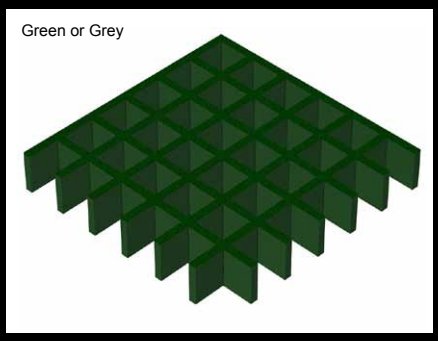
Benefits

- Prevents Slips, Trips And Falls
- Can Replace Steel
- No Specialist Equipment Required
- Can Be Man Handled
- Can Be Used In All Environments
- Break Out Of Fire Unlikely
- Suit Heavy Industrial Environment
- Lower Life Cycle Costs
- Eliminates Risk Of Electrocution

Dura Grating Range

Standard Moulded Grating

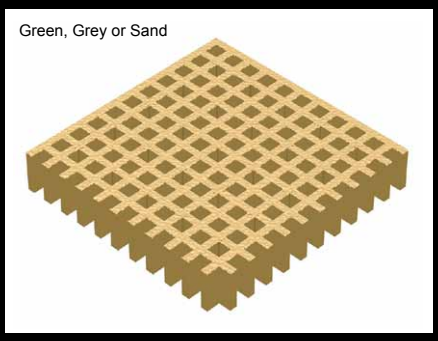
Green or Grey



- Multi-Directional Walkways
- Ultimate Anti-Slip Performance
- Meets BS EN14122 Category A

Mini Mesh Moulded Grating

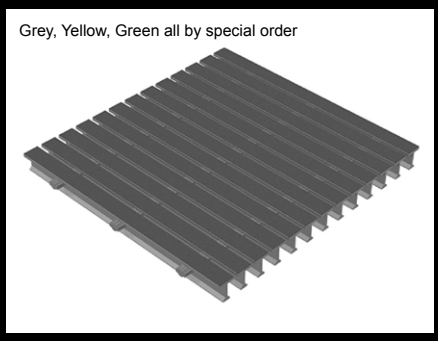
Green, Grey or Sand



- Trolley / Wheelchair Access
- Prevents Small Objects Falling Through
- Meets BS EN14122 Category B

Pultruded Grating

Grey, Yellow, Green all by special order



- Uni-Directional Walkways
- High-Load Bearing Areas
- Cover Large Spans

Product Selector

Standard Moulded Grating

Product	Length	Width	Open Hole Size	Weight Kg²
Type 13	3050mm 3660mm	1020mm 1220mm	45mm	5.8kg
Type 25	3000mm 3660mm	1000mm 1220mm	32mm	12.3kg
Type 30	3000mm 3660mm	1000mm 1220mm	32mm	14.6kg
Type 38	3000mm 3660mm	1000mm 1220mm	32mm	19.5kg
Type 50	3050mm 3660mm	1020mm 1220mm	42mm	23.5kg
Type 50 HD	3050mm 3660mm	1020mm 1220mm	28mm	42.0kg
Type 63 HD	3050mm 3660mm	1020mm 1220mm	28mm	54.0kg

Mini Mesh Moulded Grating

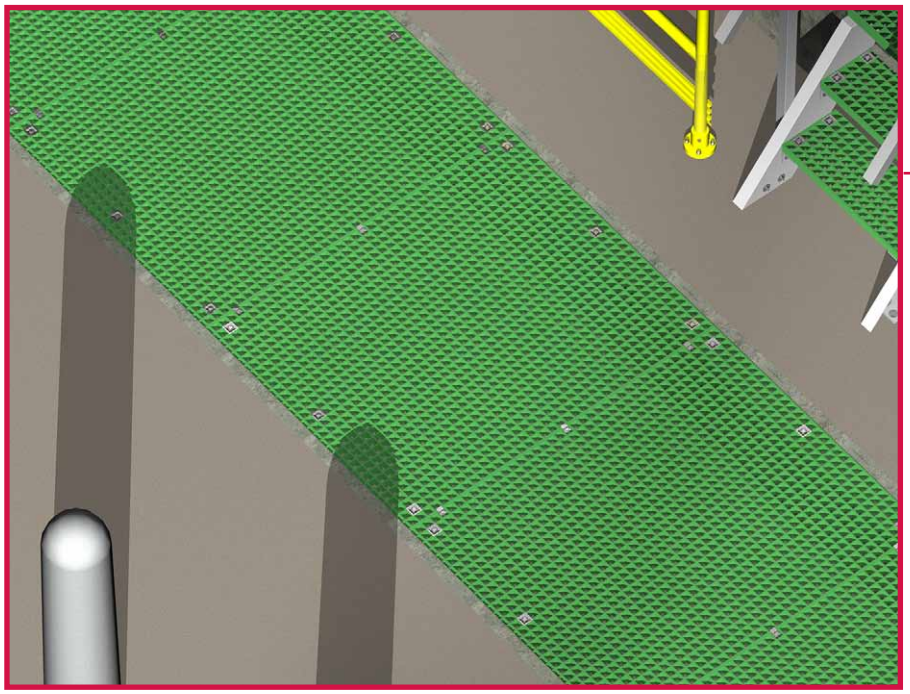
Product	Length	Width	Open Hole Size	Weight Kg²
Type 14	3007mm 4047mm	1007mm 1247mm	12mm	10.5kg
Type 22	3007mm 4047mm 4047mm	1007mm 1247mm 1587mm	12mm	15.0kg
Type 30	3007mm 4047mm	1007mm 1247mm	12mm	18.3kg
Type 38	3007mm 4047mm	1007mm 1247mm	12mm	23.0kg

Pultruded Grating

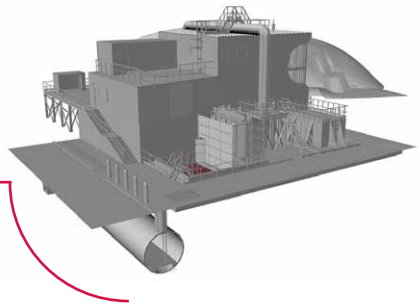
Product	Length	Width	Open Hole Size	Weight Kg²
Type 25	3000mm 3660mm	1000mm 1220mm	60%	12.2kg
Type 30	3000mm 3660mm	1000mm 1220mm	60%	12.6kg
Type 38	3000mm 3660mm	1000mm 1220mm	60%	16.2kg
Type 50	3050mm 3660mm	1020mm 1220mm	60%	20.0kg
Type 50 HD	3050mm 3660mm	1020mm 1220mm	60%	43.5kg
Type 63 HD	3050mm 3660mm	1020mm 1220mm	60%	53.0kg
Type 75	3050mm 3660mm	1020mm 1220mm	60%	45.65kg
Type 100 HD	3050mm 3660mm	1020mm 1220mm	60%	79.5kg

For technical specifications on our Dura Grating range please visit:
www.duracomposites.com/dura-grating-fibreglass-grating/load-deflection-data

Utility Walkways



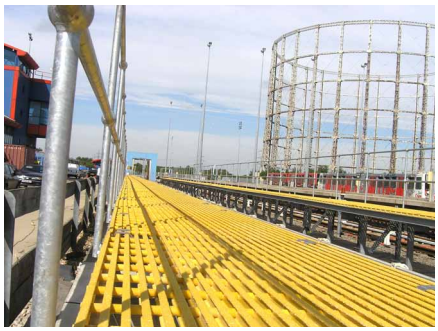
Moulded Dura Grating green structural walkway allowing safe passage above trench carrying surfaces that require ventilation



Dura Grating is an anti-slip composite floor grating system constructed from fibreglass as an ideal and cost effective alternative to traditional floor grating materials like mild steel, stainless steel grating, aluminium or wood.

Dura Grating grid flooring is durable, lightweight, chemical and corrosion resistant which makes it ideal for the industrial, chemical, construction and shipping industries.

It is non-sparking and non-conductive, light weight easy to handle with the ability to be cut and shaped using simple battery powered hand tools and is offered in moulded square mesh or pultruded rectangular mesh format.



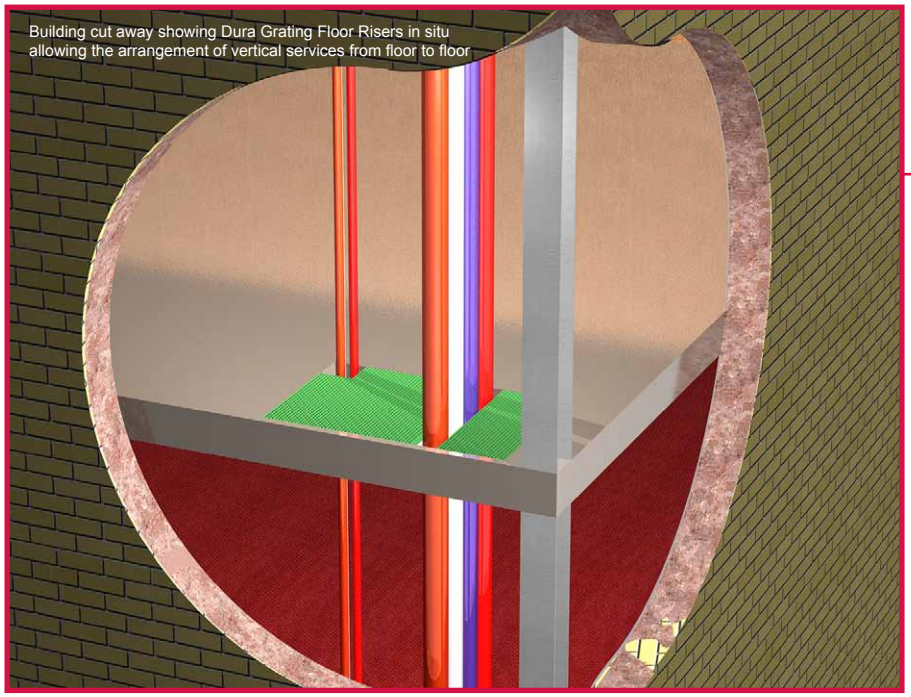
Pultruded Dura Grating Type 38 in hi visibility yellow providing maximum load capacity on wash bay platform in single direction

