

Enviro Mortar 45

HIGH STRENGTH POLYMER MODIFIED CONCRETE REPAIR MORTAR

Enviro Mortar 45 is a high performance, polymer modified, shrinkage compensated, structural repair mortar with high compressive strength and abrasion resistance. Enviro Mortar 45 can be used for all vertical, horizontal and overhead applications.

FEATURES AND BENEFITS

- ④ Shrinkage compensated
- ④ Excellent bond strength
- ④ High abrasion resistance
- ④ High chemical resistance
- ④ One component
- ④ High ultimate strength
- ④ Excellent workability, high build
- ④ Low permeability, high durability
- ④ High compressive strength

APPLICATION SOLUTIONS

Enviro Mortar 45 is a fine fairing/structural mortar used for general purpose patching smoothing uneven and cracked surfaces.

- ④ Repairing damaged concrete
- ④ Terraces, balconies and facades
- ④ Concrete cancer repairs
- ④ Dams, bridges and concrete tanks
- ④ Repairs requiring chemical resistance
- ④ Structural repairs
- ④ Reprofiling of worn concrete slabs
- ④ Vertical repairs up to 80mm
- ④ Sewer tunnels, bridges, tanks and pipes
- ④ Critical waterproof areas

PRODUCT INFORMATION

Packaging: Enviro Mortar 45 is supplied as a 1 component 20kg pail and water is added at the time of application.

Shelf life: Enviro Mortar 45 can be stored in its original sealed containers for approximately 9 months, when placed in a cool environment away from moisture. Once opened and resealed for later use, the shelf life could vary depending on storage conditions. Always check product quality before using after prolonged periods of storage. If unsure please contact Enviro systems for advice.

POT LIFE

Initial set begins after 45 minutes at 25°C and final set is approximately 100 minutes at 25°C. The addition of extra water after initial set is not recommended and the mixed material should be discarded.

COVERAGE RATES

The consumption of Enviro Mortar 45 will depend on the amount of water added. 20kg of Enviro Mortar 45 mixed with 3.5L of water with yield approximately 11L of mixed material.

CURING TIME

Good concrete curing practices should be adhered to immediately after the application of Enviro Mortar 45. The use of Enviro Prime WB (immediately after final trowel) or polythene sheeting (taped down on all edges) is recommended to protect against rapid surface drying and evaporation. Large areas should be cured as placement progresses without waiting for completion of the entire area (0.5m² at a time).

CLEANING

Use water to remove from tools and equipment immediately after use. Cured material may need to be removed mechanically.



REMEDIAL



AUSTRALIAN MADE

Directions for Use

SUBSTRATE PREPARATION

All defective host substrate must be removed prior to application. Defective material includes cracked or structurally weakened surfaces and chloride contaminated and carbonated concrete. A concrete corrosion expert must be consulted for critical projects or structural applications. Host concrete must be roughened and aggregate exposed to ensure good bond. Removal of laitance is important to ensuring good bond. Shot-blasting, scarification, mechanical chipping or high-pressure water blasting may be used to achieve a recommended minimum CSP3 surface finish.

All surfaces must be free of dust, oils, and surface contaminants. This may require steam cleaning or high-pressure water blasting.

A perimeter edge of at least 10mm depth must be provided around the area for application.

Priming by saturation of the surface using water prior to application is acceptable.

Priming with epoxy primers or other products which prevent vapour transmission is not recommended.

For further information on substrate preparation or for project specific advice, please consult Enviro systems.

Steel preparation: Following removal of all defective concrete, any partially exposed reinforcing bars shall be fully exposed to a depth of 20mm behind the bar. If the bar has lost more than 20% of its original diameter then it should be replaced and the Structural Engineer must be consulted.

Where the original reinforcement is retained it must be cleaned to a standard surface purity of Sa 2.5 for chloride contaminated concrete and Sa 2.0 for carbonated concrete. This is best achieved by wet blasting or abrasive blasting.

If the steel will be exposed to the atmosphere for several days after cleaning then an acceptable form of priming would be to mix GP cement into a slurry using Enviro Prime WB and apply a cement rich coating to the steel surface.

PRIMING

When using Enviro Prime WB and Portland cement, wet down area to be treated with water first and remove excessive or ponding water prior to priming. Prime substrate with a 1:1 mix of Prime WB and Portland cement, ensuring that primer has coated all areas within cut out section.

