

CONCRESlVE[®] ERL

Solvent free epoxy mortar for bedding and repairing

Description

CONCRESlVE ERL is three components, solvent free, modified epoxy resin mortar specifically designed to use even in wet situation.

The resin system along with the selected blends of fillers produces a mortar with excellent finishing properties. The finished cured mortar is highly impervious and provides high resistance both to chemical and mechanical loads.

Uses

CONCRESlVE ERL is recommended for use as adhesive mortar, patching and repair mortar and as bedding mortar. Typical applications include:

- Lining and benching of manholes.
- Lining sewer lines.
- Wall lining in wastewater handling structures.
- Repair effluent drains and wastewater drains.
- Bedding of fixtures, tiles and stones.

Advantages

- High elastic modulus ensures effective load transfer at bond interface.
- High non-sag thickness allows high build on vertical surfaces.
- Smooth consistency gives good finish.
- High bond strength – durable repairs.
- Non toxic – permits its use in potable water tanks.

Note: For application in wet or submerged areas, use CONCRESlVE ERL SPECIAL

Typical properties

Aspect	: Greyish paste
Mixed density	: 2.0 kg/litre
Mixing Ratio, by weight	: 8.9(B) :3.6(H) : 87.5(F)
Pot life	: 60 Minutes at 25°C : 20 Minutes at 40°C
Setting time	: 6 Hours at 25°C
Sag, at 12mm thickness	: Nil
Application Temperature Range	: -8°C to 45°C
Service Temperature Range	: -20°C ~ 65°C
Compressive strength	: 20 MPa at 24 Hours (ASTM C579) : 60 MPa at 7 Days
Flexural strength (BS 6319, Pt 3)	: > 20 MPa at 7 Days
Tensile strength (BS 6319, Pt 7)	: > 10 MPa at 7 Days
Adhesive bond strength to concrete (ASTM D4541)	: > 2 MPa at 7 Days (Concrete failure)
Full Chemical Cure	: 7 Days

Standards

- ASTM C881 Type I Grade 3, Class B & C

Specification Clause

The high build, chemical and abrasion resistant epoxy lining mortar shall be CONCRESlVE ERL, complying with ASTM C881 Type I, Grade 3, Class B & C. Product shall be formulated to achieve adhesive bond strength with concrete substrate exceeding the inheriting tensile strength of concrete substrate; with compressive strength in excess of 55 MPa at 7 days. The epoxy liner must have been formulated keeping aggressive environments such as sewerage and industrial; must have passed 180 day immersion test in diluted sulfuric acid at 40°C.

Chemical resistance

CONCRESlVE ERL exhibits excellent resistance to a wide range of chemicals such as dilute mineral acids, alkalis, salt water, chlorinated solvents, etc. Further, it is specially formulated for use in sewage and wastewater environments.

It is strongly recommended to use sealer coat such as MASTERSEAL SP120 or MASTERSEAL 180 depending upon the nature of chemicals. The sealer coat shall reduce the effective surface area in contact with the aggressive chemicals and shall enhance the service life of lining.

Please consult BASF's Technical services department for specific advice on chemical resistance.

Directions for use

Temperature Requirements

- Substrate temperatures: 15°C – 35°C
- Material temperatures: 15°C – 30°C

Very low or very hot temperatures will make application more difficult and careful consideration should be given to storage of materials. In the cold weather conditions, pre-condition materials by keeping it in a heated room. In hot weather conditions, some form of air-conditioned storage is required. Pre-conditioned materials at 20-25°C will reduce the possibilities of flash/slow setting and other defects.

Surface Preparation

Correct substrate preparation is critical for optimum performance. Surfaces should be structurally sound, and clean.

Remove oil grease and wax contaminants by scrubbing with industrial grade detergent or degreasing compounds followed by mechanical cleaning.

Remove Cement laitance, loose particles, mould release agent, curing membrane, and other contaminants by shot blasting, scarifying or mechanically wire brushing followed by vacuum cleaning.

In case of steel surfaces remove grease and oil with suitable industrial grade cleaning and degreasing compounds. Remove rust and mill scale by grit blasting. Blast steel to white metal followed by vacuuming or blowing clean using oil-free compressed air.

Priming

Prime the prepared surface with CONGRESIVE 1020 in dry to damp conditions and CONGRESIVE 1020 SPECIAL in wet conditions. Leave it for approximately 1h (at 25°) to go tacky before placing the repair mortar.

Mixing

Mechanical mixing is necessary. Mix using a slow speed (600 rpm) drill fitted with a helical stirrer. Keeping the mixer running, pour the Hardener completely in to the Base container and mix for about a minute until homogenous mix is obtained.

Add the Aggregate component, while continuing to mix; and mix for at least 2 minutes to obtain a homogenous mortar.

Placing

For bonding: Apply CONGRESIVE ERL using trowel to a thickness of 1mm to 3mm depending on the job.

For deep irregularities: Firmly trowel the mortar paste to fill in the deep irregularities, and finish to a smooth surface.

Curing

CONGRESIVE ERL is self-curing.

Cleaning

Clean tools and equipment first with rags, then wipe off using a suitable solvent such as Solvent No.2.

Coverage

The consumption is dependent on the total volume of the void to be filled, loss and wastage.

One pack of 15kg is sufficient to cover 1.5 m² at the 5mm thickness, on fair-faced substrate.

Packaging

Available in 15kg packs, consisting of Base, Hardener and Fillers.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

Disclaimer

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BASF India Limited

Construction Chemicals Division

Plot No.37, Chandivali Farm Road, Chandivali, Andheri(East)

Mumbai – 400072 India

Tel: +91 22 28580200, Fax: +91 22 28478381

e-mail: basfcc@vsnl.net

www.basf-cc.co.in

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