

Segmented Bridge Epoxy Adhesive Gel

Technical Data Sheet

DESCRIPTION	<p>Megapoxy PME Segment Bridge Adhesive is a specially formulated non-sag structural gap filling epoxy gel specifically designed for use bonding together precast concrete bridge segments.</p> <p>This easy to use two part epoxy resin system sets after mixing with excellent mechanical properties ideal for use as a segmental bridge adhesive.</p> <p>It is suitable for use on dry and damp concrete surfaces, and complies with many international standards, including ASTM and FIP.</p> <p>Megapoxy PME complies with ASTM C881 - Grade 3 - Type VI. Class E</p>																																																										
ADVANTAGES	<ul style="list-style-type: none"> • Simple Mix Ratio • Creamy texture, blends easily • Adheres and cures under adverse conditions (cold and damp) • Tensile and compressive strength superior to concrete • Non-sag on vertical surfaces • Rapid setting • Excellent strength retention after prolonged immersion in water • Very good chemical resistance 																																																										
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CURED PROPERTIES	Compressive Strength - ASTM D695	80Mpa	(FIP 5.12)												
	Bond Strength Concrete - ASTM D4541	>3Mpa	(FIP 5.5)												
	Tensile Bond Strength Steel - ASTM D897	>10Mpa													
	Tensile Strength - ASTM D638	25Mpa													
	Tensile bending - 4 Point -	18Mpa	(FIP 5.14)												
	Flexural Strength - ASTM- D790	15Mpa													
	Modulus of Elasticity	4.1Gpa	(FIP 5.13)												
	Slant Shear - ASTM C882_C882M	18Mpa	(FIP 5.15)												
	Hardness - Shore D	70 minimum													
	Coefficient of Linear Expansion	60mm / mm / °C x 10-6													
	Hardens Without Shrinkage		(FIP 5.7)												
CHARACTERISTICS	<ul style="list-style-type: none"> • VOC Free • Pre-metered • Mixes easily by hand or mechanically • Non-sag on vertical surfaces • Very high strength • Good bond strength to precast surfaces 														
POT LIFE OF MEGAPOXY PME FROM 15°C TO 35°C	<table border="1"> <caption>Pot Life of Megapoxy PME</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Pot Life (Minutes)</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>90</td> </tr> <tr> <td>20</td> <td>70</td> </tr> <tr> <td>25</td> <td>45</td> </tr> <tr> <td>30</td> <td>35</td> </tr> <tr> <td>35</td> <td>20</td> </tr> </tbody> </table>			Temperature (°C)	Pot Life (Minutes)	15	90	20	70	25	45	30	35	35	20
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THIN FILM INITIAL CURE TIME	Tack Free Time: (Thin film initial cure time)	6 hours at 15°C 4 hours at 25°C 2 hours at 35°C													
THIN FILM EARLY DEVELOPMENT STRENGTH OF MEGAPOXY PME - 12 HOURS AT 25°C	Compressive Strength Tensile Strength Tensile Bond Strength	8MPa 2 - 3MPa 2 - 3MPa													

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<p>SURFACE PREPARATION FOR CONCRETE BRIDGE SEGMENTS</p>	<p>When bonding good quality cast concrete segments with high MPa, high pressure water blasting is suitable as a surface preparation as long as it removes all loose material and surface contaminates.</p> <p>Residual mold release compounds, including form release agents, curing compounds and bond breakers not removed by water blasting to a pressure of 3000psi, can be left without further treatment if site specific testing demonstrates that the performance of the epoxy product and its application procedure satisfy the requirements as set out in ASTM 4541.</p> <p>ASTM 4541 evaluates the pull off strength of a coating, by determining the greatest tensile pull off force that the coating can bear before detaching.</p> <p>Vivacity Engineering and/or its agents are in a position to provide advise as to a suitable adhesion test régime to verify works procedure on a job specific basis.</p> <p>If it is found that the adhesion testing undertaken provide below standard results then other pre treatments may be necessary. If undertaking one of these alternative treatment processes, at all times take care not to damage the matched cast faces of the concrete segments.</p> <p>Please refer to Megapoxy “Guide for Civil Engineers, Methods of surface preparation”.</p> <p>All surface preparation techniques used can be verified by this simple on site adhesion test.</p> <p>Note: Whatever the preparation procedure used and testing undertaken, it is good practice to bond the surface as soon a possible after completion of that procedure and testing so as to overcome the possibility of secondary contamination of the surface occurring.</p>
<p>SURFACE PREPARATION FOR METAL SURFACES</p>	<p>Metal surfaces should be grit blasted to a clean surface, mechanically abraded and degreased before application.</p> <p>Please note: wire brushing is not entirely satisfactory and gives minimal performance and minimum adhesion</p>
<p>DAMP AND WET SURFACES</p>	<p>Megapoxy PME will bond to damp surfaces, however definition of damp or wet surface is subjective. What one person regards as damp may well be wet with free standing water. Therefor we ask users of Megapoxy PME to remove free-standing water and wipe the concrete surfaces to be joined with absorbent cloth. Because bonding to damp concrete is inferior to bonding to dry concrete, as it is difficult to ascertain this water content reliably and thus prevent poor bonding. We do not wish to make performance claims, which could encourage users to consider surface condition and wetness as being immaterial.</p> <p>Our recommendation is to remove visible water from the surface and if possible, wipe the concrete with soft cloth soaked in Methylated Spirits, allow to “Flash off” (evaporate) and apply the premixed Megapoxy PME. As further recommendation we suggest that the Megapoxy PME be applied as soon as possible after mixing.</p> <p>If project specific “slant cylinder testing” to ASTM C882 specification has been undertaken featuring wet surface testing and the test results meet or exceed the set criteria, then wet and damp surface preparation should not be necessary for that specific project.</p> <p>As premixed Megapoxy PME begins to cure its ability to bond to wet surfaces diminishes. Fully cured Megapoxy PME is not affected by water.</p>
<p>IMPORTANT MIXING INFORMATION</p>	<p>It is essential that the correct mixing ratio be used and that the Part A and Part B are thoroughly mixed together before application. Inaccuracies and poor mixing will result in lower physical properties of the cured system and, if the error is sufficiently large, the system may not cure satisfactorily and may result in discolouration upon ageing.</p>

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CLEANING	To keep mixing implements and working tools clean, use Megapoxy Thinners. Use disposable rubber gloves to protect hands and maintain proper industrial hygiene. For further details refer to the Megapoxy RA Safety Data Sheet.
PACKAGING	Megapoxy PME is packaged in customer specified quantities. Shelf life of unopened kits is 2 years minimum. Product should be stored in cool and dry storage area.
TECHNICAL SERVICE	All purchasers of Megapoxy Products, are encouraged to avail themselves of our Technical Service for our Megapoxy Products. The information in this Bulletin is correct at time of publication, however continual research and development is being carried out and specs may change without notice.