BREEDON

BREEDONTrack

TECHNICAL DATASHEET — ASPHALT

BREEDONTrack IS A BESPOKE, IMPERMEABLE ASPHALT, WITH A GRADING TO ADVANCE STRENGTH AND DURABILITY, WHILST STILL ACHIEVING HIGH SKIDDING RESISTANCE.

APPLICATIONS

- Motor racing circuits
- Airfields
- Storage areas
- High stress regions

OVERVIEW

Designing asphalt for a motor racing circuit presents different engineering obstacles to those asphalts used on standard highways. Traffic volumes are lower on racetracks, but exceptionally high lateral forces are imparted on the surface by vehicles on bends, and very high longitudinal forces are exacted during braking. As racing tyres are selected according to climatic conditions, racing circuits rely more on the achievement of optimum traction in dry conditions, rather than on skidding risk during wet conditions.

With so many different race categories and circuit layouts, each project must be considered separately to deliver optimum performance and value for money. BREEDONTrack utilises German Stone Mastic Asphalt technology and is specifically designed on a track-to-track basis to ensure the necessary parameters are met.

BREEDONTrack is bespoke, impermeable asphalt, with a grading to advance strength and durability, but still achieving high skidding resistance. This is achieved with a large surface area in contact with the vehicles' tyres, which also reduces noise levels.

TECHNICAL DATA

Available as either a 6mm or 10mm product, BREEDONTrack is supplied using paving grade (40/60 Pen) or polymer modified binders, selected for the particular application. In addition, a variety of different polished stone value (PSV) aggregates can be supplied, including (if preferable) a blend of different PSV coarse aggregates to provide differential wear. The binder content and gradings are comparable with German specifications, with low air voids and excellent deformation resistance. A dense grading provides significant aggregate interlock, providing exceptional resistance to fretting and raveling. The high binder contents enable the material to be worked and compacted more efficiently than conventional Stone Mastic Asphalts, and joint formation is also less problematic.

Typically, BREEDONTrack surface courses have the following characteristics:

Test Method	BREEDONTrack **6 surf**	BREEDONTrack **10 surf**
Initial texture depth (BS EN 13036-1)	≥0.5mm	≥0.8mm
Retained texture depth (BS EN 13036-1 after two years trafficking)	≥0.3mm	≥0.6mm
Binder content by volume (BS 594987 Annex C)	15.5%	15.0%
In situ air void content (BS EN 12697-8)	6.0%	5.0%
Water sensitivity (BBA HAPAS Guideline Annex A.2)	>80%	>80%
Binder drainage (BS EN 12697-18)	<0.3%	<0.3%
Resistance to permanent deformation (BS EN 12697-22 small device at 60°C)	Procedure B in Air Mean wheel track slope: <1.0mm/1,000 load cycles	Procedure B in Air Mean wheel track slope: <1.0mm/1,000 load cycles

CONSTRUCTION

BREEDONTrack is available in two sizes, and the nominal and minimum compacted layer thicknesses are 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

Wherever possible, tanker applied bond coats should be used beneath BREEDONTrack 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

- Customised according to site specific requirements.
- Exceptional durability.
- Superior deformation, fretting and raveling resistance.
- Smooth, consistent surface ensuring outstanding ride quality.
- Excellent grip.
- High fatigue, water sensitivity and cracking resistance.
- Increased performance life and reduced maintenance and whole life costing (WLC).
- Can be used to reduce construction time and therefore:
  - Lower costs
  - Minimise disruption to users
  - Lessen health and safety risks
- Impermeable to water penetration, preventing detrimental ingress.
- Low surface noise and spray when trafficked.
- Minimal maintenance required.
- High softening point, reducing the risk of damage.

Continues overleaf

- Polymer modified option can be trafficked sooner than conventional bituminous materials.
- Can be installed to create a jointless mat.
- Can be supplied as a coloured material.

MAINTENANCE AND REPAIR

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

Motorways, trunk roads and other major repairs

Any damaged areas are to 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 bituminous materials in specific applications. Our Proprietary Materials often include specialised additives to achieve 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 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).

AVAILABILITY

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

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

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