

BREEDONIndustrial HRA IS A HIGH STONE CONTENT HOT ROLLED ASPHALT SURFACE COURSE MANUFACTURED USING POLYMER MODIFIED BITUMEN, WITH A GRADING TO PROMOTE STRENGTH AND ENHANCE THE ABILITY TO WITHSTAND FUEL SPILLAGES.

The material is designed for heavy duty industrial applications such as stocking bays and loading areas. It is particularly suitable where fork lift trucks operate or heavy trucks/buses are cornering tightly on a regular basis.

APPLICATIONS

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

TECHNICAL DATA

BREEDONIndustrial HRA was originally developed to address the needs of a Client wanting to minimise production downtime associated with the traditional laying and curing of concrete. BREEDONIndustrial HRA was able to accommodate concrete block 'egg-laying' equipment on the large, previously concreted, stocking area. Although this installation is now several years old, it continues to perform well.

BREEDONIndustrial HRA incorporates polymer modified binder, which is selected to meet the requirements of each particular site. Polymer modified binder ensures excellent impact and deformation resistance, whilst also helping to reduce the deteriorating effects of fuels and oils. Specially selected premium quality aggregates are incorporated to ensure exceptional performance. The grading of the product results in reduced textures, less important in these applications, promoting strength, and lowering in situ air voids. Laboratory tests have shown BREEDONIndustrial HRA to have stability (strength) twice that of normal HRA 30/14 F surf design mix, and can be supplied as a coloured product.

CONSTRUCTION

Installation of BREEDONIndustrial HRA is completed using conventional paving equipment and the nominal and minimum compacted layer thicknesses are shown in the table right:

Wherever possible, tanker applied bond coats shall be used beneath BREEDONIndustrial HRA 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. 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. Compaction must follow the requirements of BS 594987, and

the tandem rollers shall be used in deadweight mode only, except on the open joint or hand laid areas where vibration may be required to ensure full compaction. Rolling and compaction must commence as soon as possible, above the minimum rolling temperature of 120°C. All joints must be prepared in accordance with BS 594987. They must be saw cut to a full depth vertical face, cleaned, and painted with a thick uniform coating of joint preparation.

Designation	Nominal Layer Thickness (mm)	Minimum Thickness at Any Point (mm)
BREEDONIndustrial HRA 45/10	40 - 45	35
BREEDONIndustrial HRA 45/14	45 - 50	40

BENEFITS

- Faster to install and cheaper than concrete.
- A high stone content negates the need for pre-coated chippings.
- Improved durability and scuffing resistance when compared with standard mixes.
- Designed to help reduce the harmful effects of fuels, oils and antifreeze. Where fuel and/or antifreeze resistance is a key performance requirement, this can be further improved by modifications to the material blend.
- Superior point loading, rut, fretting and raveling resistance.
- Smooth, homogenous surface ensuring first-rate rideability.
- Reduced whole life costing (WLC).
- Superb climate (water and ageing) resistance.
- Very low traffic noise.
- Superior resistance to reflective cracking from underlying joints or metalwork.
- Minimal maintenance required.
- High softening point, reducing the risk of damage.
- Polymer modified binder selected for end use application.
- Can be trafficked sooner than conventional bituminous materials.
- Available as a coloured material.

MAINTENANCE AND REPAIR

BREEDON Industrial HRA 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 BREEDON Industrial HRA has a high tolerance to fuel contamination, no bituminous material is entirely 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 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 completely 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

BREEDON Industrial HRA can be installed all year round (depending on climatic conditions), and is supplied and installed by Breedon.

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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