

MEGAPRENE HOT MELT JOINT SEALANT

Megaprene Hot Melt is a high extension type sealant for horizontal joints in asphaltic and cement concrete, ceramic tiled surfaces and timber decks.

Field Performance

Megaprene Hot Melt sealant is an Australian developed and manufactured product. Megaprene Hot Melt has been used successfully in Australia, Malaysia and Singapore since 1977 for sealing expansion joints in bridges, roads, car parks and swimming pools.

Field Experience Shows That:

- * Megaprene Hot Melt, used with Megaprene Hot Melt Primer, with stands very high joint extensions without de-bonding or tearing, both at low temperatures and ambient temperatures under wet conditions.
- * Megaprene Hot Melt has a high degree of elastic resilience and resistance to flow, effectively resists “smearing out” by traffic and intrusion of stones or other solid substances into the joint.
- * Megaprene Hot Melt joint sealant performance is effective over the whole pavement and deck temperature range encountered in Australia, that is: -15°C to 75°C.
- * Weathering over several years causes the formation of alligator skin pattern in the surface, but no cracks develop deep in the joint sealant mass and the adhesion remains excellent.
- * Megaprene Hot Melt exceeds the requirements of R.T.A. specification 899.



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Megaprene Hot Melt Joint Sealant

Specific Gravity at 25°C	: 1.3
Resilience (ASTM D-3407 - 75T)	: 70% at 25°C
	: 85% at 70°C
Extension between concrete blocks (ASTM D 4308 – 75T)	: 500% at 25°C
	: 150% at 0°C
Change in ring and ball softening point after heating at 180°C for 3 hours.	: No change

Application

Joint Design:

Joint Movement: All joints where repeated movement occurs should be designed and spaced so that the total movement in tension or compression does not exceed 25% of the width of the joint at the time of sealing. For example, if the movement expected is 10 millimetres followed by 2 millimetres compression, then the design width of joint should be 40 millimetres.

Joint Depth:

In order to ensure adequate area bond to the joint faces, the minimum depth of sealant should be 12 millimetre.

Joint Configuration:

The shape of the sealant has a very large effect on the strain imposed on the bond to joint faces. Where regular movement is expected, the joint should be designed with a width to depth ratio of 2 : 1

Back Up Materials and Bond Breakers:

The most suitable back-up material is foam polyethylene. A strip, slightly wider than the joint, is cut, introduced and held in place within the joint by compression. When the foam is positioned at the correct design depth, use paint scraper or similar tool to further depress the edges of foam in contact with the joint faces to produce a convex shape which will produce a concave base on the sealant., maximising the area of adhesion to joint faces and minimising cross section of sealant in the middle of the joint. Masking tape is then carefully placed to cover the backing to act as a bond breaker.

Site Instructions:

Joint preparation: Joints must be dry and completely clean. Dust, old sealing compound, laitance and loose materials must be removed by wire brushing or grit blasting. Metal surfaces must be free from scale and rust.

Priming: Priming surfaces in all materials with the exception of asphaltic concrete must be primed using Megaprene Hot Melt Primer. Megaprene Hot Melt Primer is applied by brush or sprayed on the joint surfaces to ensure complete coverage. The recommended rate of application is 0.2 litre of Megaprene Hot Melt Primer per square metre. Allow minimum 1 hour drying time before casting Megaprene Hot Melt.

Preparation of Megaprene Hot Melt

Preheat and Melt Megaprene Hot Melt in a tin or cast iron pot over a gas burner. Stir and continue heating until all material has melted. Stir occasionally to prevent the “hot spots”. When all Megaprene Hot Melt melts and is of fluid consistency the sealant is ready for immediate pouring. The temperature of the molten Megaprene Hot Melt should be approximately 175°C. (please note all safety precautions and relevant safety procedures).

Pouring Megaprene Hot Melt

Pour the molten sealant into the prepared and primed joint cavity and allow to cool. Successive pours will amalgamate with earlier pours provided that dry conditions are maintained during the sealant application and freshly poured Megaprene Hot Melt is adequately hot. When the joint is full of Megaprene Hot Melt, allow to cool for approximately 15 minutes before opening to traffic. Do not sprinkle the joint with sand or cover with plastic or paper.