

Fast setting, shrinkage compensated floor, pavement and joint concrete repair mortar trafficable within 1 to 2 hours - 25mm to 250mm thick

Uses

For flooring and pavement repairs including slab edges and construction and repair of hobs whilst minimising any traffic interruptions. May be used in both internal and external applications.

Advantages

- Rapid strength gain - will accept traffic in 1 to 2 hours
- Excellent bond to the concrete substrate
- Achieves 55 MPa after 28 days
- Sets after 35 minutes
- Abrasion resistant
- Shrinkage compensated - provides long term dimensional stability and long term durability
- Weather and water resistant
- Only requires addition of water

Design Criteria

Emer-Patch Horizontal Quick Set is designed for horizontal use. The material should not be applied at less than 25 mm thickness. Emer-Patch Horizontal Quick Set may be applied up to a maximum thickness of 250 mm.

Specification Clause

Rapid reinstatement mortar

The rapid reinstatement mortar shall be Emer-Patch Horizontal Quick Set, a single component cement-based blend of powders to which only the site-addition of clean water shall be permitted. The cured mortar shall achieve 20 MPa @ 1 hour and 35 MPa @ 24 hours (@ 23°C). The product shall be capable of accepting pedestrian and vehicular traffic after 1 - 2 hours @ 23°C.

Properties

The following results were obtained from material mixed at w/p 0.125 and cured at 23°C.

Cure time	Compressive strength (AS1478.2 - 2005)
1 hour:	20 MPa
2 hours:	25 MPa
4 hours:	30 MPa
1 day:	35 MPa
7 days:	45 MPa
28 days:	55 MPa
Working Life:	10 minutes
Initial Set:	20 - 25 minutes
Final Set:	25 - 35 minutes
Time to Pedestrian Vehicular Traffic:	1 - 2 hours
Shrinkage (AS1012.13 - 1992):	< 600 microstrain @ 28 days

Note: Compressive strengths stated above were measured using cube samples. Test results obtained will vary if testing is carried out to an alternative standard or sample dimensions are used.

Applications Instructions

Preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 25 mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 25 mm up to the sawn edge.

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 grit-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.

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 paying particular attention to the back of exposed steel bars. Grit-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 grit-blasting to remove corrosion products from pits and imperfections within its surface.

The prepared area should be blown clean with oil-free compressed air.

Emer-Patch™ Horizontal Quick Set

Reinforcing steel priming

Apply one full coat of Dulux® Metal Shield Cold Galv primer to all exposed reinforcing steel and allow 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.

Substrate priming

For 2 to 3 hours prior to application the prepared concrete substrates should be saturated by filling the prepared area with clean water. Immediately prior to application of Emer-Patch Horizontal Quick Set any excess water should be removed to leave the concrete substrate in an SSD (saturated surface dry) condition.

Mixing

Care should be taken to ensure that Emer-Patch Horizontal Quick Set is thoroughly mixed. A forced-action mixer is essential. Mixing at a slow speed (400/500 rpm) in a suitably sized drum using appropriate equipment such as the Ransom 140 x 600 M14 Helical mixing paddle fitted to a heavy-duty 1600W mixer, such as Ransom 1602 E or equivalent is acceptable for one-bag mixes.

Free fall mixers must not be used. Mixing of part bags is not recommended.

It is recommended that only one bag of Emer-Patch Horizontal Quick Set is mixed at any one time to ensure that all the mortar can be placed within its working life. Place 2.25 L of drinking quality water into the mixer and, with the machine in operation, add one full 18 kg bag of Emer-Patch Horizontal Quick Set and mix for 3 minutes until fully mixed. Do not mix for longer than this time to ensure that the available working life is not reduced. Note that powder must always be added to water.

Consistency	Water Addition (Litres)	Yield (Litres)
Pourable	2.25	9.2

Mixing part bags

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 (the correct quantity of product) 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.

Application

Apply the mixed Emer-Patch Horizontal Quick Set on to the SSD substrate as soon as possible after mixing. The mortar should be applied evenly by trowel and tamped in place with a wood float to ensure full compaction. Thoroughly compact the mortar around any exposed steel reinforcement. Emer-Patch Horizontal Quick Set can be applied up to 250 mm thickness in single applications.

Note: the minimum applied thickness of Emer-Patch Horizontal Quick Set is 25 mm.

Build Up

Repair sections greater than 250 mm thickness can be achieved by application of multiple layers. In this instance, the surface of the intermediate layers should be scratch-keyed and allowed to set for a minimum of 2 hours before continuing. The initial layer should be pre-soaked with water for 30 minutes, excess water removed then a further application of Emer-Patch Horizontal Quick Set may proceed.

Note: Repairs greater than 0.15 m³ (150 litres) may exhibit significant exotherm. Contact Emer Customer Service for specific application advice in these situations.

Finishing

Emer-Patch Horizontal Quick Set should be struck off to the correct level and finished with a steel trowel to fully close the surface. If a textured surface is required, this can be achieved using a suitable roller or brush. The completed surface should not be overworked.

Low temperature working

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted. The material should not be applied when the substrate and/or air temperature is 5°C and falling. At 5°C static temperature or at 5°C and rising, the application may proceed.

High temperature working

At ambient temperatures above 35°C, the material should not be used as premature setting may occur.

Curing

Emer-Patch Horizontal Quick Set is a cement-based repair mortar. In common with all cementitious materials, Emer-Patch Horizontal Quick Set 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. 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.

Emer-Patch™ Horizontal Quick Set

Overcoating with protective decorative finishes

Emer-Patch Horizontal Quick Set is extremely durable and will provide an excellent hard wearing surface to the repaired locations. Protective coating products may be applied over the repair area after prior removal of any curing membrane generally after 3 days.

Cleaning

Emer-Patch Horizontal Quick Set should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations

Emer-Patch Horizontal Quick Set should not be used when the temperature is below 5°C and falling. Emer-Patch Horizontal Quick Set should not be used when temperature is above 35°C. The product should not be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour. If any doubts arise concerning temperature or substrate conditions, consult Emer Customer Service.

Estimating

Supply

Emer-Patch Horizontal Quick Set 18kg:	FE400140-18KG
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Coverage and yield

Emer-Patch Horizontal Quick Set:	Approx. 9.2 litres / 18 kg bag
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Notes: the actual yield per bag of Emer-Patch Horizontal Quick Set will depend on the consistency used.

Shelf life

Emer-Patch Horizontal Quick Set has a shelf life of 24 months from date of manufacture if kept in the original, unopened bags. Do not use if there are lumps in the product, or a loss of workability (requiring more water to be added) is experienced. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.

Important information

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Emer website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.



Emer-Patch is a trade mark of Parchem Construction Supplies Pty Ltd.

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