NOTE: For further information on applications that may not require priming or for project specific advice, please consult Enviro systems.

MIXING

Add between 3.0 and 3.5L of potable water to a mixing vessel and slowly add 1 pail of Enviro Mortar 45 while stirring with a mechanical mixer. Mix for at least 3 minutes and until a homogeneous mix is achieved. It is recommended that only full pails be mixed to ensure no mixing errors. Do not exceed 3.5L of water per 20kg pail. Optimum mixing is achieved by mechanical means with a high shear attachment.

APPLICATION

Steel reinforcement should be firmly secured to avoid movement during the Enviro Mortar 45 application process. Apply the mixed Enviro Mortar 45 to the prepared surface by hand or trowel and thoroughly compact onto primed substrate paying particular attention to compaction around and behind steel reinforcement.

Enviro Mortar 45 can be applied up to 80mm thick on vertical surfaces and up to 100mm thick in smaller areas or with the use of formwork.

If sagging occurs during vertical applications, Enviro Mortar 45 should be completely removed and reapplied at reduced thicknesses onto a reprimed substrate. When formwork is being used, ensure it is sealed correctly to prevent any moisture loss.

Enviro Mortar 45 can be applied up to 100mm thick in horizontal applications. Minimum applications thickness is 10mm. In cold conditions, the use of warm water (up to 30°C) is advised to accelerate strength development. Optimum application temperatures are between 5°C and 35°C.

Enviro Mortar 45 is generally finished with a steel trowel or straight edge. Other finishing methods such as a damp sponge or wood float can be used to achieve the desired surface texture. Do not over work the mortar surface.

For further information regarding application of Enviro Mortar 45 or for project specific advice please consult Enviro systems.

OVERCOATING

Enviro Mortar 45 can be over coated after curing with a variety of Enviro systems products including Enviro Clad. Aesthetic and performance requirements will determine which product is most appropriate for use.

Product Data

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	RESULTS
Water Requirement		3.0 - 3.5L
Work Time		50 - 60 mins @ 10°C
Work Time		45 - 55 mins @ 20°C
Work Time		30 - 40 mins @ 30°C
Specific Gravity		2.13
Application Temperature		5°C - 35°C
Initial Set		2 - 3 hours @ 20 °C 1 - 2 hours @ 30 °C
Final Set		4 - 5 hours @ 20 °C 2 - 3 hours @ 30 °C
Application Thickness		10 - 80mm Vertical 10 - 100mm Horizontal
Compressive Strength	AS1012.9/AS2073	26MPa @ 1 day 50MPa @ 7 days 60MPa @ 28 days
Elastic Modulus		Approx. 26.3GPa
Flexural Strength	ASTM C348-86	3.7MPa @ 1 day 9.2MPa @ 7 days 10.2MPa @ 28 days
Bond Strength	ASTM 0882	>10MPa @ 7 days >15MPa @ 28 days
Shrinkage	AS1012.13	<100 microstrain @ 7 days <300 microstrain @ 28 days
Overcoating with Protective or Architectural		24 hours @ 25 °C
Traffic Time		Pedestrian - 24 hours @ 25 °C Vehicle - 48 hours @ 25 °C
Coefficient of Thermal Expansion		7 - 11x 10 - 6mm / °C



Contact Enviro systems

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HEALTH & SAFETY ADVICE

Enviro Mortar 45 contents are non-flammable. Always provide adequate ventilation and wear appropriate Personal Protection Equipment (PPE) during use. Avoid breathing vapours. Avoid contact with skin. If swallowed, DO NOT induce vomiting, give glass of water and seek immediate medical advice. If contact with skin, wash off splashes of material with clean water and soap. If irritation occurs seek immediate medical advice. Refer to the Safety Data Sheet for full safety and handling procedures.

NOTE: Safety Data Sheets are available upon request.

KEEP OUT OF REACH OF CHILDREN

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this publication is based on the present state of our best knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use of application and no warranty as to accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

NOTE: Field service where provided, does not constitute supervisory responsibility. Suggestions made by Enviro systems either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Enviro systems are responsible for carrying out procedures appropriate to a specific

NOTE: All products manufactured by Enviro systems comply with the description and properties indicated in the technical data sheet that was current at the date of manufacture.