


**Emer-Patch Repair 40 / Spalling Repair System on Aged Uncoated Substrate Concrete ( Off Form, Tilt Up, Pre Cast ) [Exterior] AU\_SV16134**



<b>Scope</b>
Emer-Patch Repair 40 is a medium weight, shrinkage compensated concrete patch repair mortar for use on vertical and overhead concrete repair applications.

**Substrate And Substrate Preparation**

<b>Substrate Notes:</b>	<p>CONCRETE ( Off Form, Tilt Up, Pre Cast )</p> <p>SUBSTRATE DESCRIPTION</p> <p>OFF FORM CONCRETE</p> <p>Off form Concrete is produced by placing suitable forms and shoring to hold the wet concrete into the required shape. Reinforcements are placed within or on the formwork to give concrete its strength. Once the formwork and shoring are removed the result is the off form concrete.</p> <p>TILT UP</p> <p>Tilt Up concrete is derived simply from the method of construction, wall panels are cast on a horizontal surface that then require lifting, and tilting vertically into their final position. Construction is commenced with the laying of the structures foundation and floor slab, wall panels are then cast on the floor one on top of each other in a stack arrangement.</p> <p>PRE CAST</p> <p>Pre Cast concrete are concrete panels that are cast on horizontal vibrating beds that are then cured in racks that are delivered to site that then require lifting, and positioned into their final position.</p>
<b>Substrate Preparation Notes:</b>	<p>PCO018 - OFF FORM, TILT UP, PRE CAST</p> <p>Off Form Concrete should be installed as per AS3610 Control of Concrete Surface Formwork (current edition) and AS 3850.2 Tilt Up Concrete &amp; Pre Cast Elements for use in Buildings (current edition)</p> <p>PREPARATION</p> <p>Saw cut or cut back the extremities of the repair locations to a depth of at least 10 mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 10 mm up to the sawn edge and 20mm behind any exposed reinforcement steel.</p> <p>Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any unsound material by light scabbling or abrasive-blasting. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test.</p> <p>Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition where possible, paying particular attention to the back of exposed steel bars. Abrasive-blasting is recommended for this process. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after abrasive-blasting to remove corrosion products from pits and imperfections within its surface. Exposed reinforcing steel should be primed by applying one full coat of Dulux® Metal Shield Cold Galv and allowed to dry before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.</p>

**Coating System**

<b>Coat Type:</b>	<b>Primer</b>	<b>Datasheet:</b>	<b>AU_DV02617 Emer-Patch HAR Primer</b>
<b>Application Methods:</b>	 Brush		
<b>Product Code</b>	FE400100-5L		
<b>Theoretical Spread Rate *</b>		<b>Min</b>	<b>Max</b>
		4	6
		<b>Recommended</b>	
<b>Coating Application Details:</b>	<p>The substrate should be thoroughly soaked with clean water and any excess removed prior to applying one coat of Emer-Patch Primer HAR primer and scrubbing it well into the surface. The Emer-Patch repair mortar must be applied as soon as the primer becomes tacky. If the Emer-Patch Primer HAR is too wet, overhead and vertical build-up of the repair mortar may be difficult.</p> <p>If the Emer-Patch Primer HAR primer dries before the application of the repair mortar, the area must be reprimed before proceeding. In exceptional circumstances, e.g. where a substrate/repair barrier is required or where the substrate is wet or likely to remain permanently damp, contact EMER Customer Service for further information.</p>		