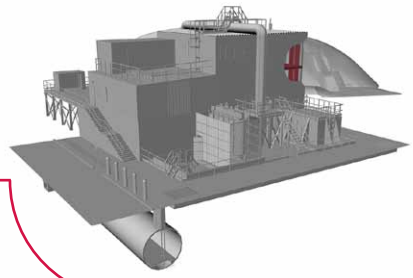
Standard Moulded Dura Grating Type 13 used as an anti-slip open mesh topping for existing structure

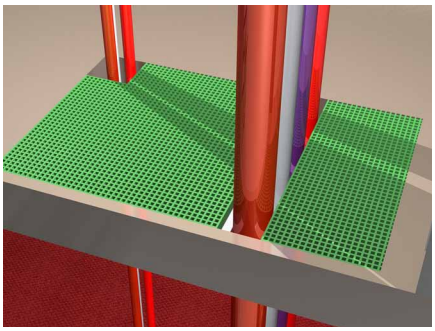
Standard Moulded Dura Grating Type 30 can be used for a wide number of applications where strength and longivity are critical such as this partially submerged waste water treatment plant

One of the Highest Slip Resistances Ever Measured

Floor Risers


Building cut away showing Dura Grating Floor Risers in situ allowing the arrangement of vertical services from floor to floor


Close up showing service pipes through Service Riser deck



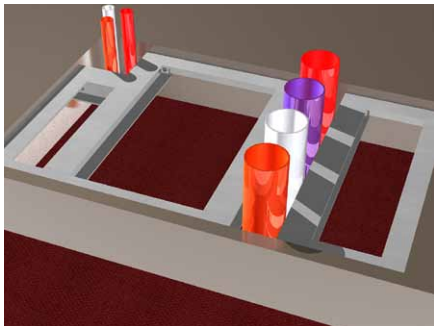

Reinforcing framework such as Dura Profile is recommended to ensure structural integrity of Dura Grating Floor Risers

Image showing Mini Mesh Dura Grating Type 38 in place prior to fitment of vertical services which would be cut and reinforced to suit

Service Risers

Dura Grating Service Risers can be installed following form work removal as the risers form part of the general floor plate. The mesh size (12mm) of the service riser floor grating ensures that a traditional ply covering is not required. Service penetrations can be cut into the riser grating in the permanent location.

Lift Risers

Dura Grating Lift Risers are often specified in order to provide a safe working environment prior to the fitment of lift equipment. Lift Riser decks can feature temporarily on each floor level and permanently at the top of the lift shaft for safe maintenance and inspection.

Dura Grating Lift Risers can be installed on each floor during the build to provide worker safety on-site; they can then be cut to suit permanent riser shaft equipment or services

Top of lift shaft fitted with steel frames and fixed within a concrete slab and then decked with Mini Mesh Dura Grating Type 38 Lift Risers to prevent falls and loss of equipment tools during the build process and/or during routine maintenance

For technical specifications on our Floor Risers range please visit:
www.duracomposites.com/lift-risers/

Raised Walkways

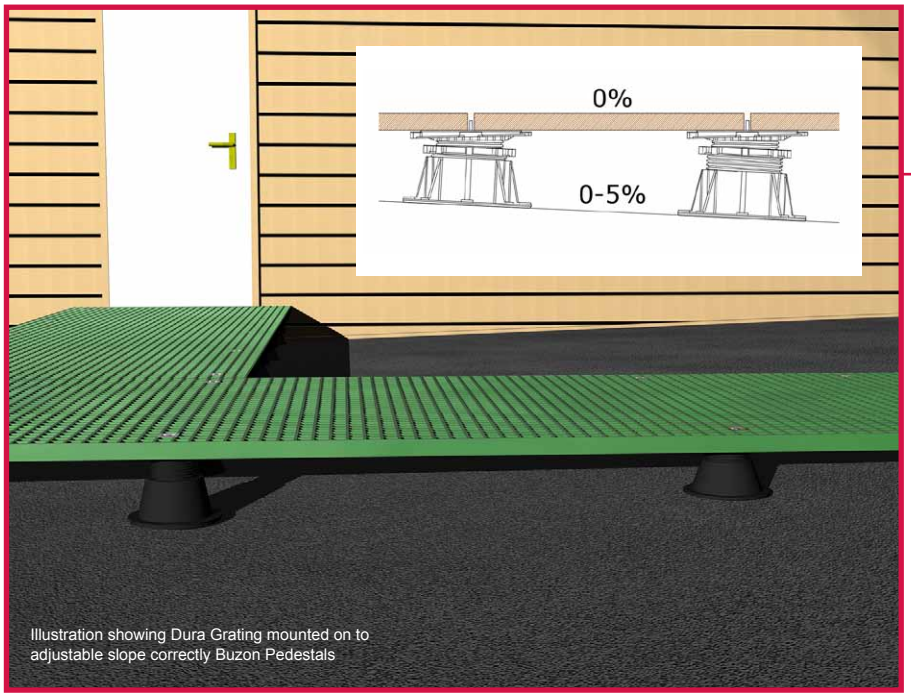
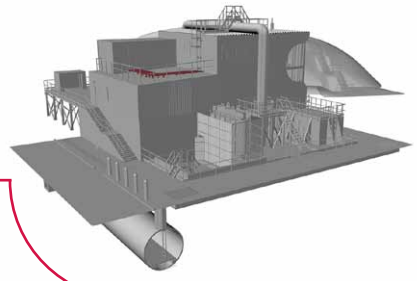


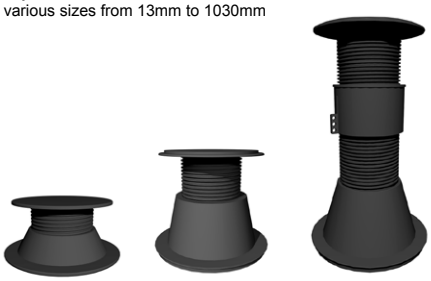
Illustration showing Dura Grating mounted on to adjustable slope correctly Buzon Pedestals


Installation featuring slope correcting Pedestals to provide level walking surface

Sloped

Quite often an existing sub-flooring substrate is not level but a level walkway is required for safe pedestrian access. Raised Walkways featuring Dura Grating can be specified that allow the finished walkway to be level using adjustable pedestals. These pedestals can also be used to provide a fall for drainage or other purposes as necessary.

Adjustable Buzon Pedestal available in various sizes from 13mm to 1030mm



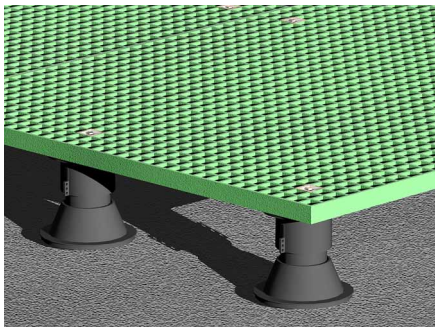
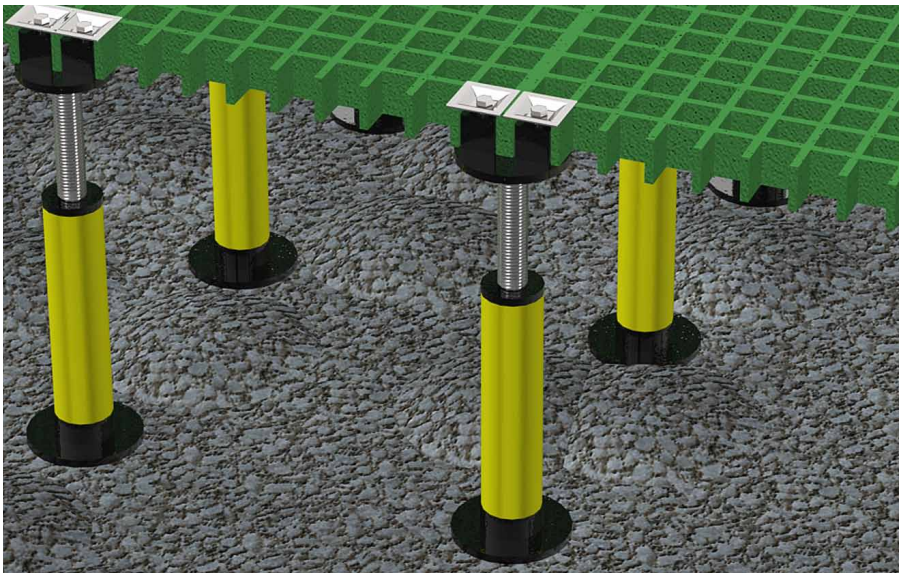


Illustration showing fixing detail and appearance from above surface


FRP Pedestals can be used to raise walkways to a specified height using multi headed fixing systems. This illustration features a double headed pedestal capable of joining panels together securely.

