

Technical Manual & MSDS

Dura Dagger & Soffit Boards



Dura Composites' 19mm and 25mm composite Dagger and Soffit Boards mimic the appearance of traditional timber valance and soffit boards, but are lighter, simpler to install and require virtually no maintenance over their long design life.

Our patented design (GB 2582967) achieves a market-leading fire rating of B-s1,d0 in accordance with European Standard EN-13501-1 and provides both decorative and functional benefits.

The shaping of the Dagger Boards helps to keep passengers dry whilst maintaining natural light and ventilation within the canopy. To ensure you get the best results from Dura Dagger Boards, we recommend the product is installed by a professional contractor with previous installation experience.

If you require any further information or support with our Rail products, please visit www.duracomposites.com/rail or call us on +44 (0)1255 440291 between 08.30am and 5pm Monday to Friday, where one of our knowledgeable team will be happy to help.

Unlocking the Power of Composites™
» for the Rail Industry

Tel: 01255 440291 | www.duracomposites.com

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THE QUEEN'S AWARDS
 FOR ENTERPRISE
 INNOVATION
 2020



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Product Range



Why Choose Composite Dagger Boards?

Dura Dagger and Soffit Boards have been designed to meet Network Rail specification to replace old rotten wooden boards when carrying out general improvements to station platform environments, or for major works involving cutting back station canopies to allow for electrification.

Key Benefits:

- Replicates timber thickness of 19mm, without the associated weight.
- Tongue and groove edges to allow interlocking.
- Prolongs the life of a canopy whilst reducing the weight load.
- No painting, treating, staining or onerous maintenance required.
- Working at height benefits due to reduced weight, resulting in quicker installation time.
- Up to 80% cost saving on traditional materials based on a 10-15 year lifecycle cost.
- Expected lifecycle twice as long as timber.

Panel Dimensions & Colours

Our standard stocked item dimensions are as follows. Dura Composites offers a CNC cutting service on request.

Product	Thickness (mm)	Width (mm)	Height (mm)	Weight (Per Square Metre)	Colours Available
DB01005	19	1220	2100	11.62kg	White & Holly Bush Green
DB03001	25	1220	2100	15.28kg	White

Other sizes are available as special order, but may be subject to extended lead times.

Surface Finish

The standard surface finish has a woodgrain finish on the front side and is smooth on the reverse. The standard colour is white (RAL9010) and Holly Bush Green (RAL6028). Other colours can be supplied on request as a special order, but may be subject to extended lead times. All trims have a smooth surface finish.

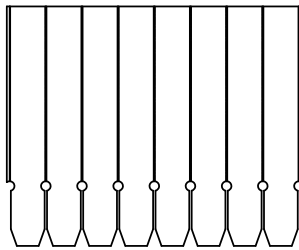


Dura Dagger & Soffit Boards Product Variants

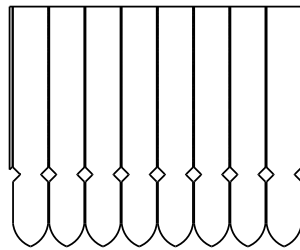
Dura Dagger and Soffit Boards are available in several design variants to suit the requirements of individual projects. Any colour or size can be produced, however a minimum production run may apply. Some of our standard design variants are shown below, but many others are also available.

Panel Profiles

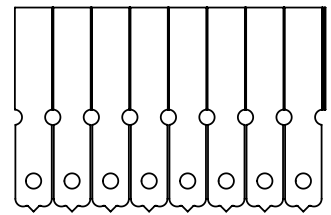
Dura Dagger Boards can be cut to virtually any shape which means Dura Composites can easily match existing profiles, thus retaining the character and individuality of each location, which is especially important if the area carries a “listed building” status for example. For ease of reference, some of the most common designs have designated names which can be specified at the point of order.



