



SpECbuild EM

HIGH STRENGTH, THREE COMPONENT EPOXY MORTAR

DESCRIPTION

SpECbuild EM is a solvent free, three-component epoxy mortar with high strength and abrasion resistant characteristics. The product has been developed for repairing and resurfacing concrete floors, or where spalled concrete needs to be permanently repaired. The material may be applied in vertical situations in thinner layers.

TYPICAL USES

SpECbuild EM is designed to provide repairs to surfaces subjected to mechanical and chemical attack in areas such as, industrial floors, warehouses, acid tanks, sewage lining and sea walls. **SpECbuild EM** is also suitable as a transition strip against mechanical joint systems.

ADVANTAGES

- High mechanical strength.
- Early strength gain to minimize disruption.
- Resistant to aggressive chemicals.
- Highly impervious.
- Slip resistant.
- Waterproof.
- Non-toxic surface (after full cure).

TECHNICAL DATA

Compressive strength

(BS 6319-2) 63 N/mm² @ 7 days

Flexural strength

(BS 6319-3) 35 N/mm² @ 7 days

Tensile strength

(ASTM C 307) 16 N/mm² @ 7 days

Water Absorption

(ASTM C413-01) 0.31% @ 7 days

Pot life @ 25°C 40 - 50 mins

Initial hardness 1 day

Full cure 7 days

Note: SpECbuild EM meets the requirement of BS 6920 to be used in contact with potable water.

CHEMICAL RESISTANCE CHART

10% Nitric Acid	Good
Saturated sugar solution	Very Good
50% Phosphoric Acid	Very Good
10% Lactic Acid	Very Good
10% Citric Acid	Excellent
25% Hydrochloric Acid	Excellent
10% Tartaric Acid	Excellent
50% Sodium Hydroxide	Excellent
100% Petrol/Diesel	Excellent

APPLICATION THICKNESS

SpECbuild EM may be applied horizontally in layers of 50mm maximum and 5mm minimum. In vertical situations where the use of formwork is not possible, the maximum layer thickness is 10mm. **SpECbuild EM** is not recommended for overhead application.

Preparation

It is essential that adequate surface preparation is carried out prior to the application of **SpECbuild EM**.

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resulting surface should be dry and dust free.

The repair boundary should be cut back to a depth of at least 10mm to avoid feather edging.

All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning. The steel should be cleaned to bright metal immediately prior to the application of **SpECcoat Zn25** zinc rich protective coating. Apply one coat of **SpECcoat Zn25** to the cleaned steel ensuring full coverage, allow to dry before commencing the next step.

Priming

The prepared surface should be primed with **SpECTop Primer F1**.

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15m²/litre.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack free.

Allow the primer to become tacky prior to the application of **SpECbuild EM**.

Mixing

SpECbuild EM is supplied as a three-component kit consisting of a base component, a curing agent and a bag of selected, graded aggregate.



The two resin components should be stirred separately before mixing the two together to a homogeneous consistency.



The entire quantity of the resin is placed into an appropriately sized forced action mixer and the aggregate is slowly added to the resin with the mixer running. Continue to mix for a further 3 to 5 minutes until all the components are thoroughly blended. The mixing of part packs should not be undertaken.

Application

Apply the mixed product firmly onto the tacky primer using a trowel to build the required thickness and use a wooded float to ensure complete compaction and a secure bond. Where access to the substrate is difficult such as around steel reinforcement a gloved hand may be used for placing. The application is always completed by closing the surface of the mortar with a steel trowel before it sets.

Application in excess of the thickness quoted previously may be achieved by scratch-keying the previous layer. Subsequent layers should then be applied within 10-12 hours. If this time is exceeded the surface should be reprimed prior to the succeeding applications.

Overcoating

Where **SpECbuild EM** is used in a hygienic situation then it may be overcoated with a suitable epoxy resin coating such as **SpECTop ARE125**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At ambient temperatures above 35°C the pot life of the material will be reduced.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECTop Cleaning Fluid**.

PACKAGING & YIELD

SpECbuild EM is supplied in 12 litre (0.012m³) packs. Each pack gives 2.4m² at 5mm thick.

SpECTop Primer F1 is supplied in 1, 5 and 15 litre packs. The coverage is approximately 10-15 m²/litre.

STORAGE & SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

Contact with skin and eyes should be avoided when using **SpECbuild EM**, **SpECTop Primer F1**

or **SpEctop Cleaning Fluid**. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilized.

FLAMMABILITY

SpEctop Primer F1 and **SpEctop Cleaning** are flammable. Do not expose to sources of ignition.

FLASH POINT

SpEctobuild EM	>150°C
SpEctop Primer F1	>60°C
SpEctop Cleaning Fluid	>40°C

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