



FOAR DURACRETE BLACK

Hot Applied Asphalt Aggregate Filled Mastic for Asphalt Pavements

Product Description

FOAR DuraCrete Black is a hot applied, polymer modified asphalt binder which is factory blended with aggregates. DuraCrete Black can be used as a flexible repair solution for wide cracks, spalls, potholes, and distressed pavements. DuraCrete Black is specifically designed for asphalt pavements.



Above: Severely distressed asphalt

This black mastic material is designed to replace traditional hot pour crack sealants which lack structural strength and replace other more rigid hot or cold applied patch solutions that are prone to failure due to their stiffness or poor quality.

To ensure the highest level of durability, flexibility, and satisfactory performance in a hot climate DuraCrete Black has been prepared to comply with ASTM D 8260 Type I along with additional physical and performance characteristics (refer to next page).

Safety Preparations

Applicators should have their skin fully covered by wearing dust masks, face shields, gloves, boots, long sleeved shirts, and pants/jeans to protect themselves from molten DuraCrete and dust generated during surface preparation.

Surface Preparations

The crack shall be milled with a milling machine to the specified width and depth. A pothole or spalling shall be milled, saw cut, and jack hammered to remove the defective areas. The repair surfaces are then cleaned and dried with a hot air lance.

General Heating Instructions

DuraCrete is indirectly heated in a thermostatically controlled mixer, having an agitator that ensures complete mixing. Once the mastic material's temperature reaches approximately 180 °C, pour the molten DuraCrete into the prepared repair area.

Repairing Wide Cracks and Small Potholes

When using DuraCrete as a wide crack filler for cracks that are 1 to 4 inches (25 to 100 mm) wide or as a patching material for small potholes where the depth does not exceed 1 inch (25 mm) and width does not exceed 4 inches (100 mm) use a screed box to deliver the molten DuraCrete to the repair area. Use multiple passes as necessary to ensure that the molten DuraCrete is at level with the existing surface.

Repairing Larger Distressed Areas

When using DuraCrete as a patching material for larger distressed areas a two-layer approach must be employed.

The bottom layer (reinforcement layer) will be a mixture of molten DuraCrete and hot angular aggregates. This mixture will be indirectly heated and agitated in a mixer. Hot angular aggregates can be 25-55% volumetrically of the total mixture to provide reinforcement. The bottom layer should stop at 3/4 inches (75 mm) below the top of the final repaired surface.

The top layer (flexible layer) will be molten DuraCrete and will be poured on the last 3/4 inches (75 mm) of the repaired surface to provide flexibility. This layer's material will also be indirectly heated and agitated in a mixer. The top layer must be screed so that the repaired surface be at the same level as the existing surrounding surfaces. Traffic can resume one hour after completion of repairs.

Packaging

DuraCrete Black is supplied in 13.2 kg (8 L) cube blocks wrapped in polymer shrink wrap

FOAR Innovative Technologies (Pvt.) Ltd.

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FOAR DURACRETE BLACK (continued)

Physical Characteristics	ASTM D 8260 Type I (Hot Climate)	ASTM D 8260 Type II (Moderate Climate)	ASTM D 8260 Type III (Cold Climate)	DuraCrete Black ASTM D 8260 Type I
Mastic Resilience	50% minimum	50% minimum	50% minimum	50% minimum
Effects of Rapid Deformation	Three passing specimens, no chipping, cracking, or separation at 8 N-m at -7 °C	Three passing specimens, no chipping, cracking, or separation at 8 N-m at -18 °C	Three passing specimens, no chipping, cracking, or separation at 8 N-m at -29 °C	Three passing specimens, no chipping, cracking, or separation at 8 N-m at -7 °C
Crack Bridging	Three cycles at -7 °C	Three cycles at -18 °C	Three cycles at -29 °C	Three cycles at -7 °C
Mastic Stability	40 mm maximum at 70 °C	40 mm maximum at 60 °C	40 mm maximum at 50 °C	40 mm maximum at 70 °C

Additional Physical and Performance Characteristics of DuraCrete Black

Physical and Performance Characteristics	Standard	Limits
Bulk Specific Gravity at 25 °C	ASTM D 2726	1.60 – 1.70
Binder Content	ASTM D 6307	15 – 25%
Aggregate Passing through no. 4 Sieve (4.76 mm)	ASTM D 5444	85% minimum
Flow after 5 Hours at 60 °C	ASTM D 5329	5 mm maximum
Tensile Adhesion	ASTM D 5329	0.15 inches (4 mm) minimum elongation
Impact Testing, 2-inch (50 mm) diameter, 1-inch (25 mm) thick specimen, 0.625-inch (16 mm) impact dart	ASTM D 2794	No cracking, chipping, or separation at 6 ft-lb (8.1 N-m) at -7 °C
Flexibility	ASTM D 3111	No cracking or loss of aggregate adhesion
Color	Black – Designed to aesthetically color match an asphalt pavement	
Minimum Application Temperature	170 °C	
Maximum Application Temperature	190 °C	
Shelf Life	2 years	

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