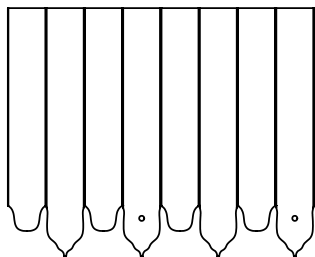
Aurelia



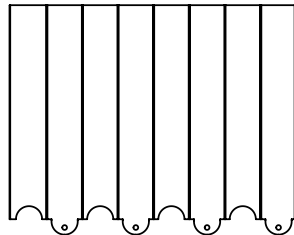
Beatrice



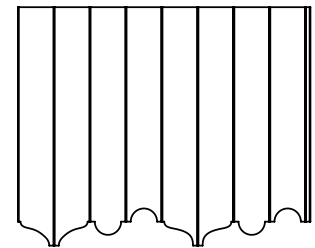
Cecily



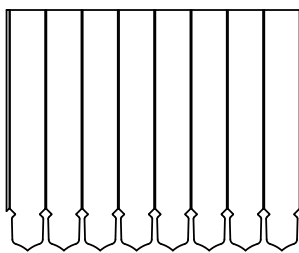
Dinah



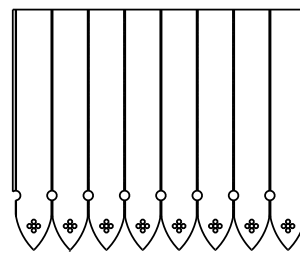
Emmeline



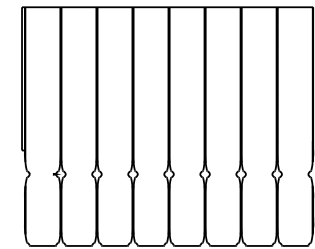
Florence



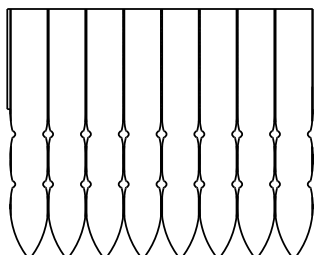
Georgiana



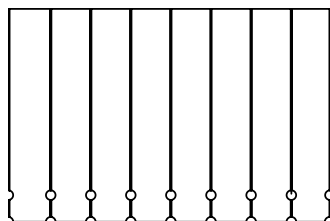
Harriet



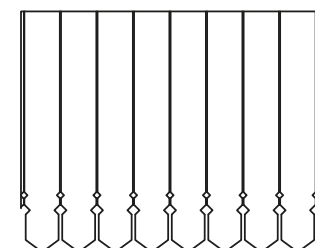
Imogen



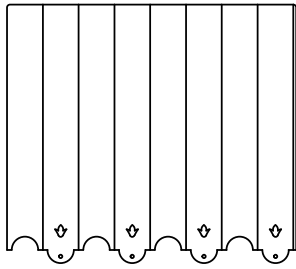
Juliet



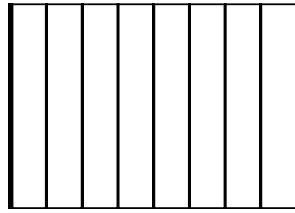
Katherine



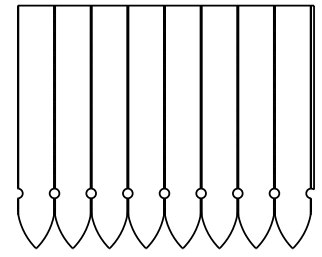
Leonora



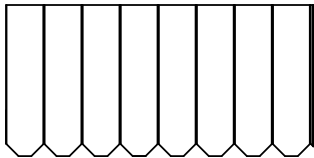
Millicent



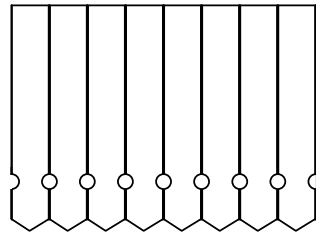
Norah



Ophelia



Prudence



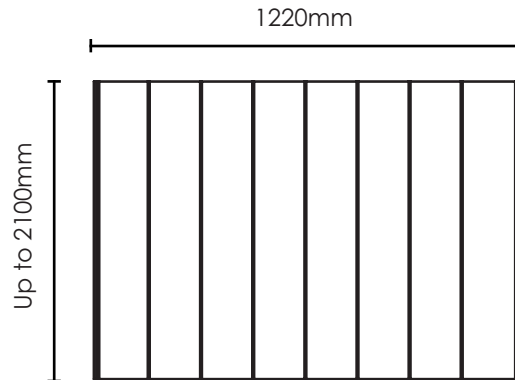
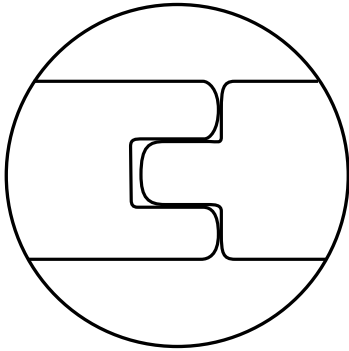
Quinn



Joining Details

The Dura Dagger profile includes a tongue and groove joining detail for seamless interlocking between each 1220mm and 2100mm panel which allows for expansion and height adjustment.

Tongue and groove joining detail to allow expansion and height adjustment:



Density: 0.6 g/cm³
 Thickness: 19.0mm
 Weight: 14.2kg

Grooves on both sides. 151mm centres.

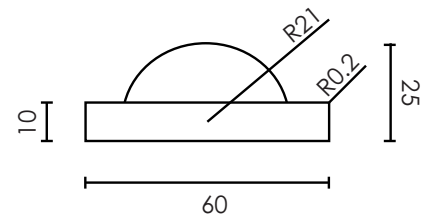
Trim Options

There are two trim options available that we can provide, please see the drawings and images below.

Option 1	Image	Drawing
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Middle Trim

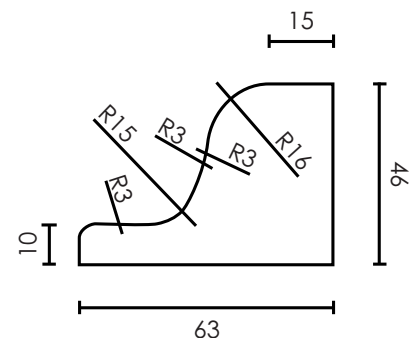
Trim Profile to be positioned horizontally along upper or lower edges.



Option 2	Image	Drawing
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Top Trim

Trim to be positioned along the edge of the boards.



Technical Specification

Fire Certification

Dura Composites applies the highest standards of safety across our business, and our Rail solutions are designed to be compliant with current regulations regarding Fire Safety.

