

BREEDON Industrial SMA HAS HIGHER BINDER CONTENTS WHEN COMPARED TO CONVENTIONAL STONE MASTIC ASPHALTS AND UTILISES ADDITIVES TO HELP COUNTERACT THE HARMFUL, DETERIORATING EFFECTS OF FUELS AND OILS.

APPLICATIONS

- Bus depots
- Lorry parks
- Loading and stocking areas where forklift trucks are used
- Airports
- Fuelling areas

OVERVIEW

In order to maintain durability, BREEDON Industrial SMA has higher binder contents when compared to conventional Stone Mastic Asphalts and helps to reduce the harmful, deteriorating effects of fuels and oils. The grading is intended for heavy duty industrial applications such as stocking bays and loading areas. The coarse aggregate skeleton is designed to impart good point loading and shear resistance. It is particularly suitable where fork lift trucks, heavy goods vehicles or buses operate and the reduction of texture means that the surface is not disrupted by creating a key for the tyres when vehicles are turning.

TECHNICAL DATA

BREEDON Industrial SMA is derived from German Stone Mastic Asphalt technology and utilises straight run or (if required) polymer modified binders. Specially selected premium quality aggregates are incorporated to ensure exceptional performance. BREEDON Industrial SMA has a denser grading than 'standard' Stone Mastic Asphalts to reduce texture, which is less important in these applications, promoting strength, lowering in situ air voids and enhancing rut resistance.



BREEDON Industrial SMA has demonstrated enhanced robustness with improved fuel resisting properties when compared with U.K. specified Stone Mastic Asphalts made with paving grade bitumen. The material can be supplied as a coloured product.

An evaluation of the ability to withstand fuel was conducted by immersing samples in kerosene for 48 hours and calculating the percentage mass loss. The following results demonstrate the enhanced fuel resisting properties of BREEDON Industrial SMA when compared with 'standard' Stone Mastic Asphalt:

Material	Average Mass Loss Following Immersion in Kerosene for 48 Hours (%)
SMA 10 surf 40/60 Granite	5.38
BREEDON Industrial SMA 10 surf 40/60 Granite	2.05

Retained stability and change in flow was determined by a modified test method based on BS EN 12697-34, following immersion in kerosene for 3 hours and conditioning in a water bath at 60°C for 1 hour. The retained stability result of 95% and 0.02mm change in flow confirm an exceptionally robust product with superior fuel resisting properties.

Durability has been confirmed by resistance to permanent deformation testing. When tested in accordance with BS EN 12697-22 (small device, procedure B) at 60°C, the mean wheel track slope was found to be 0.1mm/1,000 load cycles, suitable for very heavily stressed sites requiring high rut resistance (Classification 2 of Table D.2 in PD 6691).

CONSTRUCTION

Installation of BREEDON Industrial SMA is completed using conventional paving equipment and is available in three sizes, with the nominal and minimum compacted layer thicknesses as follows:

Largest Nominal Aggregate Size (mm)	Nominal Layer Thickness (mm)	Minimum Thickness at Any Point (mm)
6	25 - 40	20
10	30 - 50	25
14	40 - 50	35

Wherever possible, tanker applied bond coats shall be used beneath BREEDON Industrial SMA and allowed to fully 'break' (i.e. turn from brown to black). Installation should be carried out in accordance with the general requirements of BS 594987, using a tandem roller with a minimum deadweight of 6 tonnes (preferably a 10 tonne deadweight roller) as the lead roller. Smaller machines should only be used in areas of restricted access, and to remove any marks left by the lead roller.

BENEFITS

- Faster to install and cheaper than concrete.
- Improved durability and scuffing resistance when compared with standard mixes.
- Designed to help reduce the deteriorating effects of fuels, oils and antifreeze.
- Superior point loading, rut, fretting and raveling resistance.
- Increased workability and compatibility compared to 'standard' SMA products.
- May be customised to meet specific site requirements.
- Smooth, homogenous surface ensuring first-rate rideability.
- Reduced whole life costing (WLC).
- Favourable surface textures.

Continues overleaf

- Superb climate (water and ageing) resistance.
- Very low traffic noise.
- Good resistance to reflective cracking from underlying joints or metalwork.
- Minimal maintenance required.
- High softening point, reducing the risk of damage.
- Polymer modified version supplied to suit end use application.
- Polymer modified option can be trafficked sooner than conventional bituminous materials.
- Available as a coloured material.

MAINTENANCE AND REPAIR

BREEDONIndustrial SMA is not subject to any specialised routine maintenance processes, although the following procedures should be followed:

- Wherever possible, vehicles should be moving when the wheels are turned.
- If practicable, vehicles shall be parked in different positions.
- Heavy vehicles, trailers, caravans and ladders with small footprints should be parked on wooden boards to disperse the loading.
- Although BREEDONIndustrial SMA has a high tolerance to fuel contamination, no bituminous material is completely resistant to the harmful effects of fuel. Fuel spillages should therefore be removed as soon as possible (sand, sorbents such as cat litter, oil absorbent pads and spill kits can be useful for this task).
- Any loose aggregate particles should be removed from the surface to prevent abrasion.

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.

Minor repairs

- Minor repairs can be carried out by cutting out the damaged section and replacing it with a material of suitable specification.
- 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 2 hours (PMB version) or 4 hours (40/60 Pen option) 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 ultimately compromise durability. No bituminous material is entirely resistant to fuel. 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).

AVAILABILITY

BREEDONIndustrial SMA may be laid all year round (depending on climatic conditions). Installation of this product can be completed by Breedon or experienced Contractors using conventional paving equipment.

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

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The information given in this technical datasheet is based on our current knowledge and is intended to provide general notes on our products and their uses. Breedon Group plc endeavours to ensure that the information given is accurate but accept no liability for its use or its suitability for a particular application because of the product being used by the third party without our supervision.

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