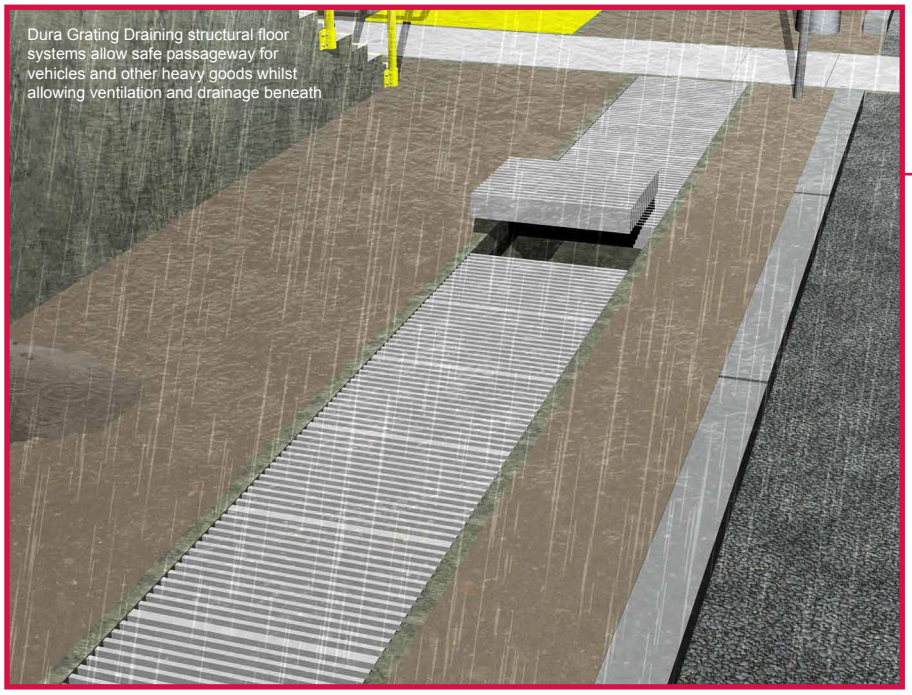
Level

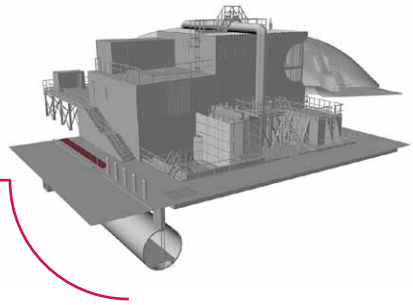
Raised Walkways are often required for areas subject to flooding or other liquid contamination. Various solutions are available to provide safe, raised walkways including anti-slip surfaces. Single, double and quad headed pedestals cater for a multitude of applications.

Wide range of pedestals available

For technical specifications on our Raised Walkways range please visit:
www.duracomposites.com/dura-grating-fibreglass-grating/

Heavy Duty Draining


Dura Grating Draining structural floor systems allow safe passageway for vehicles and other heavy goods whilst allowing ventilation and drainage beneath

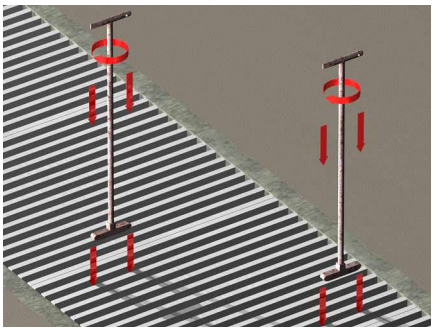


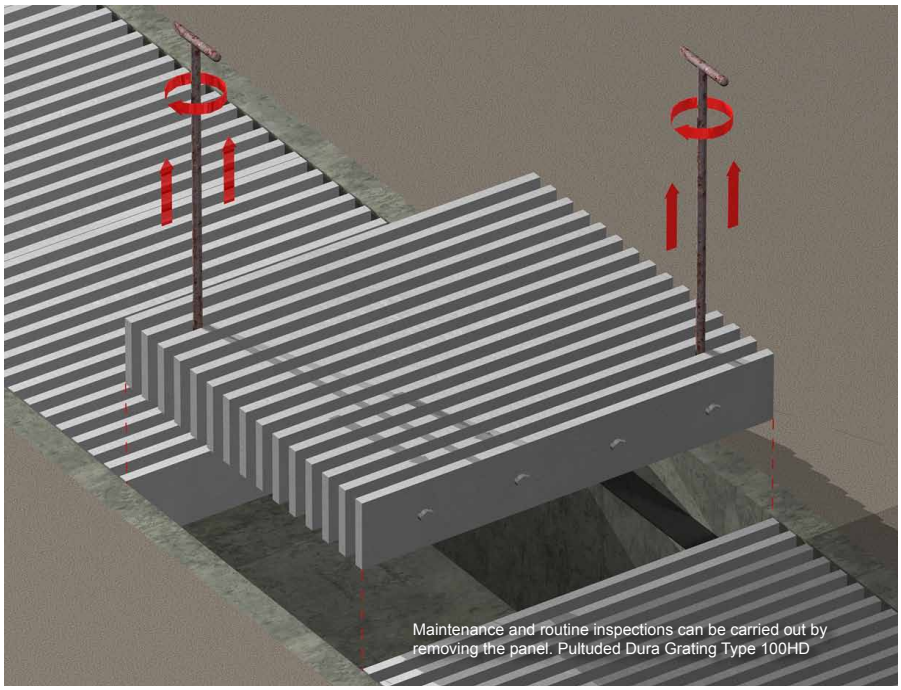
Heavy Duty Dura Grating is specifically designed to allow vehicles or other heavy plant to cross service trenches.

Featuring an anti-slip surface and constructed from fibreglass it is an ideal and cost effective alternative to traditional floor grating materials like mild steel, stainless steel grating, aluminium or concrete.

It is durable, lightweight and chemical and corrosion resistant which makes it ideal for the industrial, chemical, construction and shipping industries.

Colour coding can be used to identify crossing areas for heavier traffic. Standard Moulded Dura Grating Type 50HD


Close up showing simple removal for inspection, using hook device


Maintenance and routine inspections can be carried out by removing the panel. Pultuded Dura Grating Type 100HD

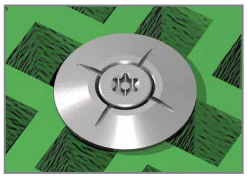
Allows safe vehicle crossing whilst providing maintenance inspection access over extended service life with corrosion and fire resistance

Various thicknesses can be specified to suit different load requirements. Moulded Standard Dura Grating Type 63HD

Fixings

A wide range of fixing solutions are available to cater for the huge number of applications that our Structural Walkways and Risers are suited to. These are as follows:

Dome Headed Recessed Clips

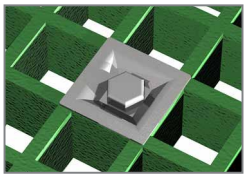


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
Small	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗
Large	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Features

- Direct fix to substrate
- Domed shape reduces trip hazard
- Heavy Duty Fixing Clip
- Cost effective
- Countersunk Head / Captive Nut compatible (M8 - Large, M6- Small)
- Large 5mm / Small 3mm Proud

Square Recessed Clips

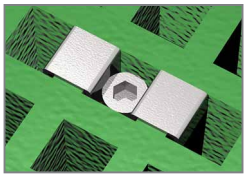


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
Small	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Large	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Features

- Direct fix to substrate
- Heavy Duty Fixing Clip
- Compatible with various fixing systems including: Anchors, Through Bolts, Resin Anchors, Self Drilling Screws, Captive Nut, Hex Head
- Recessed design only 1.5mm Proud

M Clip

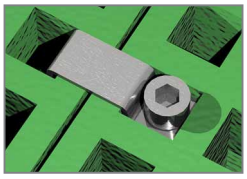


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
Small	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗
Large	✗	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓

Features

- Direct fix to substrate
- Suits all Mini Mesh with a hole size of 12x12
- M6 Bolt Soc Cap Head compatible
- Recessed design only 1.5mm Proud

G Clamp

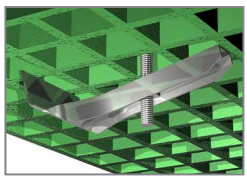


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗

Features

- Non structural panel to panel joining system
- Suitable for temporary floor systems
- M6 Bolt Soc Cap Head compatible

J Clamp

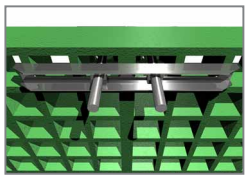


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
Small	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Large	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Features

- 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

Channel Clamp

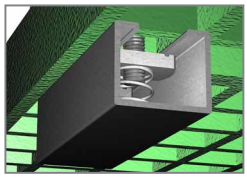


	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Features

- 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

Adjustable Heavy Duty Channel Clamp



	Standard Moulded Grating							Mini Mesh Moulded Grating				Pultruded Grating				
	13	25	30	38	50	50HD	63HD	14	22	30	38	25	38	50	63HD	100HD
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Further fixing solutions are available on request.

Features

- Adjustable fixing clamp
- Structural panel join
- Surface fixing solution
- Does not require tightening from underneath
- Used where direct substrate fitting with Bolt/Screw is not permitted
- M8 Bolt Thread compatible
- M8 Square Nut essential

Structural Covers & Decking

Dura Slab

Dura Slab is a precision engineering high capacity heavy duty structural flooring slab designed to replace heavy concrete. It's light weight design dramatically reduces the cost of installation and maintenance as well as transport.

Applications

- Trench Covers
- Industrial Flooring
- Work Platforms
- Tank Covers
- Service Duct Covers
- Commercial Decking
- Bridge Decking
- Balcony Flooring

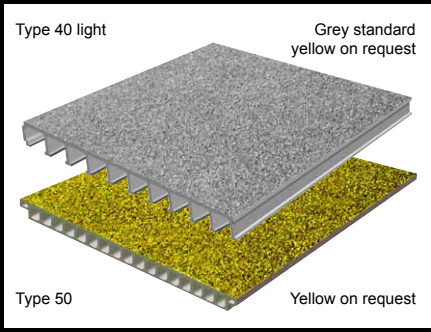
Features

- High Load Capacity
- Low Weight
- Corrosion Resistant
- Fire Retarded
- Anti-Slip Surface
- Impact Resistant
- Lifting Eye Options
- Lockable
- Rubber Gasket Options
- Memory Deflection

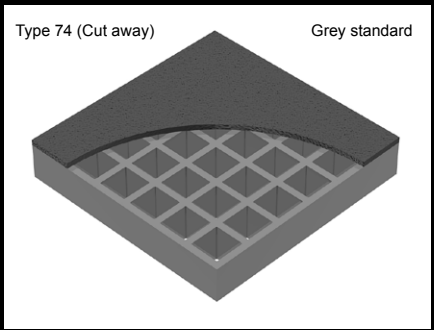
Benefits

- Up to 11.5 T SWL
- 2 Man Lift
- Use In Harsh Environment
- Unlikely To Flame
- Reduces, Slips, Trips And Falls
- Suit Harsh Environments
- Regular Maintenance Easy
- Conceal Valuable / Fragile Items
- Liquid Sealable
- Won't Fail Due To Cracking

