

## BREEDONFibre COMPRISES OF A CELLULOSE FIBRE MODIFIED STONE MASTIC ASPHALT INSTALLED WITH A POLYMER MODIFIED BOND COAT (PREFERRED) OR TACK COAT.

### APPLICATIONS

- Trunk roads
- Car parks
- Major routes

### OVERVIEW

BREEDONFibre comprises of a cellulose fibre modified Stone Mastic Asphalt installed with a polymer modified bond coat (preferred) or tack coat. The bituminous mastic matrix combines with the natural interlocking of coarse aggregates to produce a durable and rut resistant product, suitable for heavily trafficked and urban roads. BREEDONFibre is widely used on the trunk road network in England and Scotland. It provides excellent results due to its workability and durability, even in extreme climatic conditions. BREEDONFibre has been used by many of our customers on a broad range of contracts from trunk roads through to car parks.

### TECHNICAL DATA

BREEDONFibre is a Thin Surface Course System approved under the Highway Authorities Product Approval Scheme (HAPAS) by the British Board of Agrément (BBA) and holding a BBA HAPAS Roads and Bridges Certificate, fulfilling the necessary criteria defined in Clause 942 of the Specification for Highway Works. The system achieves the following Performance Levels as defined in BBA Guidelines:

System	Factor Assessed	Performance Level Achieved
10mm BREEDONFibre	Surface Macrotexture	Level 3
	Wheel Tracking (Resistance to Permanent Deformation)	Level 3
	Sensitivity to Water	>80% Retained Stiffness
	Bond to Substrate	>400kPa
	Durability	System will provide a durable surface course for new and maintenance road construction.
14mm BREEDONFibre	Surface Macrotexture	Level 3
	Wheel Tracking (Resistance to Permanent Deformation)	Level 3
	Sensitivity to Water	>80% Retained Stiffness
	Bond to Substrate	>400kPa
	Durability	System will provide a durable surface course for new and maintenance road construction.

### CONSTRUCTION

The system can only be installed by Breedon or Approved Contractors under license from Breedon.

BREEDONFibre must be installed in accordance with the Installation Plan and the general requirements of BS 594987.

The system can be applied to bituminous or concrete substrates free from standing water or ice, and must be laid on a sound surface, free from all loose material, mud, dirt and other debris prior to the application of tack or bond coat.

Bond coats are preferable to tack coats, and shall be tanker applied at a temperature  $\geq 80^{\circ}\text{C}$ , wherever possible. The bond or tack coats will be allowed to 'break' (i.e. turn from brown to black) prior to the application of the asphalt.

Wheel track ruts and depressions shall be pre-treated with regulating material before overlaying.

Provided the minimum rolling temperature can be achieved, the system can be installed at a minimum ambient temperature of  $-1^{\circ}\text{C}$ , measured on a rising thermometer.

Wherever possible, the system shall be machine laid by a paver capable of laying continuously to produce an even surface to the required widths, thicknesses, profiles, crossfalls and/or cambers. The screed shall be sufficiently pre-heated prior to commencement of surfacing. Care must be taken when loading the paver to not disturb previously laid material.

A tandem roller with a minimum deadweight of 6 tonnes (preferably a 10 tonne deadweight roller) shall be used as the lead roller, with the backup rollers having the same minimum deadweight requirement. Smaller machines should only be used in areas of restricted access.

The tandem rollers should be used in deadweight mode only, except on joints or hand laid areas where vibration may be required to ensure full compaction.

Longitudinal BREEDONFibre joints shall be formed by one of the following methods:

- 1) **Cold Cut Joints** - shall be cut to a full depth vertical face and painted with hot bitumen (with a penetration of not less than 40 pen), hot elastomeric polymer-modified binder (with a penetration of not less than 40 pen), cold applied thixotropic bituminous compound, or polymer-modified adhesive bitumen strip with a minimum thickness of 2mm, prior to the next run of material.
- 2) **Cold Matched Joints** - can be cold matched without cutting if:
  - a) The open edge presents a substantially vertical face
  - b) The open edge has no major lateral deviations from the edge of the line of the mat
  - c) There is no edge damage from crossing traffic, paver maneuvering or other causes
 The joint shall be painted with hot bitumen, hot elastomeric polymer-modified bituminous binder, or cold applied thixotropic bituminous compound, prior to matching
- 3) **Warm Matched Joints** - can be warm matched without cutting when the mat temperature is at, or above,  $50^{\circ}\text{C}$ .