Our Dagger and Soffit Boards are supplied standard with fire rated resins to comply with BS 476 Part 7 and have been tested in accordance with BS EN 13501-1:2007+A1:2009 achieving a result of B-s1 d0.

For the latest Network Rail fire standards, please contact your Network Rail representative who will be able to advise on the minimum flame spread/burn time requirements for your specific project.

Please note that correct installation is essential to ensure that the performance of Dura Composites products is not compromised, and the products provide the designated level of protection required.

BS EN 13501-1:2018 - Fire classification of construction products and building elements:

This European Standard (EN 13501) is common to all EU Member States. It is presented as NEN 13501 in the Netherlands, BS EN 13501 in the UK, as DIN EN 13501 in Germany etc., to include the prefix of the national standards' body responsible for publication. BS EN 13501-1:2018 was published on 14th January 2019. It provides the reaction to fire classification procedure for all construction products, including products incorporated within building elements.

The process for classification under this standard involves a combination of up to five rigorous tests designed to assess the product on a range of characteristics, including combustibility, heat levels, flame spread and smoke release. Once tested, the product receives an official classification of its fire rating, known as a Euroclass rating. From best performing to worst performing, the Euroclass system is: A1, A2, B, C, D, E and F. It also provides additional classification (typically associated with reaction to fire classes D – B) for smoke production (from s1 (little or no smoke) to s3 (substantial smoke)) and flaming droplets/particles (from d0 (none) to d2 (quite a lot)).