Dura Slab Range



- Ultimate Strength / Span
- Suits Liquid Seal Applications
- Inter-Connecting Details



- Multi-Directional Strength
- Suits Curves, Small Areas
- Large Panel Available

Pultruded

Product	Length	Width	Kg²	Span in mm								
				500	600	750	1000	1200	1500	2000	2500	3000
Type 40 Light	3660mm	500mm	17.2	A	A	A	A	A	A	A	-	-
Type 50 Light	3660mm	500mm	24.0	A	A	A	A	A	A	A	A	-
Type 45	3660mm	700mm	25.0	A	A	A	A	A	A	A	A	A
Type 50	3660mm	475mm	36.4	B	B	B	B	B	A	A	A	A
Type 100	3660mm	600mm	48.3	tbc	tbc	tbc	tbc	tbc	tbc	tbc	tbc	tbc
Type 100 HD	2440mm	600mm	92.1	D	D	C	C	C	C	C	B	B

Moulded

Product	Length	Width	Kg²	Span in mm								
				500	600	750	1000	1200	1500	2000	2500	3000
Type 30 Light	3000mm Up to 3660mm	1000mm Up to 1220mm	24	A	A	-	-	-	-	-	-	-
Type 43 Light			30	A	A	A	-	-	-	-	-	-
Type 55 Light			34	A	A	A	A	-	-	-	-	-
Type 18			19	A	A	-	-	-	-	-	-	-
Type 50			44	B	B	A	A	A	-	-	-	-
Type 74			76	B	B	B	B	B	B	A	A	-

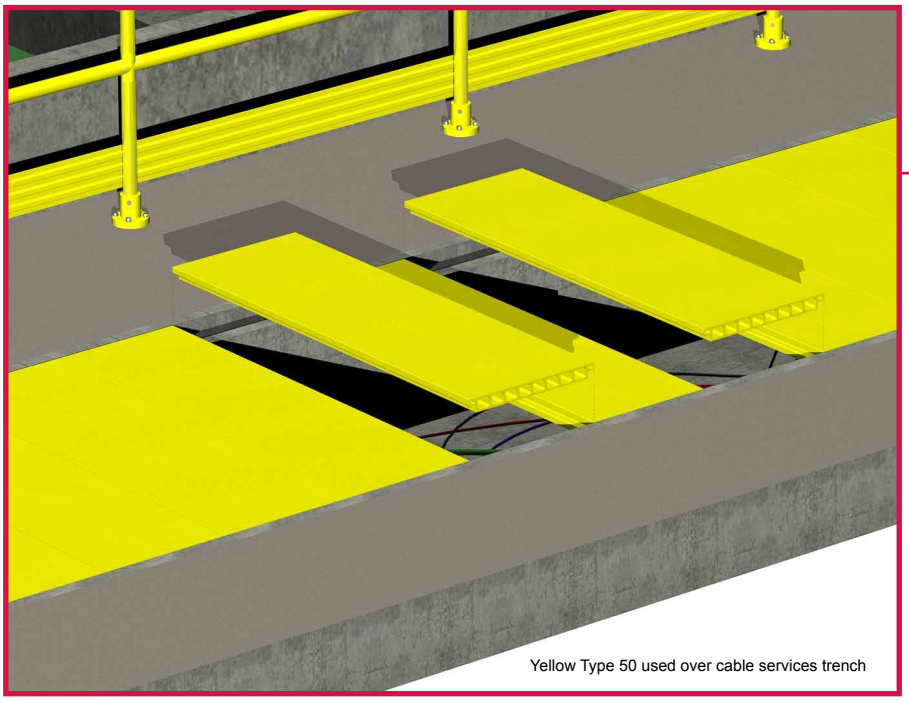
Other items available on request

BS EN 124 Load Classifications

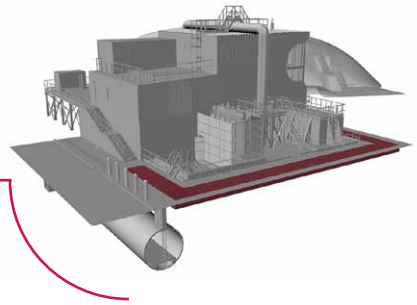
Classification	Code	Working Load	Ultimate Load
Class A	A15	5kN	15kN
Class B	B125	50kN	125kN
Class C	C250	65kN	250kN
Class D	D400	108kN	400kN

For technical specifications on our Dura Slab please visit:
www.duracomposites.com/dura-slab-fibreglass-trench-covers/load-deflection-data

Pedestrian Trench Covers

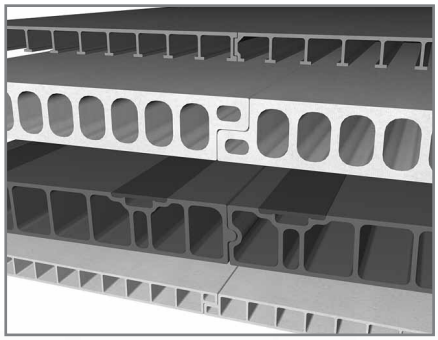


Yellow Type 50 used over cable services trench



Dura Slab installed at electrical sub-station

Pultruded through a die, Dura Slab exhibits an incredible strength to weight ratio producing a composite flooring structure that is rigid, strong, lightweight, non-corrosive, durable and maintenance free with an anti-slip surface.

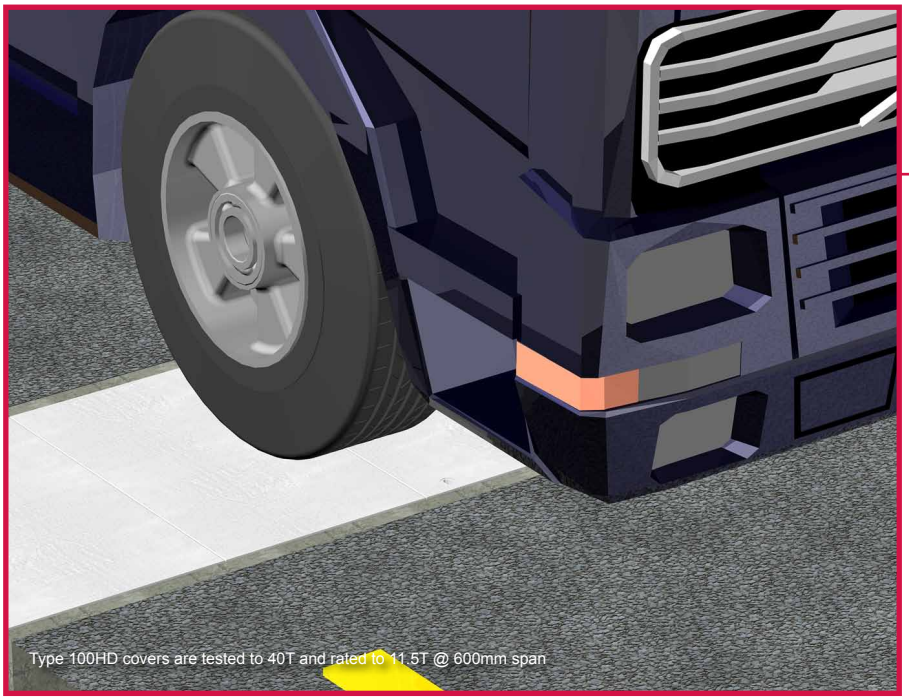


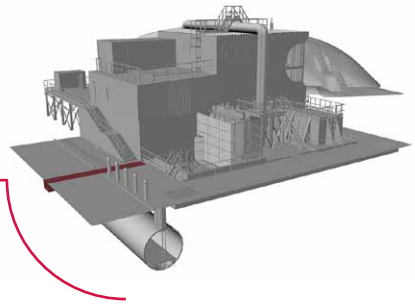
Designed to allow simple install and removal

