

BREEDONPlayCourt Plus IS A POROUS ASPHALT CONCRETE, DESIGNED FOR PLAYING SURFACES WHICH REQUIRE RAPID WATER DRAINAGE AND SUPERIOR DURABILITY.

Fully compliant with The Sports and Play Construction Association (SAPCA) and Lawn Tennis Association (LTA) requirements, BREEDONPlayCourt Plus will provide a low maintenance, very durable and reliable playing surface for years. Available in 6mm or 10mm nominal size, BREEDONPlayCourt Plus may also be supplied as a coloured product.

APPLICATIONS

- Playgrounds
- Multi-use games areas (MUGAS)
- Skateboarding, rollerblading and roller skating parks
- Basketball and netball courts
- Hard play areas
- Wheelchair sports

TECHNICAL DATA

BS EN 13108-1 and PD 6691 do not include specifications for 6mm open graded Asphalt Concrete, frequently requested for play areas. BREEDONPlayCourt was created to provide a free-draining 6mm Asphalt Concrete to meet the requirements of tennis courts and provide a solution to the omission from specifications. BREEDONPlayCourt Plus contains performance enhancing additives, with a higher binder content and greater in situ air void content when compared with 'standard' open graded Asphalt Concretes.

BREEDONPlayCourt has the following properties:

Test Method	Breedon PlayCourt Plus 6 surf	Breedon PlayCourt Plus 10 surf
Air Void Content (BS EN 12697-8)	>16%	≥16%
Initial Texture Depth (BS 598-105)	≥1.3mm	≥1.3mm
Hydraulic Conductivity (BS DD 229)	>5,000mm/hr	>5,000mm/hr
Water Infiltration Rate (BS EN 12616)	>5,000mm/hr	>5,000mm/hr
Horizontal Permeability (BS EN 12697-19)	>2.5 x 10 ⁻⁹	>2.5 x 10 ⁻⁹
Vertical Permeability (BS EN 12697-19)	>2.5 x 10 ⁻⁶	>2.5 x 10 ⁻⁶
ITSM Stiffness at 20°C (BS EN 12697-23)	>1000MPa	>1000MPa
Water Sensitivity (BS EN 12697-12)	>75%	>75%
Mean Wheel Tracking Depth at 60°C (BS 598-110)	≤7mm	≤7mm
Wheel Tracking Rate at 60°C (BS 598-110)	≤5mm/hr	≤5mm/hr
Binder Drainage (BS EN 12697-18 Clause 5)	<0.2%	<0.2%

BREEDONPlayCourt Binder courses are available and their use instead of 'standard' open graded Asphalt Concretes provides the following benefits:

- Improved water infiltration rate.
- Enhanced operation.
- Greater water through-flow cleans the voids.
- Reduced build-up and risk of 'silting up'.
- Increased performance life and reduced maintenance and whole life costs (WLC).

BREEDONPlayCourt Binder courses are also available with a 'Plus' modifier to enhance strength, durability and improve water sensitivity.

CONSTRUCTION

The formation (sub-grade) should be trimmed to level to a tolerance of +20 to -30mm (to prevent ponding under the system), and immediately cleaned from mud and slurry (which is not to be used in the permanent works). The formation shall be immediately compacted using adequate rollers and/or wacker plates, before placement of appropriate Geocells, Geotextiles, Geogrids and/or Geomembranes.

It is imperative that impermeable contaminants such as mud, soil and concrete are prevented from entering the pavement layers both during and after construction, to ensure that

the pavement remains permeable throughout its design life.

Construction traffic should be kept away from the area and silt fences, staged excavation works, and temporary drainage swales which divert runoff away from the area, should all be contemplated to minimise contamination risk.

Any sub-grade soft spots and ruts shall be excavated and back-filled with suitable well-compacted material of the same characteristics and strength as the surrounding material.

To ensure a suitable granular reservoir is created to hold water, allowing gradual dispersion into the sub-grade, one of the following aggregate options should be used as the sub-base:

1. Type 3 (open graded) Unbound Mixture complying with the Specification for Highway Works Clause 805.
2. Type 1X Sub-base supplied in accordance with TRL Report PA/SCR243.
3. 20/31.5mm aggregate in accordance with BS EN 13043 (Grading Category G_c85/35).
4. 20/40mm Type B Filter Media in accordance with SHW Volume 1 Series 500 and BS EN 13242 (Grading Category G_c80/20).