Product	Construction Products			Floorings	
	A1			A1	
Non-Combustible materials	A2 - s1 d0	A2 - s1 d1	A2 - s1 d2	A _{2fi} - s1	A _{2fi} - s2
	A2 - s2 d0	A2 - s2 d1	A2 - s2 d2		
	A2 - s3 d0	A2 - s3 d1	A2 - s3 d2		
Combustible materials - very limited contribution to fire	B - s1 d0	B - s1 d1	B - s1 d2	B _{fi} - s1	B _{fi} - s2
	B - s2 d0	B - s2 d1	B - s2 d2		
	B - s3 d0	B - s3 d1	B - s3 d2		
Combustible materials - limited contribution to fire	C - s1 d0	C - s1 d1	C - s1 d2	C _{fi} - s1	C _{fi} - s2
	C - s2 d0	C - s2 d1	C - s2 d2		
	C - s3 d0	C - s3 d1	C - s3 d2		
Combustible materials - medium contribution to fire	D - s1 d0	D - s1 d1	D - s1 d2	D _{fi} - s1	D _{fi} - s2
	D - s2 d0	D - s2 d1	D - s2 d2		
	D - s3 d0	D - s3 d1	D - s3 d2		
Combustible materials - high contribution to fire	E		E - d2	E _{fi}	
Combustible materials - easily flammable	F			F _{fi}	

Which standard is most relevant for my project - BS EN 13501-1:2018 or BS 476?

The test in BS 476 for reaction to fire is seen by many industry experts as being less rigorous than the European standard EN 13501-1. Most notably, Class 0 and the BS 476 tests do not measure the combustibility of a material, meaning that combustible materials could in theory achieve a Class 0 classification, which is of course undesirable. One crucial point is that under the relevant part of BS 476 only a surface test of the material is required, whereas EN 13501-1 includes the vulnerable cut edge of the panel as well.

The Euroclass system focuses on the combustibility of materials, not only the spread of flames. It is possible that a material classified as Euroclass B under BS EN 13501 for example may also be classified as a Class 0 product, however it cannot be assumed the other way around. The British Standard classifications do not automatically equate with the equivalent classifications in the European Standards, therefore products cannot typically assume a European class, unless they have been tested accordingly. The update to Approved Document B (England) in 2019 saw the focus placed on the Euroclass System. BS476 may well not be a relevant measure for your application in 2020 and beyond, so please ensure that you are fully up to date on the legislative requirements affecting your project. For example, the Government has now banned combustible cladding on high-rise buildings by amending Regulation 7 of the Building Regulations so that materials which become part of an external wall or balcony of a high-rise building now have to be of European Classification A2-s1, d0 (i.e. of limited combustibility) or Class A1 (non-combustible), which is only achievable through accredited certification via BS EN 13501.

Fire and structural safety issues can be exacerbated by poor procurement, including poorly designed tender specifications and processes, last-minute contractor appointments, lack of appropriate engagement with the supply chain and contract forms which prioritise low-cost solutions at the expense of building safety. Dura Composites is committed to helping ensure that you choose the most appropriate product for your specific fire safety project needs.

Whilst the general guidance found in this document is applicable to a range of construction projects, additional measures may be required where high risks are involved or where specialised work is undertaken. Dura Composites can assist with guidance and technical information, however please note that it is the responsibility of the client and contractor to ensure that your planned design is fully compliant with Building Regulations.

For further guidance on fire safety, please refer to the latest government documentation and for complex or high risk projects, please ensure that you consult a competent fire safety specialist.