Slabs can be cut on site or in factory to suit exact dimensions

Can be cut to suit non straight runs

Vehicular Trench Covers



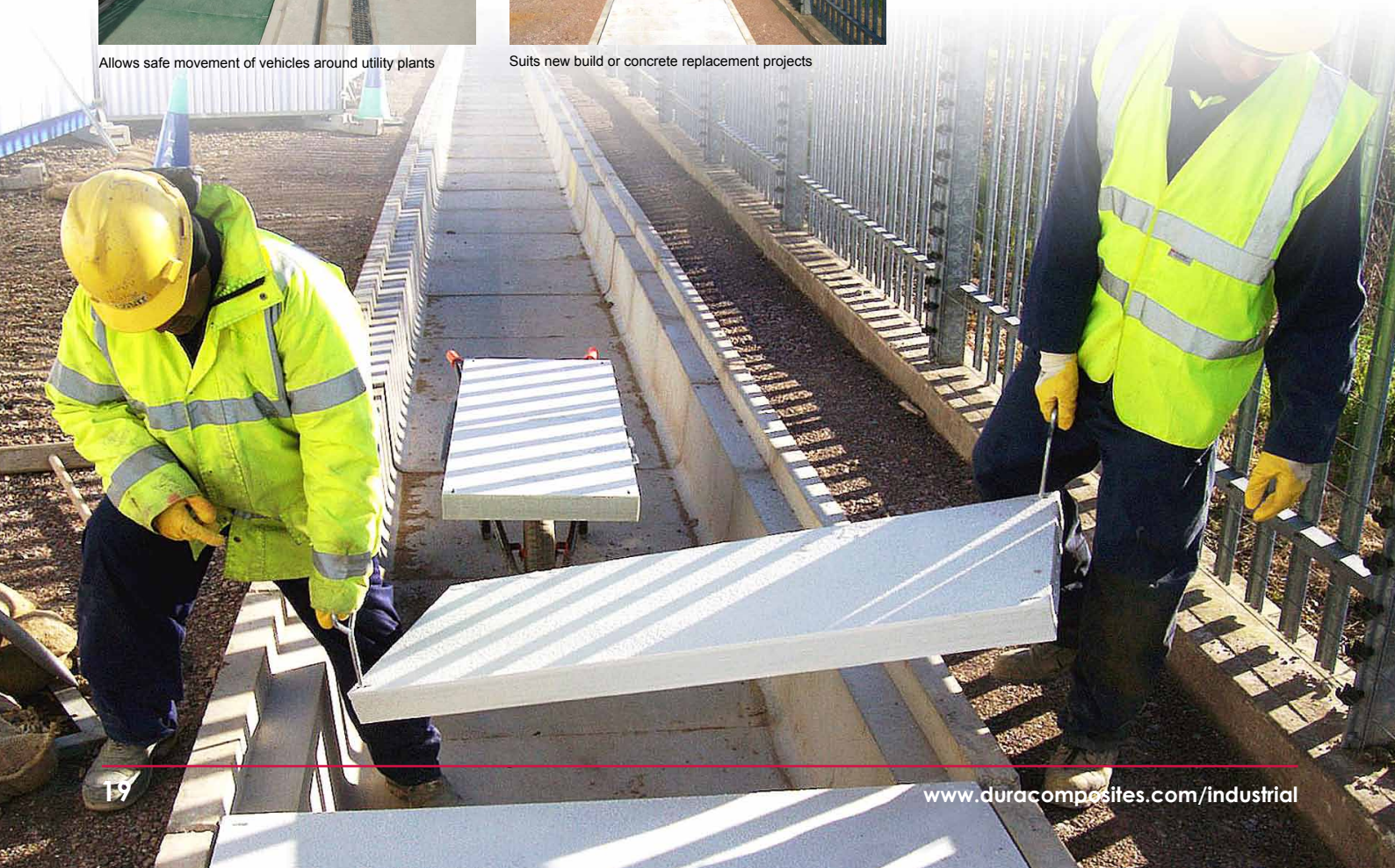


Alternate colours for high visibility in poor weather conditions

Allows safe movement of vehicles around utility plants

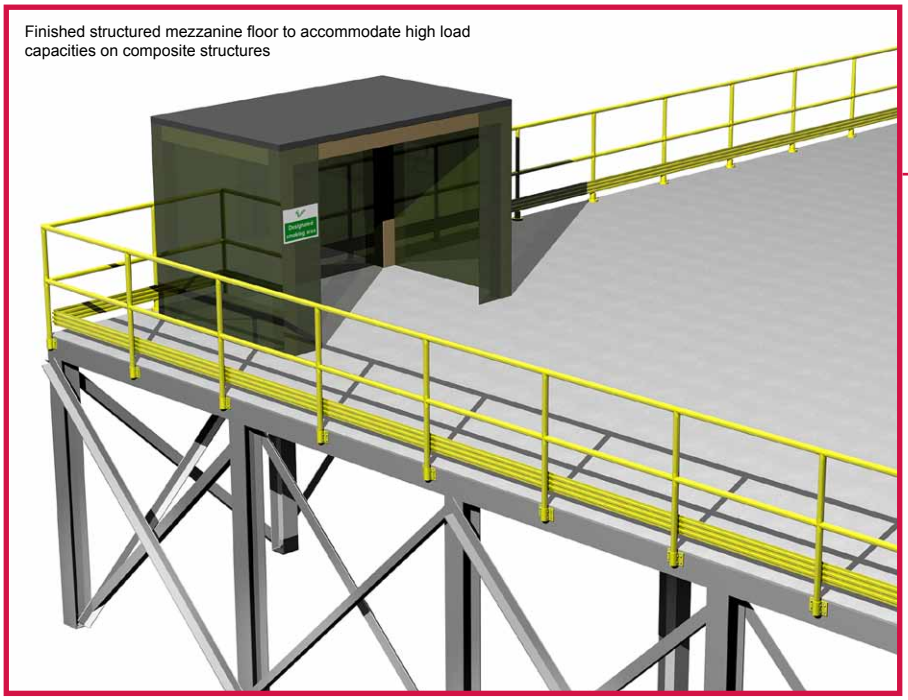
Suits new build or concrete replacement projects

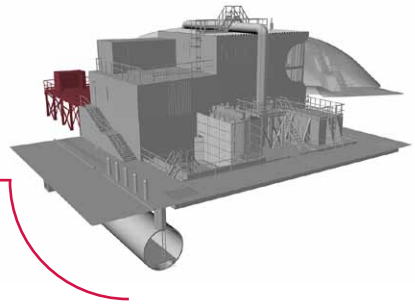
Dura Slab has been engineered as a concrete lid replacement system. The covers are designed to deflect slightly preventing failure due to cracking whilst retaining lightweight characteristics.



Commercial Decks

Finished structured mezzanine floor to accommodate high load capacities on composite structures



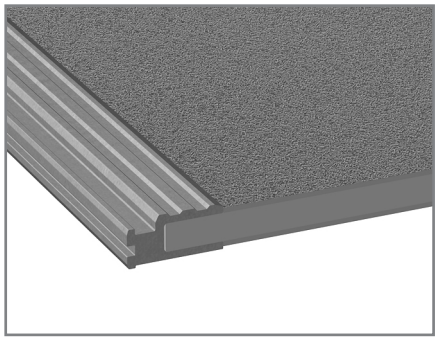


Dura Slab can be specified for use as commercial decks on applications such as balconies, studio flooring or mezzanine floors. The combination of lightweight design, anti-slip surface, fire and corrosion properties means the scenarios for its use are endless.

Stadium flooring is typically produced using plywood, but following extensive testing Dura Slab has been chosen for prestigious projects including RDS Stadium in Dublin. The flooring between each row of seats will now last for up to 25 years as opposed to the 2-3 years of the previous materials.

Stadium flooring panels in situ - Type 18

Balcony walkway flooring solution replacing traditional materials



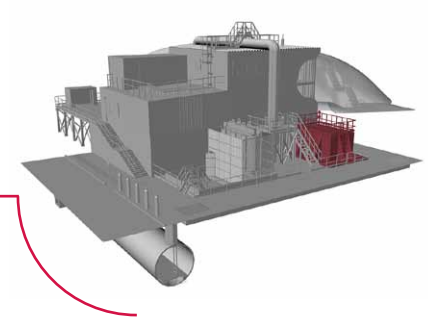
Specialist profiles can be developed to suit specific projects such as this stadium flooring panel

Corners or curves can be dealt with easily

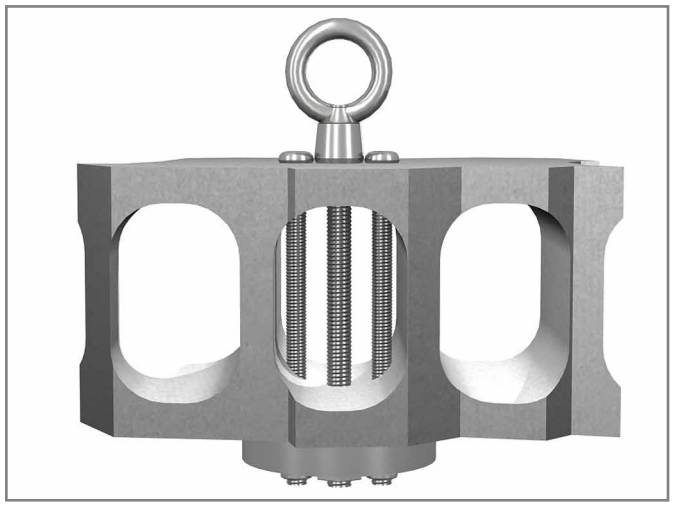
Dura Slab provides a safe finished floor system in one fell-swoop

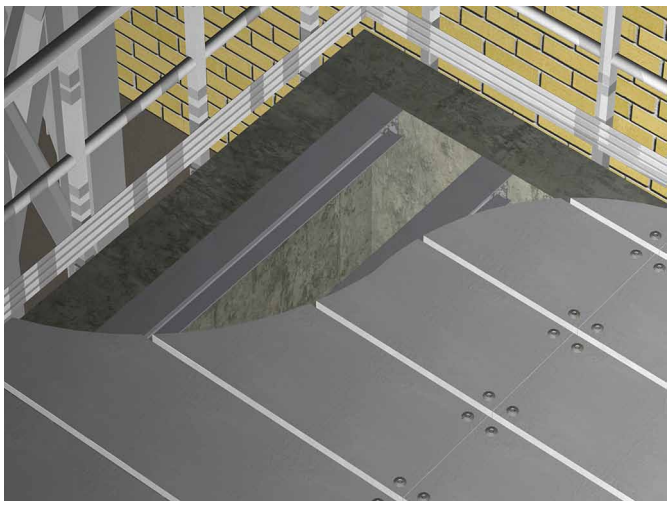
Chamber Covers

Dura Slab can provide safe and structured walkway across all types of chambers including chemical vessels, water tanks or any other hazardous liquid

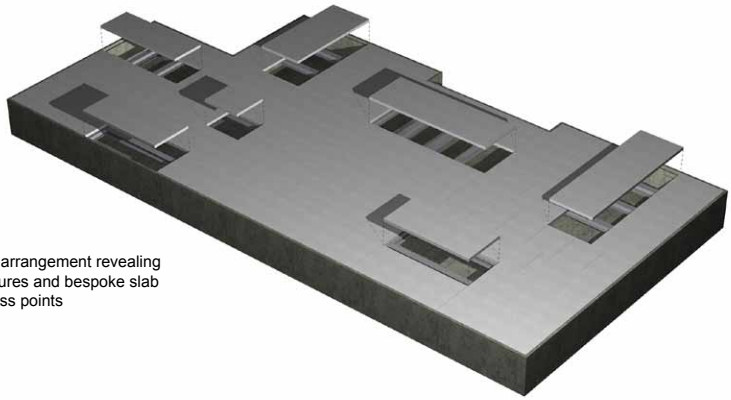


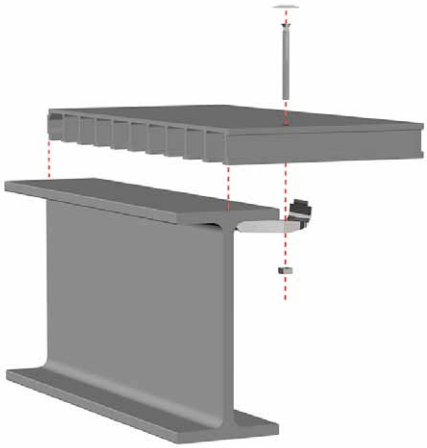
Dura Slab can be specified as the finished floor system for almost any type of chamber, above and below ground. Neoprene sealing strips can be used to reduce the release of odours and ingress of water. Hinged panels and lifting eyes can be incorporated into the covers to allow regular maintenance or inspection access.