Geocells, Geogrids, Geotextiles, and/or Geomembranes should be considered on a site specific basis. Geocells and Geogrids will add strength to the pavement and stabilise the granular reservoir sub-base, preventing movement and rutting when overlaying. Geotextiles will reinforce and separate the sub-base, preventing detrital matter from the sub-grade progressing upwards. Geotextiles are to be laid in accordance with the manufacturer's recommendations and with overlaps between adjacent strips of 300mm without any folds or creases. Geomembranes are to be impermeable, flexible, with good puncture resistance, and capable of being welded to direct water as necessary. Impermeable membranes must be correctly installed and treated with care to ensure that they are not damaged during construction. Geocells, Geogrids, Geotextiles and Geomembranes are purchased ready to use and specialist advice is best obtained from the manufacturer and/or supplier. Geocells will ensure sub-base movement is minimised.

Light equipment with tracks or oversized tyres is recommended to prevent disruption and rutting in the sub-grade when trafficked directly, during installation of the Geocells/Geotextiles/Geogrids/Geomembranes, or placing of the granular sub-base. Any fin-drains or perforated pipes are included prior to the sub-base being spread (using a paver machine or a suitable spreader box) and levelled and compacted as soon as possible to the design depth. Tolerances are +20 to -15mm for compacted sub-base. The use of a pneumatic tyred roller (PTR) with an operating weight of at least



8 tonnes) should be considered to prevent aggregate crushing. Vibration should not be used and compaction shall be sufficient to prevent further settlement from pavers and/or lorries (minimum of 6 passes depending on layer thickness, with thicker layers requiring more passes). Any movements (i.e. ruts) shall be rectified by re-rolling before overlaying.

To prevent disruption to the sub-base (and thus maintain layer thicknesses), the use of Geocells for the top layer of the granular sub-base should be considered and tracked machines are recommended. A 'Blinding Course' of 2/6.3mm aggregate may be used to 'top up' Geocells if consolidation occurs, which should be adequately compacted.

The base/binder course shall be laid onto the granular reservoir sub-base in such a manner to provide the nominal layer thickness required. As BREEDONPlayCourt Plus contains a significant amount of air voids, it differs from most conventional asphalts, and this should be taken into

account when laying (a trial patch is advisable before commencing the main works).

The surface course shall be machine laid at a depth to provide the necessary nominal layer depth. Installation of BREEDONPlayCourt Plus surface course can utilise a paver, preferably with laser guidance to ensure level accuracy. Alternatively, it can be hand laid and levelled using a screed board.

Any pavers used shall be capable of laying BREEDONPlayCourt Plus continuously and produce an even surface to the required widths, thicknesses, profiles, crossfalls and/or cambers. The material shall be placed without causing segregation, surface defects, dragging or burning. The paver speed shall be such that continuous laying is carried out as far as site conditions and supply allow.

The operation shall be carried out such that hand work areas are minimised. The paver should be in good working order with particular attention paid to the adjustment of the tampers, condition of the sole plate, side plate, extension boxes and augers and the screed heating assembly. The screed should be pre-heated prior to commencement of surfacing.

Care should be taken when loading pavers that reversing lorries do not disturb the previously laid material.

When deemed necessary, a hot applied, rapid acting tack coat (such as K1-40 or K1-60 Cationic road emulsion) or bond coat can be used in installation between the bituminous layers. Tack and bond coats complying with Manual of Contract Documents for Highway Works Specification for Highway Works Clause 920, BS EN 13808 and/or BS EN 14023 shall be used. These are to be used and applied in line with BS 594987, but at a reduced rate of spread. Due to the high porosity and texture of the surfaces to be treated, a light residual spread rate of 0.10 to 0.30kg/m² is to be used (i.e. emulsion with a 58% binder content shall be sprayed at 0.15 to 0.50kg/m²). If the surface to be covered has become dusty or dirty, every effort should be made to clean this with a mechanical, suction sweeper. The tack or bond coats shall be allowed to 'break' (i.e. turn from brown to black) before asphalt is laid, except when it is applied by a paver with an integral spray bar, when fast breaking emulsions should be used.