<b>Coat Type:</b>	Prep Coat	<b>Datasheet:</b>	AU_DV02618 Emer-Patch Repair 40
<b>Application Methods:</b>	  Trowel Other Gloved hand		
<b>Product Code</b>	FE400120-18KG		
<b>Coating Application Details:</b>	<p><b>Mixing</b>                      Care should be taken to ensure that Emer-Patch Repair 40 is thoroughly mixed. A forced-action mixer is essential. Mix for 3 to 5 minutes at a slow speed (400/500 rpm) in a suitably sized drum using appropriate equipment such as the Ransom MDR59 140 x 600 M14 Helical mixing paddle fitted to a heavy duty 1600W mixer, such as Ransom RAN160 or equivalent.                      Free-fall mixers (cement mixers) must not be used.                      For normal applications, place 2.7 - 2.9 litres of drinking quality water into the mixer and, with the machine in operation, add 1 full 18 kg bag of Emer-Patch Repair 40 and mix for 3 - 5 minutes until fully homogeneous. Note that the powder must always be added to the water. Initially add 2.7 litres of water, mix the product for a minimum 3 minutes to allow the polymers in the mix to activate; then make any necessary water adjustments after this time up to the maximum 2.9 litres.</p> <p><b>Application</b>                      Exposed steel reinforcing bars should be firmly secured to avoid movement during the application process as this will affect mortar compaction, build and bond.</p> <p>Apply the mixed Emer-Patch Repair 40 to the prepared substrate by gloved hand or trowel. Thoroughly compact the mortar on to the primed substrate and around the exposed reinforcement. Emer-Patch Repair 40 can be applied in sections up to 40 mm thickness in vertical locations and up to 30 mm thickness in overhead locations in a single application and without the use of formwork. Thicker sections should be built up in layers but are sometimes possible in a single application dependent on the actual configuration of the repair area and the volume of exposed reinforcing steel.</p> <p>If sagging occurs during application, the Emer-Patch Repair 40 should be completely removed and reapplied at a reduced thickness on to the correctly re-primed substrate.</p> <p><b>Build-up</b>                      Additional build-up can be achieved by application of multiple layers. The final thickness is dependent on the material consistency and substrate profile.</p> <p>The surface of the intermediate layers should be scratch-keyed and cured with Emer-Patch Primer HAR. Repriming with Emer-Patch Primer HAR and a further application of Emer-Patch Repair 40 may proceed as soon as this layer has set.</p> <p><b>Finishing</b>                      Emer-Patch Repair 40 is finished by striking off with a straight edge and closing with a steel trowel. Wooden or plastic floats, or damp sponges may be used to achieve desired surface texture. The completed surface should not be overworked. Allow the applied Emer-Patch 40 to stiffen before attempting to finish off - this will minimise slumping.</p> <p><b>Curing</b>                      Emer-Patch Repair 40 is a cement-based repair mortar. In common with all cementitious materials, it must be cured immediately after finishing in accordance with good concrete practice. The use of a curing compound, sprayed on to the surface of the finished mortar in a continuous film, is recommended. Large areas should be cured as trowelling progresses (0.5m<sup>2</sup> at a time) without waiting for completion of the entire area. In fast drying conditions, supplementary curing with polythene sheeting taped down at the edges must be used. In cold conditions, the finished repair must be protected from freezing.</p> <p><b>Overcoating with protective decorative finishes</b>                      Emer-Patch Repair 40 is extremely durable and will provide long-term protection to the embedded steel reinforcement within the repaired locations. The surrounding parts of the structure will generally benefit from the application of a barrier/decorative coating to limit the advance of chlorides and carbon dioxide, thus bringing them up to the same protective standard as the repair itself.                      The Emer-Clad range of protective, anticarbonation coatings provide a decorative and uniform appearance as well as protecting areas of the structure which might otherwise be at risk from the environment. Curing membranes must be removed prior to the application of these products.</p>		
<b>Additional Coating Details:</b>	<p>Note: the minimum applied thickness of Emer-Patch Repair 40 is 10mm.</p> <p>It is recommended that full bags be mixed, however for applications where smaller quantities of product are required, experienced applicators may elect to mix half bags by weighing out 9kg of Emer-Patch Repair 40 and mixing with half the recommended quantity of water. In doing so the contractor accepts the risk of any off-ratio mixing. Agitate the dry product before weighing out to minimise any segregation. Reliable scales should be used to weigh out individual components.</p>		
<b>Coating System Notes:</b>	<p>Emer-Patch Repair 40 should not be used when the temperature is below 5°C and falling.</p> <p>Due to the relatively lightweight nature of Emer-Patch Repair 40, it should not be used in areas subjected to traffic.</p> <p>Exposure to heavy rainfall prior to final set may result in surface scour.</p> <p>Emer-Patch Repair 40 is not designed to be used as a broad-scale building render.</p>		

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