Lifting eye and key in situ to remove slabs for maintenance or access


Cut away revealing I Beam FRP Chamber Cover supports

Dura Slab and Dura Profile provide corrosion resistant load-bearing covers to all types of chambers, chemical vessels and water tanks, particularly where environmental conditions are unsuitable for steel covers.

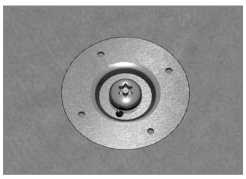

A typical install arrangement revealing FRP sub-structures and bespoke slab covers for access points


Typical fixing detail using dome head washer

Fixings & Accessories

A wide range of fixings and accessories are available to cater for the huge range of applications that our Structural Covers and Decking can be used for. The main one's are below.

Shallow Recessed Collar

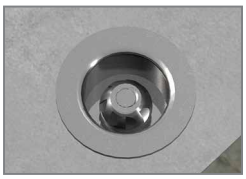


Pultruded Light		Pultruded				Moulded Light			Moulded		
40 light	50 light	40	50	100	100HD	30 light	43 light	55 light	18	50	75HD
✔	✔	✔	✔	✔	✔	✔	✔	✔	✘	✔	✘

Features

- Flush Surface Clip
- Direct fix to substrate
- Regular Duty (Pedestrian)
- M8 Head Compatible

Deep Recessed Collar

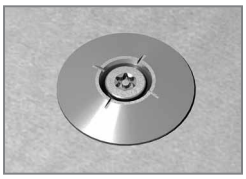


Pultruded Light		Pultruded				Moulded Light			Moulded		
40 light	50 light	40	50	100	100HD	30 light	43 light	55 light	18	50	75HD
✘	✘	✘	✔	✔	✔	✘	✘	✔	✘	✔	✔

Features

- Heavy Duty (Vehicular)
- Flush Surface Clip
- Direct fix to substrate
- M12 Head Compatible

Dome Head Washer Large/Small

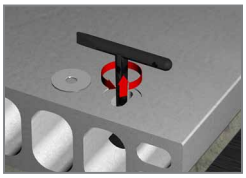


Pultruded Light		Pultruded				Moulded Light			Moulded		
40 light	50 light	40	50	100	100HD	30 light	43 light	55 light	18	50	75HD
Small ✔	✔	✔	✔	✔	✘	✔	✔	✔	✔	✔	✘
Large ✔	✔	✔	✔	✔	✘	✔	✔	✔	✔	✔	✘

Features

- Regular (Small) and Heavy Duty (Large)
- Domed Hold Down Clip (3mm Proud)
- Direct fix to substrate
- Domed shape prevents trip hazard
- M6/M8 Countersunk Head Compatible

Lifting Eye & Key

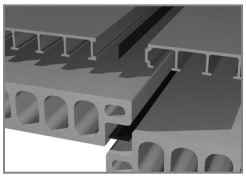


Pultruded Light		Pultruded				Moulded Light			Moulded		
40 light	50 light	40	50	100	100HD	30 light	43 light	55 light	18	50	75HD
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Features

- Provides manual panel lifting for easy access
- Eyes fabricated in accessible positions to suit application and lifting key dimensions
- 2 No. Lifting Eyes required as standard (depending on panel length)
- 4 No. Lifting Eyes required for heaviest panels

Compression Liquid Seal

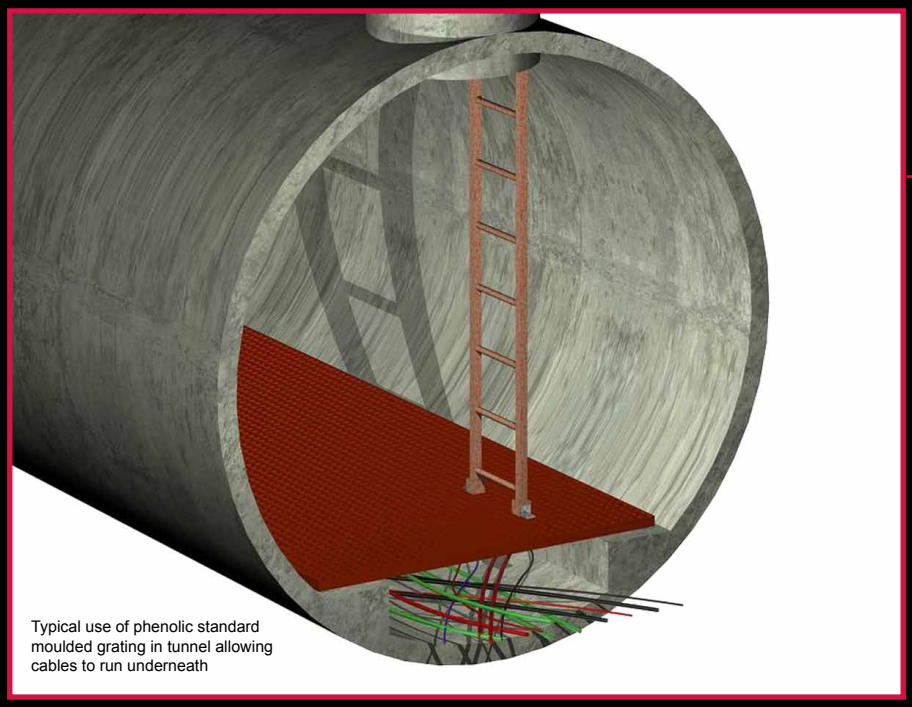


Pultruded Light		Pultruded				Moulded Light			Moulded		
40 light	50 light	40	50	100	100HD	30 light	43 light	55 light	18	50	75HD
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

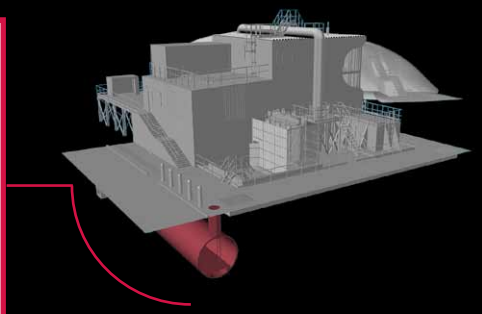
Features

- Provides water proofing to protect trench contents
- Provides odour control
- Used where panels join and on substrate
- Fixings required for compression seal to be most effective

Phenolic Fire Safety Flooring



Typical use of phenolic standard moulded grating in tunnel allowing cables to run underneath



Use of phenolic pultruded grating in pipeline tunnel providing maintenance access for staff

Specific Dura Grating and Dura Slab structural walkway products are available with a Phenolic resin system. This higher specification resin provides superior performance in applications where fire retardance and low smoke and toxicity are important factors such as walkways, drainage and catchpit covers in tunnels or offshore platform walkways (USCG level 2).

Applications

- Tunnels
- Offshore Platforms
- Underground Rail Networks
- Fire Escape Walkways Routes e.g. Ships

Features

- Low Spread of Flame, Low Smoke and Toxicity
- Low Thermal Conductivity
- Integral Fire Resistant Properties
- High Operating Temperature
- USCG L2 Certified
- Wide Product Range

Benefits

- Reduced Risk To Personnel In Event of Fire vs. Other Resins
- Reduced Risk of Spread of Fire vs. Metals
- No Specialist Coatings Required
- Wide Range Of Applications to 200°C
- Load-Bearing After Fire (USCG L2)
- Solid Surface Or Open Mesh

Offshore

Dura Composites can offer Phenolic panels to the United States Coast Guard (USCG) Level 2, which has become a recognised requirement for use within the offshore industry.

Tunnels

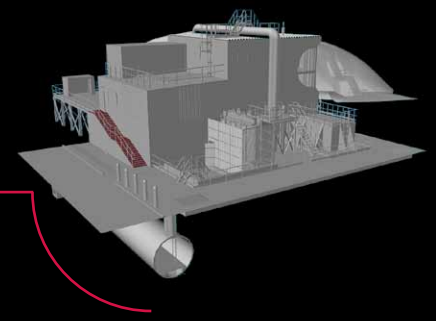
Dura phenolic resin products meets the requirements of BS6853 and BS476 Class 0 and are registered for use within the London Underground.

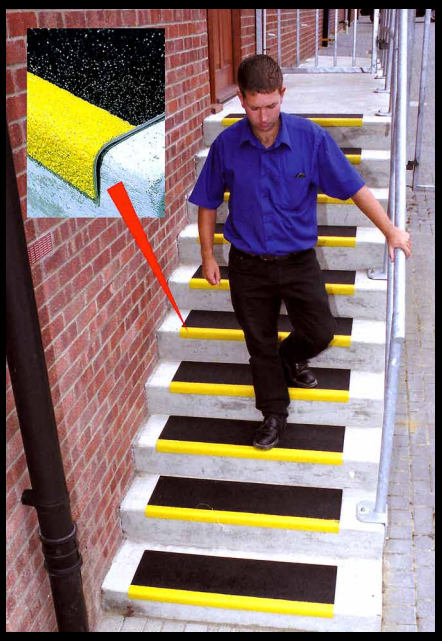
For technical specifications on our Phenolic Flooring please visit:
www.duracomposites.com/dura-grating-fibreglass-grating/phenolic-grating-phenolic-fire-resistant-grating-phenolic-grp-frp-grating

Anti-Slip Sheets & Stair Treads

Dura Tread

Dura Tread Anti-Slip Sheet and Tread Covers on concrete stairway





Hi-visibility tread cover nosing provides pedestrian safety

Dura Tread is a precision engineered anti-slip sheet and stair tread designed to provide a sure-footed and safe solution for installation over an existing surface. The integral bonded grit produces a long lasting and hardwearing surface ideal for slippery walking surfaces such as metal, steel and wood.

