


EPO-KEM PRODUCT DATA SHEET

EPO-KEM SUREGRIP PU

Skid resistant surfacing for roads, bridges and walkways

(revised 6-4-02)

<p>DESCRIPTION</p>	<p>EPO-KEM SUREGRIP PU is a slip resistant friction coarse for road, bridge and walkway surfaces and wherever extra grip is desired. EPO-KEM SUREGRIP PU is made from a carefully designed composite of polyurethane resins and broadcast with a skid resistant medium or aggregate such as calcined bauxite, mandurax, aluminium oxide or silicon carbide. The desired aggregate size is dependant on the applied thickness of the polyurethane binder and thus they must be selected as a system. EPO-KEM SUREGRIP PU is installed in-situ to asphalt, steel, timber and concrete bases in a single resilient layer using specialised mixing and paving equipment, or by hand. EPO-KEM SUREGRIP PU is permanently elastic, water impermeable, impact absorbing, wear resistant, tough, UV and weather resistant.</p>																																																	
<p>FEATURES</p>	<p>When applied and cured correctly by a specialist installer, EPO-KEM SUREGRIP PU has the following features:</p> <ul style="list-style-type: none"> • Rough abrasive texture • Suitable for vehicular traffic • High resistance to skidding even in wet conditions • In-situ installation gives opportunity to smooth base imperfections • Resistant to UV radiation • Water impermeable • Simple application • Very tough and resistant to wear • Permanently resilient, elastic and flexible • Low maintenance 	 <p><i>Installing SUREGRIP PU on a section of dangerous road in Wellington New Zealand</i></p> <p><i>THIS ROAD AVERAGED 6 FATALITIES P.A. PRIOR TO SUREGRIP. SINCE THE INSTALLATION NOT ONE FATALITY HAS BEEN ATTRIBUTED TO THE ROAD SURFACE</i></p>																																																
<p>USES</p>	<p>EPO-KEM SUREGRIP PU has been developed predominantly as a light-weight, slip resistant surface for roads, bridges, walkways, verandahs, balconies, viaducts, ships decks, cattle and sheep carriers or any surface where slipping or skidding is a problem. EPO-KEM SUREGRIP PU has the added benefit of being an impermeable membrane which provides a corrosion resistant layer over steel and concrete decks. The polyurethane binder system used in EPO-KEM SUREGRIP PU is tough and elastic with sufficient strength to withstand vehicular traffic.</p>																																																	
<p>FINISH</p>	<p>Matt, low glare, granular and rough textured finish.</p>																																																	
<p>MAINTENANCE</p>	<p>Maintenance is extremely low in most circumstances. Resistant to oils, brake fluids, petrol, diesel and most common chemicals. Please ask your Supplier for further details.</p>																																																	
<p>THICKNESS</p>	<p>5 – 15mm but somewhat dependent on flatness of base. Must be installed to at least a minimum thickness of 5mm.</p>																																																	
<p>TYPICAL PROPERTIES</p>	<p>SLURRY BINDER PU/LP 16416 (cured)</p> <table border="0"> <tr> <td>Shore hardness</td> <td>:</td> <td>60 Shore D (+/- 5)</td> </tr> <tr> <td>Appearance</td> <td>:</td> <td>grey (or selected other colour)</td> </tr> <tr> <td>Specific Gravity</td> <td>:</td> <td>1.5</td> </tr> <tr> <td>Tensile Strength ASTM D412</td> <td>:</td> <td>14 MPa</td> </tr> <tr> <td>Ultimate elongation @ 20°C</td> <td>:</td> <td>60% (+/-5)</td> </tr> <tr> <td>@ -20°C</td> <td>:</td> <td>5% (+/-2)</td> </tr> <tr> <td>Tear strength ASTM D624</td> <td>:</td> <td>45 kN/m (+/-3)</td> </tr> <tr> <td>Adhesion to steel</td> <td>:</td> <td>> 5 MPa</td> </tr> <tr> <td>Shrinkage after curing</td> <td>:</td> <td>none</td> </tr> <tr> <td>E-modulus</td> <td>:</td> <td>approx. 125 MPa</td> </tr> </table> <table border="0"> <thead> <tr> <th></th> <th>Calcined Bauxite</th> <th>Mandurax</th> </tr> </thead> <tbody> <tr> <td>Hardness (Mohs)</td> <td>9</td> <td>9</td> </tr> <tr> <td>PSV (polished stone value)</td> <td>75</td> <td>70</td> </tr> <tr> <td>AAV (aggregate abrasion value)</td> <td>4</td> <td>1.9</td> </tr> <tr> <td>AIV (aggregate impact value)</td> <td>33</td> <td>8</td> </tr> <tr> <td>ACV (aggregate crushing value)</td> <td>33</td> <td>8.2</td> </tr> </tbody> </table> <p><i>All above values represented to within a 10% limit of accuracy due to sampling methods and aggregate size variations.</i></p>		Shore hardness	:	60 Shore D (+/- 5)	Appearance	:	grey (or selected other colour)	Specific Gravity	:	1.5	Tensile Strength ASTM D412	:	14 MPa	Ultimate elongation @ 20°C	:	60% (+/-5)	@ -20°C	:	5% (+/-2)	Tear strength ASTM D624	:	45 kN/m (+/-3)	Adhesion to steel	:	> 5 MPa	Shrinkage after curing	:	none	E-modulus	:	approx. 125 MPa		Calcined Bauxite	Mandurax	Hardness (Mohs)	9	9	PSV (polished stone value)	75	70	AAV (aggregate abrasion value)	4	1.9	AIV (aggregate impact value)	33	8	ACV (aggregate crushing value)	33	8.2