The recommended finished layer depths for BREEDONPlayCourt Plus are as follows:

Application	Designations Available	Nominal Layer Thickness (mm)	Minimum Thickness at Any Point (mm)
Base/Binder Course	10mm	40 - 60	35
	14mm	45 - 70	40
	20mm	50 - 80	45
Surface Course	6mm	20 - 30	15
	10mm	30 - 40	25

A minimum of eight roller passes across all areas of the surface are required whilst the material is still compactible above 100°C.

BENEFITS

- Fully compliant with The Sports and Play Construction Association (SAPCA) and Lawn Tennis Association (LTA) requirements.
- Enhanced water infiltration rate and increased workability compared with 'standard' Asphalt Concretes.
- Good rate of spread.
- Smooth, uniform finish.
- Superior durability with exceptional scuffing and fretting resistance.
- Can be played on throughout the year in most weather conditions.
- Low maintenance.
- Free-draining.
- Area can be opened to pedestrians once material has cooled to ≤40°C.
- Available as a coloured material.

MAINTENANCE AND REPAIR

BREEDONPlayCourt Plus requires infrequent maintenance and the following procedures should be followed:

- If used for vehicle parking, the vehicles shall be moving when the wheels are turned and shall be parked in different positions.
- Any heavy vehicles, trailers, caravans and ladders with small footprints parked on the material should use wooden boards to disperse the loading.
- Fuel spillages should be removed immediately (oil absorbent pads and spill kits can be useful for this task).
- The surface should be inspected at least annually for deterioration.
- Debris and detritus (mud, leaves or grit) should be removed on a regular basis by gentle brushing or preferably, vacuum sweeping.

- Should algae, moss, weeds or grass develop on the surface, these should be treated with a suitable weedkiller as soon as possible.
- Weeds and grass should not be pulled up to avoid disruption to the surface.
- To prevent clogging and damage, power washing should be avoided, unless absolutely necessary.
- When applicable, the surface should be allowed to dewater.
- If used, snow ploughs should exercise caution to prevent surface damage.
- Ploughed snow accumulations shall not be allowed to melt on the pavement as they often contain high sediment contents which can block the voids.
- Prevent use by heavy vehicles (e.g. refuse collection vehicles).
- Prohibit use of sand, salt or other deicers which may clog the surface.
- Sealing or overlaying with non-porous materials should never be undertaken.

Major repairs

If possible, any damaged areas are to be removed by planing to the appropriate depth to provide a minimum length of 15m for paver resurfacing. Alternatively, the section to be replaced can be removed and re-laid by hand. The sections will be resurfaced using material to the same specification.

Minor repairs

- For aesthetic and level reasons, it is often preferable to replace large areas, rather than complete 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 lightly applied to the receiving substrate.
- 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 24 hours (longer in hot weather) 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:

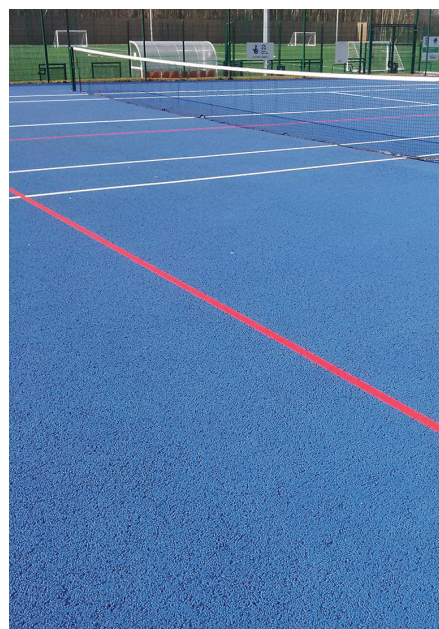
- Stem the leak.
- If necessary, contain the spillage by deploying booms around the source and block any drains.
- Apply absorbent pads or socks to the spillage area.
- Remove the absorbent pads or socks and dispose of in accordance with environmental regulations.
- Gently sweep the surface or preferably, vacuum sweep.

QUANTITY REQUIRED

As a guide, please refer to the Material Calculator on our website (www.breedongroup.com).

AVAILABILITY

BREEDONPlayCourt Plus can be laid all year round due to its improved workability (depending on climatic conditions), and may be installed by Breedon or experienced Contractors



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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