Applications

- Public Walkways
- Ship Decks
- Stairs and Landings
- Railway
- Raised Walkways

Features

- Anti-Slip Surface
- Economical
- Through Surface Installation
- Standard Cutting Equipment
- Chemical Resistant

Benefits

- Reduces Slips, Trips And Falls
- Can Cover Large Areas
- Cover Existing Flooring
- Self Installation
- Heavy Industrial Application

Dura Tread Range

Product	Length	Width	Nosing Depth	Panel Weight	Weight/ sqm	Colour
4.8mm Anti-Slip Sheet	3000mm	1000mm	n/a	32.5	10.82	Yellow, Grey, Green
4.8mm Anti-Slip Sheet	2440mm	1220mm	n/a	32.5	10.82	Yellow, Black
4.8mm Tread Cover	3660mm	345mm	40mm	5.1	1.68	Black & Yellow Black & White

For technical specifications on our Dura Tread please visit:
www.duracomposites.com/dura-tread-fibreglass-anti-slip-sheets

Anti-Slip sheet for landings and Tread Covers for stair treads

Safety Handrailing

Dura Handrailing

When opting for a composite walkway, it is very often most logical to opt for a similarly heavy duty and complimentary low maintenance safety railing system so that the sub-structure, walkway, treads and railings all have 60 years design lives. There are two versions of Dura Handrailing - Regular Duty and Heavy Duty, both allowing the installer to benefit from simple construction and both allowing users to benefit from the surfaces being warm to the touch, non-sparking, non-corrosive and non-conductive. The regular duty system offers maximum flexibility for the most bespoke of projects using pultruded components whereas the Heavy Duty system uses compression moulded components that are not only flush fit but are also modular and of a flush push fit design. It is also designed to withstand 0.74kN Heavy Load classifications at up to 1.5m spans making it ideal for areas where regular two way traffic can develop. What's more, both systems can be specified in safety yellow or grey colours that are unlikely to need painting or staining and will not need galvanising.

Applications

- Platforms
- Walkways
- Stairs
- Ramps
- Fire Escapes
- Roof Walkways
- Bridges
- Maintenance Bays
- Wash Bays
- Work Stations

Features

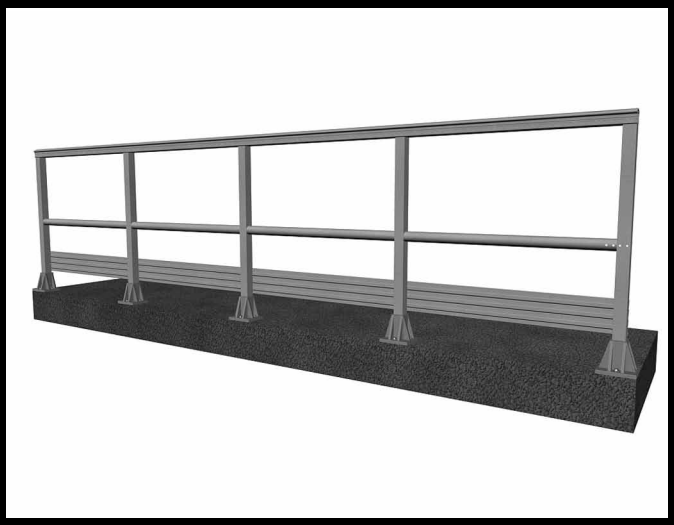
- Corrosion Resistant
- Not Cold To Touch
- Security Fixing Options
- UV Stable
- DDA Compliant
- Lightweight
- Non Conductive
- Fire Retardant
- Long Lasting

Benefits

- Low Maintenance
- Meets Safety Standards
- Theft Proof
- Retaining Colour And Strength
- Equalities Act Friendly
- Easy To Assemble / Easy To Transport
- Use In High Voltage Areas / Anti-Static
- Fire Escape Usage / Bs476 Part 7
- BS6399-1 & BS6180 Approved

Product Range

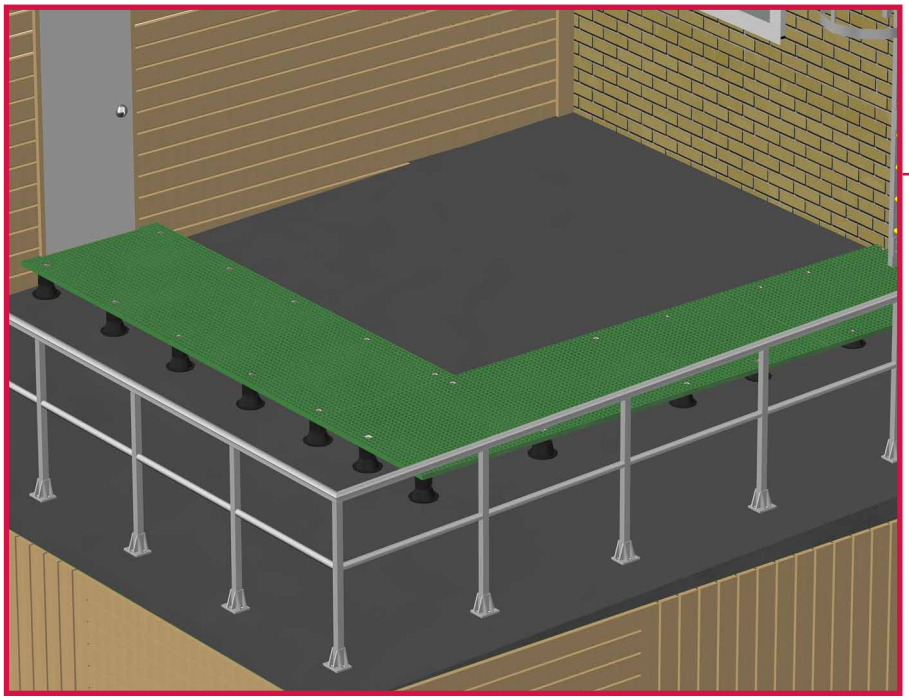
Regular Duty

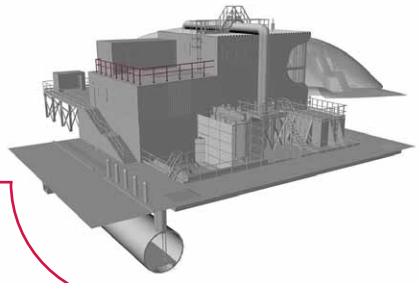


Heavy Duty

For technical specifications on our Dura Handrailing range please visit:
www.duracomposites.com/dura-handrail-fibreglass-safety-railings/

Regular Duty Handrailing



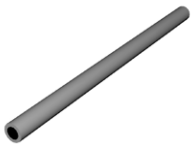


The Regular Handrailing system is constructed from fibreglass pultruded profiles and offers maximum design flexibility. Non-conductive, high strength, low weight with low maintenance are a few key benefits that are consisted regardless of the application.

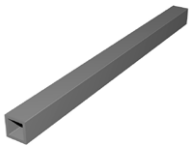
The standard handrailing colours are grey and safety yellow but bespoke colours can be produced on a longer lead time, dependant on quantity. The top handrail can be ergonomically designed and supplied with end caps to suit. A tubular mid rail and kick plate is available for safety. Easily assembled on-site with simple hand tools Dura Composites also offers a pre-fabrication service for supplying sections of 1m or 1.5m lengths.

The FRP handrail vertical posts are 50mm x 50mm square fibreglass pultruded profiles generally secured by either base mounted foot fixings or side mounted foot fixings.

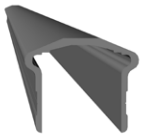
Components:



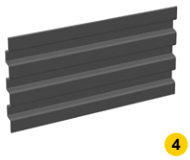
1 *Tube*



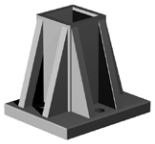
2 *Box*



3 *Domed Top Rail*



4 *Kick plate*



5 *Base foot*

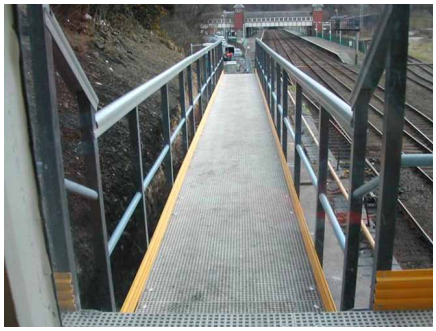
6 *90 degree elbow*

7 *Adjustable tube mid rail connector*

8 *Adjustable top rail connector*

9 *Side Mount*

Red was chosen for this major supply of regular handrailing at Cleveland, Potash

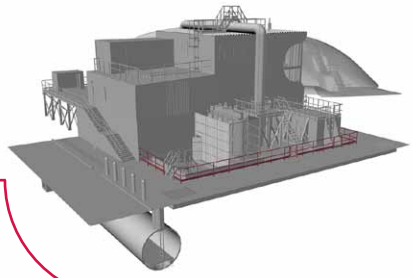


Service or temporary walkway access can be made safer with the use of Dura Safety Handrailing

Side mounted foot fixings

Heavy Duty Handrailing

Design illustration to demonstrate the flexibility of the system



Dura Composites' fibreglass Heavy Duty Handrail System is manufactured using 50mm tubular components for high strength, durable and low maintenance operation. With highly engineered precision compression moulded push fix fittings, it can be fitted with ease on-site using simple hand held tools or supplied pre-fabricated. It is ideal for protecting and identifying hazardous storage areas, fuel tanks, chemical stores, bunds, high voltage areas, platform and walk way edges etc and is designed to withstand 0.74KN Heavy Load classification at up to 1.5m spans.

The FRP Heavy Duty Handrail vertical posts are 50mm diameter fibreglass pultruded round profiles, generally secured by either base mounted foot fixings or side mounted foot fixings and being warm to touch, non-sparking and aesthetically pleasing.

