



The Chemical Company

CONCRESI[®]VE 1333 (Injection Resin LPL)

Low viscosity Epoxy resin for Injection Grouting

DESCRIPTION

CONCRESI[®]VE 1333 is a two component solvent free epoxy resin based injection grouting system with an extended pot life, for injection into cracks to restore structural integrity.

FIELDS OF APPLICATION

CONCRESI[®]VE 1333 is recommended for grouting of fine cracks, cold joints, voids etc. in concrete structural elements, which are threatening the structural integrity or water tightness. Applications include grouting of minute voids for repair purposes such as;

- Cold joints between subsequent pours of concrete.
- Stabilised cracks in structural elements.
- Unfilled voids behind tiles, stone facades, and joints.
- Fine gaps around anchor bolts loosened due to improper grouting.
- Gap behind the steel plate for epoxy plate bonding.

FEATURES & BENEFITS

High elastic modulus	Effective transfer of stresses at bond interface.
High HDT (heat deflection temp)	Resistance to creep even at high service temperatures.
Low viscosity	Effective penetration into very fine gaps of less than 0.1 mm.
High bond strength	Renders grouted area monolithic.
Good bond to damp surfaces	Advantage in humid environments.
Long pot life	Sufficient time for deeper and more complete penetration.
Pre proportioned	Avoidance of batching errors.
Fast curing	Faster serviceability of the repaired area.

TYPICAL PERFORMANCE DATA

Tensile strength	: >12 N/mm ²
Compressive strength (ASTM D695)	: > 70 N/mm ²
E Modulus in compression (ASTM D695)	: > 2300 N/mm ²
Flexural strength (ASTM D790):	: > 25 N/mm ²
Bond strength	: > the tensile strength of concrete

PROPERTIES

	Part A	Part B
Supply form	Thin liquid	Thin liquid

Colour	Clear	Amber
Mix ratio Part A : Part B (by Vol)	: 1.35 : 1	
Density (mixed)	: 1.05-1.09 kg/L	
Viscosity at 25°C	: 350 cps	
Heat deflection temp	: 60° C	
Min. application temp	: 5°C	
Pot life (1 L pack) @ 27°C	: > 2½ hrs	
Cure time, days (ASTM D695)	: 7	

APPLICATION

Preparation

Correct and high quality preparation for injection grouting is critical for optimum performance.

Cracks or cold joints

Clean the concrete surface along the crack or joint to 2 cm on either side, free from dust, fungus, moss and other such contaminants.

If the concrete surface is found to be contaminated with oil or grease, remove the concrete layer at the crack or joint opening by hacking off to a clean substrate. Vacuum clean the surface free from dust.

Mask the crack at the locations where injection ports are to be glued and seal the rest of crack or joint opening with CONCRESI[®]VE 1438 or other equivalent epoxy sealing paste. The intervals at which the ports have to be located depend upon the severity and extent of crack, the type of structure etc.

In the case of a cold joint and that of a crack with openings on other faces of the structural element, seal the openings on all the sides.

Glue the injection ports at the predetermined locations directly on to concrete surface across the crack or joint using CONCRESI[®]VE 1438 or CONCRESI[®]VE 1488.

If the concrete surface at the crack or joint opening is not flat or clean enough to obtain a strong adhesion of the ports, use injection nipples in drilled holes instead of glue-on ports for injection of the resin system.

Drill approximately 50 mm deep holes on the crack or joint at required intervals depending on the complexity of the job. In situations where the crack opens out on the opposite face of a structural element and the section is more than 500 mm thick, injection holes may have to be drilled on both these faces. The diameter of the hole should be around 5 mm.

Fix injection nipples in each of the drilled holes using CONCRESI[®]VE 1438 or CONCRESI[®]VE 1488.

Blow oil free compressed air through each of the injection nipples in succession (in case of drilled holes) and then close the cocks of the nipples.

Other applications

For epoxy plate bonding, fix injection nipples into the pre-drilled holes on the plate and seal all the gaps around the plate using CONCRESI[®]VE 1438 or CONCRESI[®]VE 1488.



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For grouting to fill voids behind tiles, stone facade etc., drill holes to reach the suspected void and fix nipples. At least 2 holes should be drilled to grout each cavity.

Mixing

CONCRESlVE 1333 consists of two parts - Part A and Part B - which are mixed in the ratio of 1.35:1 by volume. Being a small pack, mixing by hand is permissible. Mix the entire contents of both Part A and Part B containers to avoid batching errors.

However, if part mixing is necessary, stir each component individually and then measure out precisely each component in the proper volumetric ratio into a clean, dry container for subsequent mixing. Ensure that the remaining contents of both the containers are not contaminated.

Placing

CONCRESlVE 1333 is designed for placing by injection using either a high pressure (up to 70 bars) injection equipment or a low pressure (up to 1 bar) version depending on the location, width & extent of the crack & void.

Cracks or joints on horizontal surfaces can be grouted just by ponding (gravity grouting).

Inject the mixed resin system into the crack starting from the widest part of the crack. In the case of vertical cracks start from the lowest level. Inject in each port or nipple (keeping all others except the next one closed) till the pressure is built up to the required level. If resin starts issuing out of the open port or nipple, close it. Maintain the injection pressure for 1 to 5 minutes to allow for total penetration and close the port before releasing the pressure. Continue till all the ports or nipples are injected.

24 hours after the injection, remove all the nipples or ports and fill in the resulting cavities with **CONCRESlVE 1438**.

EQUIPMENT

Injection : Hand operated cartridge-type gun or air operated (pressure pot type) injection equipment.

CLEANING

Clean the tools and equipment first with rags, then wipe off using a suitable solvent such as Methyl Ethyl Ketone.

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical 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 or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use. **BASF Construction Chemicals data sheets are updated on a regular basis and it is the user's responsibility to obtain the most recent issue.**

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.

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ESTIMATING

The quantity of **CONCRESlVE 1333** required is dependent on the total volume of the void to be grouted, absorption of the substrate, loss and wastage. A trial may be conducted on a typical area to get an approximate estimation.

PACKAGING

Available in 1 L packs, consisting of

Part A : 0.58 L

Part B : 0.42 L

SHELF LIFE

CONCRESlVE 1333 can be stored in tightly sealed original packing for 12 months, at 30°C.

PRECAUTIONS

Health : **CONCRESlVE 1333** contains certain chemicals which can cause skin irritation if exposed and respiratory reaction if inhaled. Wear gloves, masks and use barrier creams while handling the product. Wash thoroughly after handling.

Should skin contact occur wash immediately with soap and water, or an effective hand cleaner.

In case of accidental eye contact wash with copious quantity of water and seek medical help immediately. If ingested, do not induce vomiting. Consult doctor immediately.

The vapours of solvents used for cleaning can be irritating. It is therefore recommended that cleaning is done in well ventilated areas.

Fire : Do not smoke while handling the product.

Flash point : 90°C.

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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