



Enviro Mortar 45

High Strength Polymer Modified Concrete Repair Mortar



DESCRIPTION

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

FEATURES

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

TYPICAL USES

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

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

PHYSICAL PROPERTIES

Water Requirement	3.0L – 3.5L
Work Time @ 10 °C	50-60 mins
Work Time @ 20 °C	45-55 mins
Work Time @ 30 °C	30-40 mins
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

SUBSTRATE PREPARATION

Saw cut or cut back the extremities of the repair area to a minimum depth of 10mm to ensure no feather edging. Repair area should be broken out to a minimum depth of 10mm up to the saw cuts.





Clean the surface and remove any dust, corrosion deposits, loose particles, oil, paint, grease, laitance or anything else that will demote bonding. Where breaking out is not required, prepare the surface to a suitable profile by mechanical means.

The substrate must be thoroughly soaked up with fresh clean water and any excess removed prior to application of Enviro Mortar 45.

Fully expose any corroded steel in the repair area and remove all rust and corrosion deposits. Steel should be clean to a bright condition by mechanical means such as grit blasting, ensuring close attention to the back of the exposed steel. Steel reinforcement should be coated with Enviro Prime AC.

For further information on substrate preparation or for project specific advice, please consult EnviroSystems. customerservice@envirosystems.com.au

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.

Areas that may be subject to extreme circumstances such as damp or permanently immersed conditions should have all steel and concrete areas treated with Enviro Prime AC instead of Enviro Prime WB.

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

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 EnviroSystems. customerservice@envirosystems.com.au

OVERCOATING

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

COVERAGE

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.

POT LIFE

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

CURE

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).

PACKAGING & COLOURS

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

CLEANING

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



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 EnviroSystems for advice.

HEALTH & SAFETY ADVICE

Enviro Mortar45 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 by emailing customerservice@envirosystems.com.au

We're here to help you!

It is a good idea to keep a journal of your waterproofing job, whether big or small.

- Take pictures at all stages of your work, including preparation
- Record the quantity and description of products used with corresponding batch numbers
- Record dates and times of when you applied products, from start to finish

Please do not hesitate to contact us for any questions you may have.

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