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SpECtop CRM

CEMENTITIOUS REINSTATEMENT MORTAR FOR CONCRETE PAVEMENT AND FLOORS

DESCRIPTION

SpECtop CRM is supplied as a ready to use blend of dry powders, which only requires the addition of clean water to produce a highly consistent, high strength repair mortar. SpECtop CRM exhibits excellent thermal compatibility with concrete and water permeability.

TYPICAL USES

For the reinstatement of large areas of concrete pavements and floors to avoid the total replacement of bays. The product is alkaline in nature and will protect embedded steel reinforcement. It may be used internally and externally.

For emergency patching of small areas of concrete pavements and floors, the use of SpECtop RSR is recommended.

ADVANTAGES

- Rapid strength gain will generally accept pedestrian traffic at 12 hours, significantly reducing down-time.
- High strength, abrasion and weather resistance.
- Single component product eliminates site batching and requires only the site addition of clean water.
- Excellent bond to the concrete substrate.
- Shrinkage compensated.
- Contains no chloride admixtures.

DESIGN CRITERIA

SpECtop CRM is designed for horizontal use. It may be applied up to a maximum thickness of 50mm. Thicker sections can be build up in layers. Material should not be applied at less than 10mm thickness. Individual bay sizes should not exceed 18m².

TECHNICAL DATA

Typical

Compressive strength N/mm²

ASTM C109	20 N/mm ² @ 1 day
	40 N/mm ² @ 7 days
	50 N/mm ² @ 28 days

Coefficient of thermal

expansion 7 to 12 x 10⁻⁶/°C

Pot life 60 minutes @ 10°C

30 minutes @ 20°C

15 minutes @ 30°C

Setting time

110 minutes @ 10°C

65 minutes @ 20°C

48 minutes @ 30°C

Trafficking time

Pedestrian

18 hours @ 10°C

12 hours @ 20°C

8 hours @ 30°C

Vehicular

36 hours @ 10°C

24 hours @ 20°C

16 hours @ 30°C

Density

2280 kg/m³

APPLICATION INSTRUCTIONS

Notes

To avoid possible reflective cracking in the SpECtop CRM repair, it is essential that live cracks and existing joint details in the substrate be given proper attention. Live cracks should be treated by an approved method. For further information, contact SpEC Technical Department.

Preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 12mm. Break out the complete repair area to a minimum depth of 12mm up to the sawn edge.

The surface should be clean and free from contamination. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

Oil and grease deposits should be removed by steam cleaning or detergent scrubbing and the effectiveness of decontamination 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.

Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water immediately after grit blasting.

The prepared area should be blown clean with oil-free compressed air and allowed to dry completely.

Priming Reinforcing Steel

Apply one coat of **SpECCoat Zn25** 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

Prime using **SpECCoat Primer E1**.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.

The entire contents of the curing agent should be emptied into the base component, ensuring that the sides of the curing agent tin are carefully scraped to remove all the material.

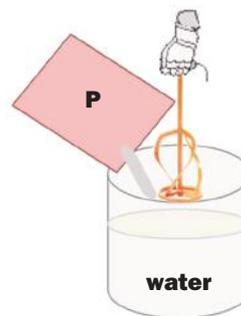
The combined materials should then be mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until uniform. The sides of the tin should then be scraped and mixing should continue for a

further 2 minutes. The mixed product may be applied by brush at a theoretical consumption rate of 5 m²/litre/coat.

Mixing

SpECTop CRM is a ready to use blend of dry powders.

Care should be taken to ensure the **SpECTop CRM** is thoroughly mixed. A forced action mixer is essential. Mix in a suitably sized drum using a **SpECCoat** Mixing Paddle in a slow speed (400/500 rpm) heavy-duty drill. Free-fall mixers must not be used. Mixing of part bags should never be attempted.



Place 2.3 litres of water into the mixing vessel and with machine mixing, slowly add the bag of **SpECTop CRM** and mix for 3 minutes until fully homogeneous. Do not mix for longer than this period

as the heat developed will seriously reduce the pot life of the mixed product. Note that powder must always be added to water.

Application

While the **SpECCoat Primer E1** is still tacky, apply **SpECTop CRM** evenly by trowel and tamp in place with a wood float to ensure full compaction. Thoroughly compact the mortar around any exposed steel reinforcement. **SpECTop CRM** can be applied up to 50mm thickness in single applications.

Note: The minimum applied thickness of **SpECTop CRM** is 12mm.

FINISHING

SpECTop CRM should be struck off to the correct level and finished with a steel trowel to fully close the surface. A textured surface can be achieved using a suitable roller or brush. The completed surface should not be overworked.

HIGH AND LOW TEMPERATURE WORKING

At ambient temperature above 30°C, the material

should be stored in the shade and cool water used for mixing.

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development.

CURING

SpECTop CRM should be cured using **SpECcure WE** sprayed on to the surface of the finished mortar in a continuous film. Large areas should be cured as trowelling progresses at 0.5m² at a time. Avoid overspray at edges on to surrounding substrate. In fast drying conditions, supplementary curing with polyethylene sheeting taped down at the edges must be used. In cold conditions, the finished repair must be protected from freezing.

Overcoating with protective finishes

SpECTop CRM is extremely durable and will provide an excellent hard wearing surface to the repaired locations. Surrounding floor areas may benefit from the application of an abrasion or chemical resistant protective coating. For internal locations, **SpEC** recommend the use of the **SpECTop Flooring** range of protective coatings. These products provide a decorative and uniform appearances as well as protecting areas of the floor, which might otherwise be at risk. **SpECTop Flooring** products may be applied over the repair area after prior removal of the curing membrane - generally after 3 days. The **SpEC** Technical Department should be contacted for advice about external protective overlayments.

EQUIPMENT CLEANING

SpECTop CRM and **SpECcure WE** may be removed from tools with water however cured material may only be removed mechanically.

Equipment used with **SpECcoat Zn25** and **SpECbuild Primer E1** should be cleaned using **SpECTop Cleaning Fluid**.

Cured material can only be removed by mechanical means.

LIMITATIONS

SpECTop CRM, **SpECbuild Primer E1** and **SpECcoat Zn25** should not be used when the temperature is below 5°C and falling.

PACKAGING & YIELD

SpECTop CRM is supplied in 25kg bags yielding approximately 11.5 litres (0.9m² at 12mm thickness).

STORAGE & SHELF LIFE

All products have a shelf life in excess of 12 months provided they are stored in dry conditions in the original unopened packs.

HEALTH & SAFETY

SpECTop CRM contains cement powders, which when mixed or become damp, release alkalis, which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting

FLAMMABILITY

SpECTop CRM and **SpECcure WE** are non-flammable.

SpECcoat Zn25, **SpECTop Cleaning Fluid** and **SpECbuild Primer E1** are flammable.

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