UV Resistance (Weathering)

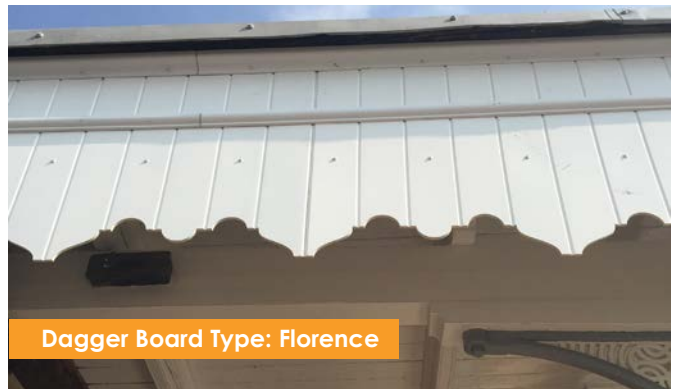
Our manufacturing process includes UV stability enhancers which limit colour fade over the expected 25 year life cycle to a minimum.



Previous Installs



Dagger Board Type: Aurelia



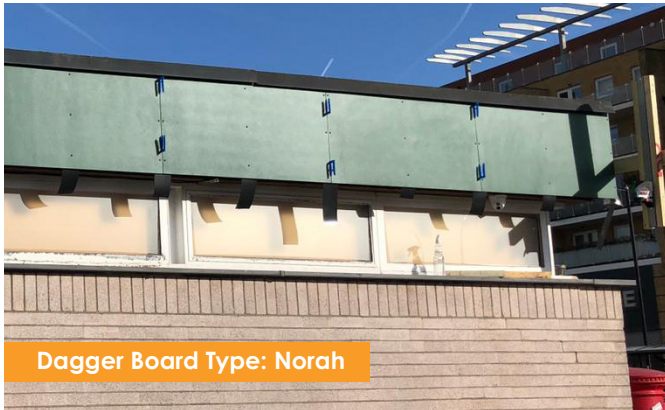
Dagger Board Type: Florence



Dagger Board Type: Leonora



Dagger Board Type: Millicent



Dagger Board Type: Norah



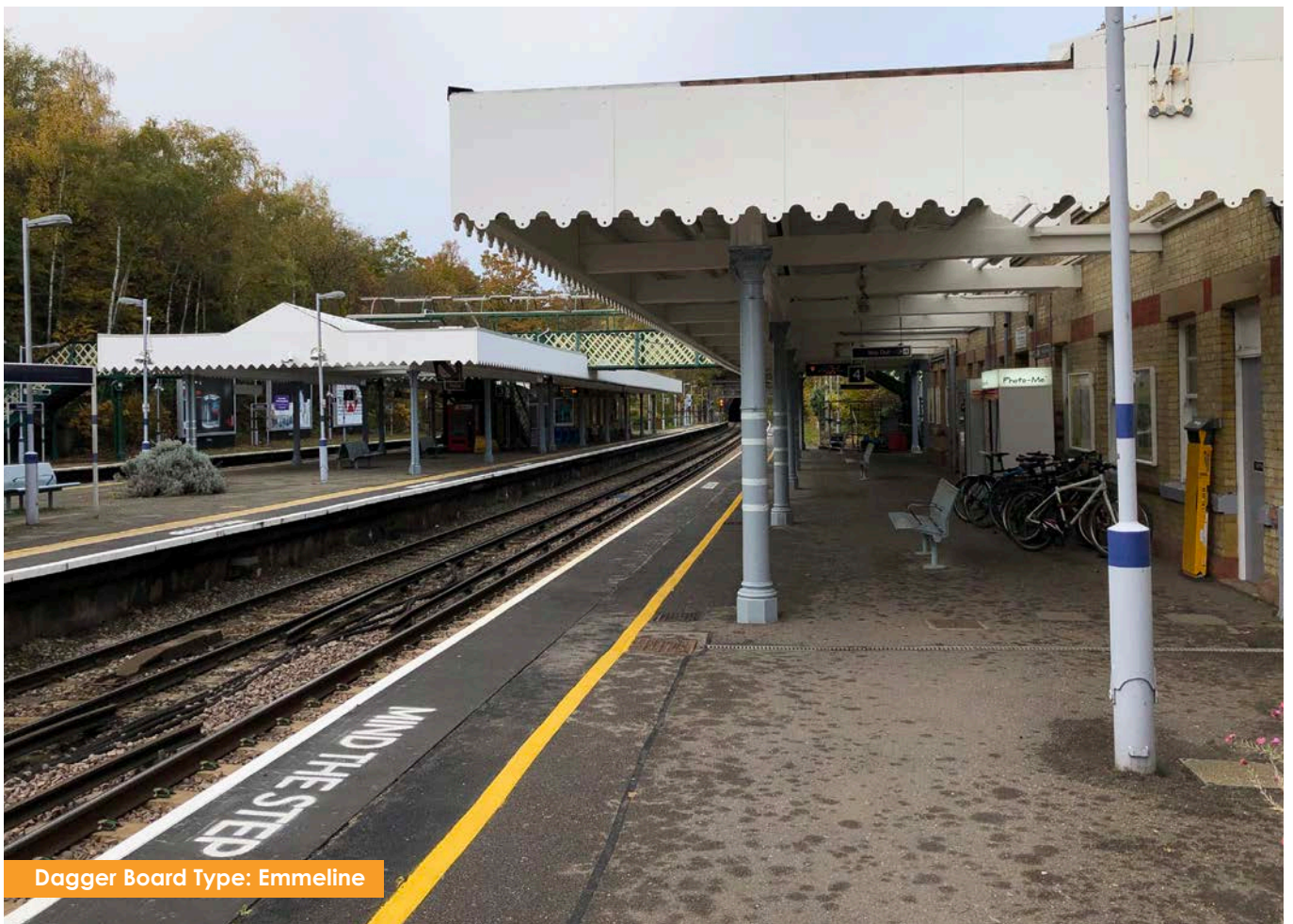
Dagger Board Type: Norah



Dagger Board Type: Dinah



Dagger Board Type: Katherine



Dagger Board Type: Emmeline

Working with Composites



Before You Begin

These guidelines are provided to help prevent installation problems caused by common errors when working Composite Dagger and Soffit Boards. Dura Composites bears no responsibility for installation actions taken or not taken.

There are many bespoke aspects of installation that are assumed to be general construction knowledge to an experienced installer; and as such are not included in this document. The guidance below and the installation elements of this document are strictly recommendations and are not intended to serve as a step-by-step, fool proof installation checklist.

Selection of an experienced Composite material installer is the sole responsibility of the project owner.

If you have any questions about installation techniques for your particular project, please call your Dura Composites representative on +44 (0)1255 440291.

Safety First