The joint will be painted with approved hot bitumen, hot elastomeric polymer-modified bituminous binder, cold applied thixotropic bituminous compound, prior to matching.

**4) Echelon Paving** – when paving in echelon the joints are matched without previous painting, subject to the minimum rolling temperature requirements being strictly adhered to. Transverse joints shall be cut or sawn to a vertical face at least 300mm from the day joint and will be painted with suitable hot bitumen, hot elastomeric polymer-modified bituminous binder, cold applied thixotropic bituminous compound, or polymer-modified adhesive strip, prior to matching.

Gritting of BREEDONFibre is not considered necessary, and shall not be undertaken unless otherwise specified in the contract. The nominal layer thickness shall be as follows with a maximum of 55mm at any point:

Nominal Size	Minimum Thickness at Any Point	Nominal Layer Thickness
14	30mm	35 – 50mm
10	20mm	25 – 50mm

### BENEFITS

- British Board of Agrément approved in accordance with the Highway Authorities' Product Approval Scheme. BBA HAPAS Roads and Bridges Certificate Number 05/H112.
- Fully satisfies the requirements of the Specification for Highway Works Clause 942 "Thin Surface Course Systems".
- High durability.
- Excellent resistance to rutting.
- Reduced spray.
- Extremely low surface noise.
- May be installed all year round (dependent on climatic conditions).
- Can be engineered to give varying surface textures as required.

### MAINTENANCE AND REPAIR

BREEDONFibre is not subject to any specialised routine maintenance processes, and should be maintained in accordance with the Design Manual for Roads and Bridges HD 31/94 "Maintenance of Bituminous Roads".

### Motorways, trunk roads and other major repairs

Any damaged areas shall be removed by planing to the appropriate depth to provide a minimum length of 15m for paver resurfacing. The planed area will be resurfaced using material to the

same specification, in accordance with Breedon's Installation Procedures.

### Minor repairs

- Minor repairs can be carried out by cutting out the damaged section and replacing it with a material of suitable specification agreed between Breedon and the Client.
- A K1-40 (C40 B 4) or K1-60 (C60 B 4) tack coat, or an acceptable proprietary bond coat, will be used on the receiving substrate.
- Wherever possible, a diamond patch reinstatement shall be used, extending a minimum of 0.25m beyond the damaged section.
- Joints must be saw cut vertical, cleaned and painted with a thick uniform coating of hot bitumen, hot elastomeric polymer modified bituminous binder, or cold applied thixotropic bituminous compound prior to laying.

### WHY CHOOSE BREEDON PROPRIETARY MATERIALS?

The Proprietary Materials offered by Breedon are extensively designed and rigorously tested to exceed the performances of traditionally used asphalts in specific applications. Our Proprietary Materials often include additives to achieve these high levels of operation.

### PRECAUTIONS AND LIMITATIONS

Asphalt remains relatively soft for up to one year after laying; until it has time to oxidise and harden (i.e. elasticity is reduced). It is recommended that the surface is not trafficked for at least 4 hours following installation, when it is most susceptible to damage. When trafficked by vehicles, it is recommended that they are moving when the wheels are turned. If a vehicle is stationary when tyres are turned (particularly with modern power steering), the asphalt can be displaced and marked by stresses applied at that particular point. It is also recommended that (wherever possible) vehicles are parked in different positions to avoid marking the asphalt, and heavy vehicles, trailers, plant, machinery and ladders with small footprints are parked on wooden boards to disperse the loading. Fuel spillages should also be contained and cleaned up as soon as possible as these will compromise durability. Recommended procedure for removing diesel spillages is as follows:

- Stem the leak.
- If necessary, contain the spillage by deploying booms around the source and block any drains.
- Apply absorbent granules (e.g. cat

- litter) or sand to the spillage area.
- Sweep up the absorbent granules and dispose of in accordance with environmental regulations.
- Scrub the surface using a mild detergent. Any effluent resulting from the clean-up activity must not be washed into surface water drains as it is an offence under the Water Resources Act 1991.

### QUANTITY REQUIRED

As a guide, please refer to the Material Calculator on our website ([www.breedongroup.com](http://www.breedongroup.com)).

### AVAILABILITY

BREEDONFibre can be installed all year round (depending on climatic conditions) by, or under license from, Breedon.



**TO DISCUSS YOUR PROJECT REQUIREMENTS, AND FOR MORE INFORMATION ABOUT OUR PRODUCTS CONTACT:**

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