SmartCare Epoxy LV

Two component Low Viscosity Epoxy Injection Resin

Description

SmartCare Epoxy LV two-part, solvent-free, low viscosity epoxy resin system to form a strong permanent bond and seal cracks in concrete and masonry.

SmartCare Epoxy LV is designed to be injected into cracks using suitable resin injection equipment.

SmartCare Epoxy LV is highly penetrative and cures to form a permanent and rigid seal against the ingress of corrosive fluids and gases and can restore structural integrity to concrete elements.

Uses

Repair and sealing of "structural" and Non-Structural concrete cracks. The injection resin can be used to fill and bond structural cracks in: Columns, Bridge decks, Floors, Piers, Abutments, Tunnels, Basements, Beams, Underpasses, etc.

Characteristics/ Advantages

- Low viscosity allows penetration into the finest cracks
- Formulated for hot climates
- Suitable for structural repairs
- Excellent bond to concrete, brick and masonry
- Minimum creep under sustained load
- Resistant to wide range of chemicals
- Non-shrink, adheres with no loss of bond
- High compressive strength
- Can be used to fill wide cracks by gravity feed and as a fluid grout up to thicknesses of 9 mm

Properties

Test method	Typical results
Compressive strength (BS 6319)	70.0 N/mm2 @ 20°C 97.44 N/mm2 @ 35°C
Tensile strength (BS 6319)	26.0 N/mm2 @ 35°C
Flexural strength (BS 6319)	63.0 N/mm2 @ 35°C
Slant shear bond strength	26.0 N/mm2 @ 35°C
Pot life	45 minutes @ 20°C 30 minutes @ 35°C
Specific gravity	1.04 ± 0.05
Mixed viscosity	1.0 poise @ 35°C
Curing Time, Completely Dry Completely cured	6 Hours 7 Days

The following properties were obtained at a temperature of 20ºC unless otherwise specified

Packing

SmartCare Epoxy LV Part A	2.3 Kg pack
SmartCare Epoxy LV Part B	1 Kg pack

Application Method

Instructions for use

SmartCare Epoxy LV can be applied using either injection packers fixed into holes drilled directly into the crack or drilled diagonally from concrete adjacent to the crack or by the fixing of injection nipples bonded to the surface using Apcoflor Epoxy Putty.

Surface preparation

Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

Blow the cracks and treated surface with oil free air to ensure complete removal of all dust and loose particles. Ensure that the surfaces are blown dry.

In the presence of running water, the flow must be stopped using SmartCare PU Injection Foam which produces a rapid setting water-stopping foam. When the water is stopped the cracks are re-injected with SmartCare PU Injection Resin.

Fixing injection packers

The injection packers inserted into pre-drilled holes shall be fixed at intervals along the length of each crack. The distance between each packer will depend upon the width and depth of the crack. Spacing shall be close enough to ensure that the resin will penetrate along the crack to the next point of injection.

The surface of the cracks between the packers shall be sealed with a band of Apcoflor Epoxy Putty, 30 to 40 mm wide and 2 to 3 mm thick. Both sides of any cracks which go all the way through a wall or slab shall be sealed this way.

In the case mirror crack, packers shall be located on both sides with those at the back placed at

midway points between those at the front.

The Apcoflor Epoxy Putty shall be allowed to cure for 8 hours at 35°C. At low ambient temperatures (5°C to 12°C) the curing time will be extended, and the applicator shall ensure that the surface sealant has adequately cured prior to continuing.

One end of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of horizontal cracks.

Alternative methods of resin injection are currently in use; they include the system where injection nipples are bonded to the substrate.

Application

Thoroughly mix the entire hardener and base resin contents until the liquid becomes clear.

SmartCare Epoxy LV should be used with standard injection equipment having closed containers. The injection pressure should be at least 0.4 N/mm2 (4 bar).

Only mix sufficient resin that can be used within the pot life of the material.

Following completion of the injection works the injection system shall be allowed to cure for 24 hours and shall be left undisturbed for this time.

Final Finish

Remove the packers and make good any holes or voids with Apcoflor Epoxy Putty and allow to cure. The Apcoflor Epoxy Putty can be ground off or softened with a blow lamp and peeled off. Do not allow to burn.

Application in Horizontal Cracks

In case of horizontal cracks in excess of 2mm SmartCare Epoxy LV can be applied through gravity flow, without the use of injection packers. However, such application need to be verified for suitability through a site trial.

Cleaning

SmartCare Epoxy LV and Apcoflor Epoxy Putty should be removed from tools, equipment and mixers with Asian Paints Berger Tool Cleaner immediately after use. Hardened material can only be removed mechanically.

Precaution and Limitation

- SmartCare Epoxy LV is only to be used in dry or damp concrete or masonry.
- SmartCare Epoxy LV should not be used on live cracks or where further movement is expected. In these cases, contact the Asian Paints Berger SmartCare technical Team.
- SmartCare Epoxy LV should not be used in the presence of running water. In these cases, SmartCare PU Injection Foam or SmartCare PU Injection Resin should be used.
- If any doubts arise concerning temperature, application

High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

1. Store unmixed material in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
2. Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
3. Try to eliminate application during the hottest times of the day and in direct sunlight.
4. Make sufficient material, plant and labour available to ensure that application is a continuous process.

Technical Support

Asian Paints Berger SmartCare Technical Team offers a comprehensive technical support service to specifiers, end users and contractors. We also able to offer on-site technical assistance and specification assistance as required.

Shelf Life - Storage

SmartCare Epoxy LV if stored in warehouse condition below 35 °C and protected against moisture, kept in a dry store in the original, unopened containers, this product will remain stable for 12 months from production date.

Storage conditions

Store in dry conditions in the original, unopened containers. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 2 to 3 months. Avoid storage of material

under direct sunlight.

Health & Safety Features

As with all chemicals, caution should always be exercised. Protective clothing such as gloves and goggles should be worn.

INHALATION: Inhalation of vapor or mist should be avoided. If inhaled symptoms include coughing, wheezing, laryngitis, and shortness of breath, headache, nausea, and vomiting. Immediately shift victim to fresh air, and, if needed immediately start artificial respiration. Give oxygen if breathing is labored. Get emergency medical help.

EYE CONTACT: Flush eyes with water for 15 minutes and call for medical help.

INGESTION: Causes nausea, vomiting, and loss of consciousness. If accidentally swallowed do not induce vomiting rather call for medical help immediately.
SKIN CONTACT: Flush with water or soap and water until all traces have been removed. Seek medical attention if required.

Note: The information supplied in our literature or given by our employees is based on extensive experience and, together with that supplied by our agents or distributors, is given in good faith to help you. Our company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of work, we accept no liability for any loss or damage which may arise as a result thereof.

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