



A GUIDE TO FOAR DURACRETE GREY & DURACRETE BLACK

Choosing the Right Mastic for Repairing Wide Cracks and Distressed Pavements

Choosing the Correct Mastic

ASTM D 8260 is the only ASTM standard which provides a standard specifications for hot applied aggregate filled mastics. This standard defines the physical characteristics and testing criteria for three types of mastics. These three types of mastics are designed for three different types of climates.

1. ASTM D 8260 Type I – hot climates
2. ASTM D 8260 Type II – moderate climates
3. ASTM D 8260 Type III – very cold climates

Given the hot climate in Pakistan both of FOAR's hot applied asphalt aggregate filled mastics comply with ASTM D 8260 Type I. DuraCrete Grey is meant for concrete pavements and DuraCrete Black is meant for asphalt pavements.

Correct Crack Reservoir Dimensions

DureCrete is ideal to fill wide cracks that are 1 inch (25 mm) to 4 inch (100 mm) wide. Such wide cracks cannot be filled by a conventional sealant as sealants have no inherent bearing capacity. Duracrete must be indirectly heated and agitated before crack filling.

Below is a guideline to the wide crack reservoir dimensions for asphalt or concrete cracks.

Crack Width	Crack Depth	Reservoir Width	Reservoir Depth
1 inch (25 mm)	1/2 inch (13 mm)	1 1/4 inches (32 mm)	1/2 inch (13 mm)
1 inch (25 mm)	3/4 inch (19 mm)	1 1/4 inches (32 mm)	3/4 inch (19 mm)
1 inch (25 mm)	1 inch (25 mm)	1 1/4 inches (32 mm)	1 inch (25 mm)
2 inches (50 mm)	1 inch (25 mm)	2 1/4 inches (57 mm)	1 inch (25 mm)
3 inches (75 mm)	1 inch (25 mm)	3 1/4 inches (83 mm)	1 inch (25 mm)
4 inches (100 mm)	1 inch (25 mm)	4 1/4 inches (108 mm)	1 inch (25 mm)

It is recommended to cut at least 3 mm away from each side of the crack's edge. No backer rod is needed for crack repairs.

Distressed Pavements

DuraCrete can also be used (without any additional ingredients) as a patching material for smaller distressed areas where the depth does not exceed 1 inch (25 mm) and width does not exceed 4 inches (100 mm).

For larger distressed areas a two-layer approach should be employed as DuraCrete has a limited bearing capacity. Therefore, two layers are required where the bottom layer provides reinforcement, and the top layer provides flexibility to the repaired surface.

The bottom reinforcement layer is a mixture of molten DuraCrete and hot angular aggregates. Additional aggregates are 25-55% of the bottom layer mixture by volume. The top flexible layer consists of only molten DuraCrete. Both layer mixtures should be indirectly heated and agitated in a mixer.

Distressed Surface Depth	Bottom Reinforcement Layer Depth	Top Flexible Layer Depth
1/2 inches (13 mm)	None	1/2 inches (13 mm)
3/4 inches (19 mm)	If the distressed area is not wider than 4 inches. If wider than 4 inches then make depth 1 1/2 inches	3/4 inches (19 mm)
1 inch (25 mm)		1 inch (25 mm)
1 1/2 inches (38 mm)	3/4 inches (19 mm)	3/4 inches (19 mm)
2 inches (50 mm)	1 1/4 inch (32 mm)	3/4 inches (19 mm)
3 inches (75 mm)	2 1/4 inches (57 mm)	3/4 inches (19 mm)
4 inches (100 mm)	3 1/4 inches (83 mm)	3/4 inches (19 mm)

If the depth of the distresses is less than 1 inch (25 mm) but the width of the distresses is greater than 4 inches (100 mm) then a contractor should cut out the distressed pavement and go to a depth of 1 1/2 inches (38 mm). This depth will allow for the contractor to take a two-layer approach where the bottom reinforcement layer can be applied up to 3/4 inches (19 mm) below the final repaired surface. After which a 3/4 inch (19 mm) thick flexible layer can be applied.

FOAR Innovative Technologies (Pvt.) Ltd.

Office #C-5, First Floor, Darweish Plaza, Opposite Gate #1, DHA Phase II, Islamabad, Pakistan
Tel: +92 [0]51 570 9189-90 Fax: +92 [0]51 570 9189
E-mail: info@foar.com.pk Website: www.foar.com.pk