



FOAR FLOW PROOF 6690

Water and Flow Resistant Crack and Joint Sealant for Asphalt and Concrete Pavements

FOAR Flow Proof 6690 is a hot applied sealant designed to seal cracks and joints on asphalt and concrete in hot to cold climates.

FOAR Flow Proof 6690 is supplied in solid form which when melted and properly applied forms a resilient, adhesive and flexible compound that resists cracking in the winter and resists flowing even in extreme summer temperatures.

FOAR Flow Proof 6690 includes special additives to maintain adhesion with its substrate when immersed in water for a long period such as after heavy rainfall and maintain resilience while exhibiting zero flow in extreme heat.

However this sealant is NOT fuel resistant. For a fuel resistant sealant please refer to FOAR Fuel Proof 7116.

Standard Compliance

ASTM D 6690-21 Types II & III (Revised in 2021)
(Exceeds ASTM D 6690-21 Type I)
ASTM D 3406-95 (Reapproved in 2006)

Substrate Preparation

Joint side walls must be roughened if they are smooth. The joint should then be cleaned using a water/mist jet. A heat lance should then be used to ensure moisture removal. To control and maintain the required joint depth a heat resistant backer rod of an appropriate size should be placed in the joint to the required depth. Care should be taken not to puncture the backer rod during installation as punctures might create bubbling. Air dry joint (if required) after laying of backer rod prior to application of sealant.

Application

FOAR Flow Proof 6690 is to be heated in a hot-oil jacketed melter capable of constant mechanical agitation and equipped with a gauge to monitor sealant temperature.

For best results the heating oil in the application apparatus must be heated to a temperature of 155 °C (material temperature at 145 °C) and extruded directly onto the backer rod placed in the joint. Discard any initial material extruded which is contaminated with flushing oil.

The maximum safe heating temperature of the heating oil is 168 °C (material temperature at 158 °C). Heating period not to exceed 6 hours.

With pavement temperature at 4 °C or higher, place material into clean, dry crack or prepared joint with roughened side walls by means of a hand-held pour pot, wheeled push band applicator, or wand applicator.

Backer Rod Compliance

ASTM D 5249 Type I – Heat Resistant to 200 °C

Heat Shrinkage and Density

Before application (heating): 1.20 kg/L approx.
After application (heating): 1.20 kg/L approx.

Calculating Amount Required for Filling

Joints: Width (in mm) x sealant depth (in mm) x length (in m) / 1000 = calculated quantity in liters (add 5-10% to calculated quantity for additional sealant on top and sides of backer rod)

Joint Width	Recommended Minimum Sealant Depth	Width to Depth Ratio	Backer Rod ø	Length Filled with 1 L
10 mm (3/8")	20 mm (3/4")	1 : 2	1/2"	4.75 m
13 mm (1/2")	20 mm (3/4")	1 : 1.5	5/8"	3.60 m
19 mm (3/4")	19 mm (3/4")	1 : 1	1"	2.50 m
20 mm (3/4")	20 mm (3/4")	1 : 1	1"	2.25 m
25 mm (1")	25 mm (1")	1 : 1	1 1/4"	1.45 m

Cracks: Reservoir width (in mm) x sealant depth (in mm) x length (in m) / 1000 = calculated quantity in liters (Reservoir cut should be at least 3 mm away from edge of crack on both sides)

Crack Width	Reservoir Width After Cutting	Reservoir Sealant Depth After Cutting	Width to Depth Ratio	Length Filled with 1 L
6 mm (1/4")	13 mm (1/2")	20 mm (3/4")	1 : 1.5	3.85 m
13 mm (1/2")	19 mm (3/4")	19 mm (3/4")	1 : 1	2.75 m
13 mm (1/2")	20 mm (3/4")	20 mm (3/4")	1 : 1	2.50 m

Packing

Disposable single use tearable tin pail having a net capacity of 16 L (19.20 kg).

Storage and Shelf Life

One year from manufacturing date if kept in indoors storage under 40 °C away from sunlight.

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FOAR FLOW PROOF 6690 (continued)

Physical Characteristics	ASTM D 6690 Type II	ASTM D 6690 Type III	ASTM D 3406	Flow Proof 6690
Cone Penetration, Non Immersed at 25 °C	90 dmm maximum	90 dmm maximum	130 dmm maximum	90 dmm maximum
Softening Point	80 °C minimum	80 °C minimum	-	80 °C minimum
Flow at 60 °C after 5 hours	3.0 mm maximum	3.0 mm maximum	-	No flow
Flow at 70 °C after 72 hours	-	-	No flow	No flow
Bond, Non Immersed	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -29 °C (Note A)	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -29 °C (Note A)	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -18 °C (Note A)	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -29 °C (Note A)
Bond, Water Immersed (immersed for 96 hours)	-	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -29 °C (Note A)	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -18 °C (Note A)	Three out of three 12.5 ± 0.2 mm specimens pass 3 cycles at 50% extension at -29 °C (Note A)
Resilience	60% minimum	60% minimum	60% minimum	60% minimum
Oven Aged Resilience at 70 °C for 24 hours	-	-	60% minimum	60% minimum
Oven Aged Resilience at 70 °C for 168 hours	-	60% minimum	-	60% minimum
Asphalt Compatibility	Pass (Note B)	Pass (Note B)	-	Pass (Note B)
Tensile Adhesion	-	-	500% minimum	500% minimum
Flexibility at 70 °C after 72 hours	-	-	Pass (Note C)	Pass (Note C)

Note A: The development at any time during the test procedure of a crack, separation, or other opening that at any point is over 6 mm deep, in the sealant or between the sealant and concrete block shall constitute failure of the test specimen. The depth of the crack, separation or other opening shall be measured perpendicular to the side of the sealant showing the defect.

Note B: There shall be no failure in adhesion, formation of an oily exudate at the interface between the sealant and asphaltic concrete or other deleterious effects on the asphaltic concrete or sealant when tested at 60 °C.

Note C: When conditioned in a forced draft oven maintained at 70 ± 1 °C for 72 ± 2 hours and bent at 90 degrees over a 6.4 mm (0.25 in.) diameter mandrel, the specimen shall have no indication of surface crazing or cracking.

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