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BASES (substructures)	<p>ASPHALT: New asphalt must be cured for at least 14 days, in colder climates up to 28 days. The surface must drain freely without ponding and have a flatness tolerance of no worse than 5mm under a 3m straight edge as measured in any direction. The asphalt must be well compacted, strong, smooth and be clean of all grease, oil, dirt and any foreign matter.</p> <p>CONCRETE: Concrete must be a minimum of 20mPa, a thickness of 100mm and be finished by steel trowel followed by a light brooming to promote good bonding. Flatness tolerance and drainage as for asphalt. Concrete bases must be cured for a minimum of 1 month before applying EPO-KEM SUREGRIP PU. Concrete must be clean and then vacuum blasted. Apply a coat of Primer GVM/S and then apply EPO-KEM SUREGRIP PU system within 48 hours.</p> <p>STEEL: Must be completely free of rust and scale. Grit blast in accordance with SA 2.5. Apply a coat of Primer PU/LP 2581 within 4 hours of grit blasting.</p> <p>This information is not intended to be exhaustive, but bases must be designed with these requirements included. Other design considerations are drainage, edge and joint detail. EPO-KEM document "SPECIAL CONDITIONS FOR FLOOR SUBSTRUCTURES" should also be consulted.</p>															
INSTALLATION	<p>SURFACE PREPARATION: Check base is constructed to minimum requirements as above. If the base needs cleaning, remove contamination with appropriate detergent, degreaser or cleaner and flush thoroughly with water. Washing with a high-pressure water blaster (2500psi or higher) may be a good option. Allow surface to dry thoroughly. Concrete should be mechanically prepared (e.g. vacuum shotblasting) and primed. Steel should be mechanically prepared (e.g. grit blasting) and primed. Asphalt need only be clean.</p> <p>REPAIRS: An expert must do any repairs needed on a concrete base. Filling of non-structural cracks and low areas of an asphalt base may be done with a fine asphalt mix or EPO-KEM SUREGRIP PU FILLER. It may be necessary to enlarge cracks to ensure they can be sufficiently filled.</p> <p>APPLICATION: Large areas of EPO-KEM SUREGRIP PU are installed utilising specialist mixing and paving equipment. This should only be attempted by a competent specialist surfacing contractor approved by EPO-KEM. Smaller areas may be applied by a more simple method but extreme care must still be taken and appropriate mixing equipment used. The mixed EPO-KEM SUREGRIP PU binder materials are spread evenly over the prepared and primed base by screeding with a notched spreader to regulate the desired thickness. The aggregate is broadcast into the wet PU so it is thoroughly embedded. Excess aggregate is collected after the PU has cured sufficiently.</p>															
DILUTION	All materials must be used as they are supplied, no dilution is permitted.															
COVERAGE	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">PRIMER GVM/S</td> <td style="text-align: right;">0.20 – 0.25kg/m²</td> <td></td> </tr> <tr> <td>PRIMER PU/LP 2581</td> <td style="text-align: right;">0.07 – 0.10kg/m²</td> <td></td> </tr> <tr> <td>SLURRY BINDER PU/LP 16416</td> <td style="text-align: right;">1. @ 1.5mm</td> <td style="text-align: right;">2.2kg/m²</td> </tr> <tr> <td></td> <td style="text-align: right;">2. @ 2mm</td> <td style="text-align: right;">3.0kg/m²</td> </tr> <tr> <td></td> <td style="text-align: right;">3. @ 3mm</td> <td style="text-align: right;">4.5kg/m²</td> </tr> </table> <p>AGGREGATE Highly dependant on selected aggregate type, particle size and thickness of binder applied.</p> <p><u>EXAMPLE:</u> A 5mm road surface using 3-5mm Calcined Bauxite will require 2.2kg/m² of binder and 7-8kg/m² of aggregate. Approximately 2-3kg of the aggregate can be collected for re-use.</p>	PRIMER GVM/S	0.20 – 0.25kg/m ²		PRIMER PU/LP 2581	0.07 – 0.10kg/m ²		SLURRY BINDER PU/LP 16416	1. @ 1.5mm	2.2kg/m ²		2. @ 2mm	3.0kg/m ²		3. @ 3mm	4.5kg/m ²
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CURING	Full cure will depend on the ambient temperature and relative humidity of the prevailing conditions. Generally it is recommended that the cured binder is tested with a Shore D Hardness gauge before allowing traffic. It should have reached 75 – 80% of full hardness before opening the road. Your installer or supplier will advise.															
SAFETY	When mixing and applying any of the above-mentioned products, provide adequate ventilation. Users should avoid spillages and contact with skin or eyes. An MSDS (material safety data sheet) is available for each component and should be consulted before use.															

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