Every Dura Dagger Board installation site is different and is likely to present different hazards and risks. However, a well-designed and maintained site with suitable segregation of vehicles, equipment and people will make workplace accidents less likely. Some important considerations to bear in mind:

- Please ensure that your proposed design meets any relevant local building codes and regulations before you begin the installation.
- Keep members of the public and other personnel not involved in the installation away from the work area until the job has been completed and tools and materials have been stored safely.
- Refer to the operators' manuals for safety guidance on all power tools being used.
- Long sleeved shirts with closed collars, long trousers or protective clothing such as disposable overalls may be worn to prevent dust exposure when cutting or grinding the product.
- When handling Dura Dagger Boards, always wear gloves and a suitable barrier cream to prevent cuts, scratches or abrasions.
- Always ensure you have adequate eye and face protection and work in a well-ventilated area. If using a respirator, to ensure that it is effective, users should be clean shaven, and the respirator should have a close fit.

Required Tools

Dura Dagger Boards can be installed using a number of standard tools. The list of tools and supplies you may need includes the following:



Measuring Tape



Safety Goggles



Disposable Coveralls



Face Mask



Tungsten Carbide Drill Bits



Skill Saw



Diamond Tipped Saw Blade



Barrier Cream

Storage and Handling

To ensure the best performance of our products, it is vital that proper care and attention is given to storage and handling of materials.