Components:

90 degree elbow

Kick plate

Base foot

Adjustable elbow

Four way connector

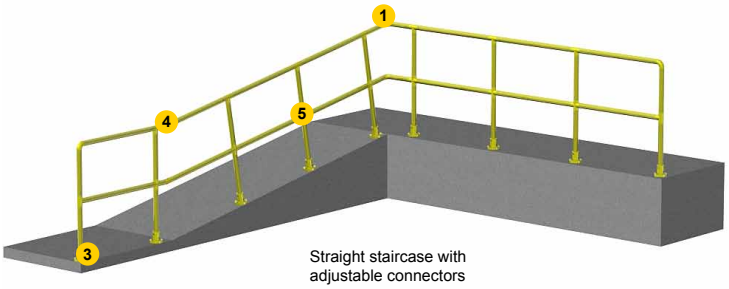
Side mount

Three way connector

Four way connector

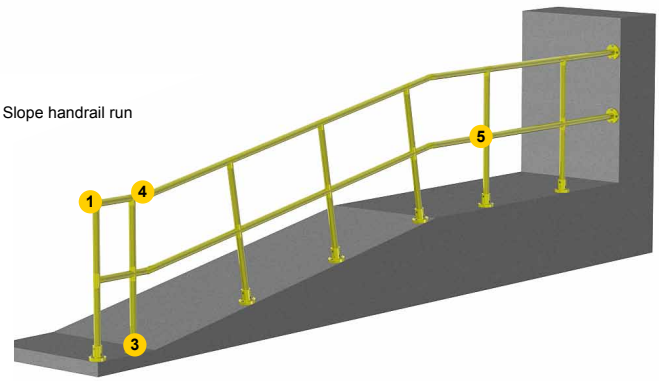
NB: Other connectors available, please see our Technical Manual.

Typical ground level install to protect pedestrians from trenchs and to protect glass

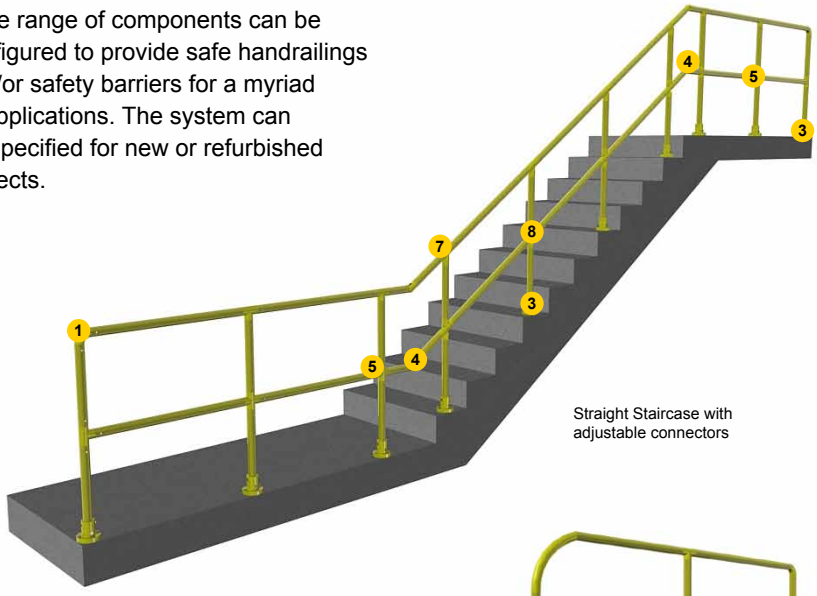


Straight staircase with adjustable connectors

Slope handrail run



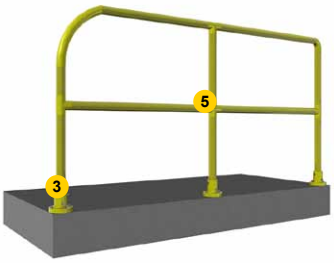
Wide range of components can be configured to provide safe handrailings and/or safety barriers for a myriad of applications. The system can be specified for new or refurbished projects.



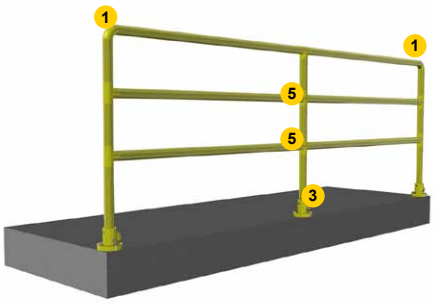
Straight Staircase with adjustable connectors

Stair walkway install for safety and warmth to touch

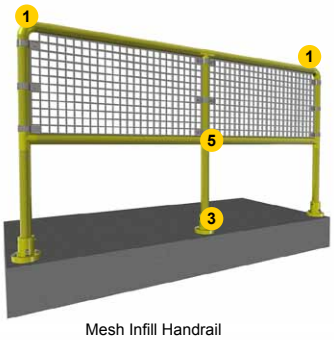
Safety handrailing in situ to provide safety and security



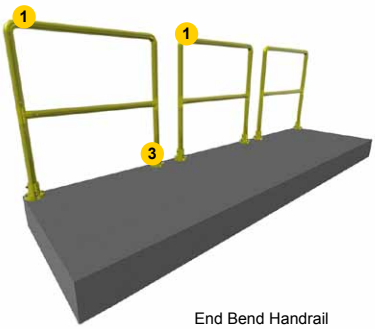
Single Rails



Double Mid Handrail



Mesh Infill Handrail



End Bend Handrail

Flush fitting modular design provides outstanding aesthetics and safe and comfortable operation

Fire retardant and non-corrosive qualities crucial for difficult to read installations

Exterior Wall Cladding

Dura Cladding

FSC
www.fsc.org
FSC® C108450
The mark of responsible forestry
All of our wood used is 100% certified FSC

Dura Cladding is made using a highly developed extrusion process and a unique timber and plastic composition. Recycled high density polyethylene polymers, recycled ground hardwoods and specifically engineered additives are harnessed together with high performance coupling agents to provide beautiful low maintenance 87% recycled and 100% Certified FSC© wall cladding. Dura Cladding provides the client with a traditional wood cladding appearance coupled with a 25 year design life and a fraction of the maintenance costs of natural wood. Tested in extreme climates including Eastern Europe and the Middle East, Dura Cladding is suitable for the harshest weather environments suffering from only limited colour fade in the first 3 months.

Applications

- Offices & Factories
- Private / Public Buildings
- Screening
- Architectural Fascias
- Commercial Premises
- Warehouses
- Display Areas
- Out Buildings & Workshops

Features

- High Strength To Weight Ratio
- Permanent Colour
- Rot, Splinter, Warp Resistant
- Easy Installation
- Weather Resistant
- Fire Resistant
- Simple Cutting And Site Install
- UV Colour Stable
- 100% Certified FSC©
- No Knots

Benefits

- Easy Handling
- Colour Stable
- No Painting And Staining
- No Specialist Skills Required
- 25yr Warranty, 50yr Life Span
- Euro Class Bfl-S1 Certified
- Only Requires Standard Tools
- Looks Good Through Lifespan
- Eco Friendly
- Few Wasted Planks

Product Range

Type 150/21 Flush

Type 150 Weatherboard

Type 200/21 Flush

Specifications

Cladding Profile	Plank Thickness	Plank Length	Actual Plank Width	Maximum Fixing Span	Weight l/m
Type 150/21 Flush	21mm	4800mm	174mm	600mm	2.04kg
Type 150/21 Weatherboard	21mm	4800mm	173mm	600mm	2.34kg
Type 200/21 Flush	21mm	4800mm	225mm	600mm	3.14kg
Starter Trim	21mm	4800mm	60mm	600mm	1.21kg
Top Window Trim	38mm	4800mm	154mm	600mm	2.7kg
External/Internal/Expansion Trim	38mm	4800mm	139mm	600mm	4.11kg
Trim Insert	14mm	4800mm	28mm	600mm	0.24kg
Facia Trim	9mm	3660mm	230mm	-	6.2kg

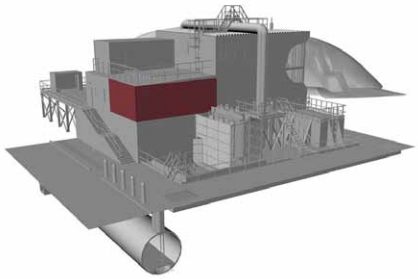
Colour Options

A colour swatch is available on request

For technical specifications on our Dura Cladding range please visit:
www.duracomposites.com/dura-cladding-timber-composite-cladding/dura-cladding-technical-data/

Case Studies

Dura Cladding is an ever increasingly popular choice for finishing the outside of commercial and domestic buildings, currently being supplied heavily into various commercial and residential projects across the United Kingdom. Dura Cladding can be used as cost effective and transformation refurbishment projects as well as for new buildings.



Severn Trent - Shrewsbury

Application:
BAM Construction, Head Office
Type: Flush 150
Depth: 21mm
Centre's: up to 600mm
Fixing: Screw fixing into hidden, pre-drilled oval holes
Colour: Charcoal

Key Reasons For Choice:
- Modern Appearance for new build
- Low maintenance / Long Life Span
- UV, Colour Stable
- Short Lead Time.

Type 150 Flush in Charcoal colour installed vertically

Type 150 Flush in Cedar colour installed horizontally

Lanswood Business Park - Essex

Application:
Lanswood Business Park, Offices
Type: Flush 150
Depth: 21mm
Centre's: up to 600mm
Fixing: Screw fixing into hidden, pre-drilled oval holes
Colour: Cedar

Key Reasons For Choice:
- Eco credentials
- Traditional Cedar Appearance
- Low Life Cycle Costs
- Retention of colour

Dura Composites was confirmed as the UK's first composite wood supplier to be 100% Certified FSC©.

FSC®
www.fsc.org
FSC® C108450
The mark of responsible forestry
All of our wood used is 100% certified FSC

Industrial

Structural Beam Sections

Structural Walkways & Risers

Structural Covers & Decking

Phenolic Fire Safety Flooring

Anti-Slip Sheets & Stair Tread

Safety Handrailing

Exterior Wall Cladding

Achilles®

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dura™ composites

...designed for the future

Industrial Rail Marine Landscaping Architectural