Dura Dagger Boards should be stored on a flat and level surface in their original packaging until you are ready to install them. Professional fork lifts should always be used while uploading and discharging pallets.

Dura Dagger Boards are easy to install and can be cut to size and drilled using conventional power tools. The lightweight composition of Dura Dagger Boards means that they are easier to handle than traditional timber dagger boards and can be installed more quickly.



Materials Safety Data Sheet



Composition & Ingredients

CAS No.	Percentage %	CAS No.
PVC	59%	9002-86-2
CaCO ₃	12%	471-34-1
Aluminium Hydroxide	16%	21645-51-2
Others	13%	

Safety Information

Please read this information carefully before using Dura Dagger Boards.

Safety Precautions

- Store in original packing materials in a dry, cool and well-ventilated area. Keep away from heat, sparks and open flame.
- Workers should wear personal protective equipment at all times that is clean and has been properly maintained, including the use of safety gloves. Handle product carefully to avoid damage.
- Avoid eating, drinking and smoking in the workplace.

Exposure Controls and Personal Protection

Eye/Face Protection	Suitable safety goggles should be worn to reduce the potential risk due to dust.
Respiratory Protection	Wear a suitable dust mask if cutting operation creates dust.
Protection of Hands	Work gloves should be worn to reduce the potential risk of small cuts and abrasions which could occur during the installation process.

Physical and Chemical Properties

Appearance	No odour. Non-toxic.
Solubility	Insoluble in water and alcohol, soluble in dichloroethane and methylbenzene.
Usage	Decorative external or internal usage as dagger boards, screening, fencing, valances, wall linings, soffits, canopy roofing, fencing and barriers.

Stability and Reactivity

Stability	Stable.
Incompatibility With Various Substances	No data available.

Ecological Information

Recyclability	Off-cuts can be used for secondary purposes such as decorative panels, screening and fencing.
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Disposal Considerations

Method	Waste should be disposed of according to local legislation. Can be recycled or incinerated where local policies allow.
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Transport Information

Dangerous Goods No.	N/A
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UN No.	N/A
Packing	Palletised. Shrink wrapped and protected from water.
Hazard Identification	
Health Hazards	Non-Hazardous under normal conditions and use. Fine particles released during cutting may cause irritation to the eyes and respiratory tract.
Explosive Danger	Deposited dust has no self-sustained flame. This product is not classified as a dust explosive.
First Aid Measures	
Skin Contact	Not applicable under normal use. Fine particles released during cutting - wash with soap and water.
Eye Contact	Rinse or flush eyes with clean water for up to 10 minutes holding eyelids apart. Seek medical advice.
Inhalation	Not applicable in normal use. If thermal decomposition occurs and vapours have been inhaled, affected person is to be moved to fresh air and seek medical attention.
Ingestion	Not applicable in normal use. If ingestion of dust occurs during cutting, rinse mouth out with water and seek medical advice. Do not induce vomiting.
Firefighting Measures	
Hazardous Characteristics	High thermal decomposition will evolve toxic and irritant vapours.
Extinguishing media	Isolate product and move to an empty area if practical. Extinguish fire using Spray Mist, Foam, CO ₂ , Sand or Earth.
Accidental Release Measures	
Personal Precautions, Protective Equipment and Emergency Procedures	<p>Personal precautions not applicable under normal conditions. Avoid build of dust during any cutting process. If packaging becomes broken, please re-pack.</p> <p>Environmental precautions not applicable under normal conditions. Material should be collected in clean containers and recycled where practicable.</p>



Head Office

Dura Composites Ltd
Dura House, Telford Road
Clacton On Sea
Essex, CO15 4LP
United Kingdom

Tel: +44 (0)1255 440291
Email: info@duracomposites.com

www.duracomposites.com

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

Due to our policy of continual improvement we reserve the right to change specifications at all times without prior notice.

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