



The Chemical Company

# CONCRESlVE<sup>®</sup> 1322 (Injection Resin Twin Line)

Low viscosity epoxy resin for twin line pressure injection

## DESCRIPTION

CONCRESlVE 1322 is a low viscosity, two component, solvent free, epoxy resin based injection grouting system. It is designed for use with a suitable twin line, mixing and pumping machine or a peristaltic pump.

## FIELDS OF APPLICATION

CONCRESlVE 1322 is recommended for grouting of fine cracks, cold joints, honeycombs, voids, etc. in concrete structural elements, which threaten the structural integrity or water tightness. Applications include grouting of :

- cold joints between subsequent pours of concrete.
- stabilised cracks in structural elements.
- porous and honeycombed concrete
- bearing supports with prepacked aggregate.

## FEATURES AND BENEFITS

- **Designed for twin line pumps-** No premixing of resin system. Avoids wastage.
- **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-** Advantages in humid environments
- **Fast curing-** Faster serviceability of the repaired area.

## PERFORMANCE DATA

(After 7 days cure)		
Tensile strength, N/mm (ASTM D638)	:	60
Compressive strength, N/mm <sup>2</sup> (ASTM D695)	:	110
Compressive modulus, N/mm <sup>2</sup> (ASTM D695)	:	1,500
Flexural strength, N/mm <sup>2</sup> (ASTM D790)	:	75

## ESTIMATING DATA

The consumption of CONCRESlVE 1322 is dependent on the total volume of the void to be grouted, absorption of the substrate, loss and wastage. A total may be conducted on a typical area to get an approximate estimation.

## PROPERTIES

Supply form	Part A	Thin Liquid
	Part B	Thin Liquid
Colour	Part A	Clear
	Part B	Amber
Mix ratio	Part A:Part B (by vol.)	2:1
Density (mixed)	1.08 kg/L	
Viscosity at 25°C		400-700cps
Heat deflection temperature		56°C
Application temperature range		5C to 35°C
Minimum curing temperature		4C
Pot life (1L pack) @30°C		15 min
Cure time, days		7

## APPLICATION

### Surface Preparation

Correct and thorough preparation for injection grouting is critical for optimum performance.

### Cracks/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 contaminated with oil or grease, remove the contaminated layer at the crack or joint opening and vacuum clean the area.

Fix injection points on the crack or joint, at intervals depending on the severity and extent to cracks. Mask these locations and seal the rest of crack or joint with CONCRESlVE 1438 or other similar epoxy sealing paste. Glue the injection ports at these predetermined locations directly on the concrete surface using CONCRESlVE 1438 or CONCRESlVE 1488 (see separate data sheets).

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 flue-on ports for injection of the resin system.

Drill approximately 50mm deep, 5 mm diameter holes on the crack or joint at the required locations. In situations where the crack runs through the entire section of a structural element of more than 500 mm thick, injection holes may have to be drilled on both the faces with crack opening. Fix the injection nipples in each of the drilled holes using CONCRESlVE 1438 or CONCRESlVE 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.

### Prepacked grouting

Hack the concrete surface to sound base. Vacuum clean the exposed areas. Pack the space tightly with clean, 20 mm single size coarse aggregates. On vertical surfaces



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install a grease coated, post box type shuttering with an inlet for the pumped resin at the bottom and an air vent at the top.

### Mixing

If twine line mixing and injection equipment is employed, set the machine for the correct mix ratio and check the consistency at regular intervals during operation.

For gravity grouting method of a monoline pump, stir individually and then measure out each component in the volumetric ratio of 2:1 (Part A : Part B) into a clean, dry container for subsequent mixing. Ensure that the remaining contents of both the containers are not contaminated.

### Placing

Cracks, joints or voids on horizontal surfaces can be grouted by ponding (gravity grouting) of pre-mixed resin system over the prepared area. Grouting of fine fissures and of cracks on vertical or overhead surfaces should be by injection.

Inject the 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 through each port or nipple (keeping all others except the next one closed) until the pressure builds 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 enable total penetration and close the port before releasing the pressure. Continue until all the ports or nipples are injected. 24 hours after the injection, remove all the nipples or ports and patch up the resulting cavities with CONCRESlVE 1438.

For grouting of prepacked aggregates on vertical surface, pump the resin using an air operated pump (pressure pot type) into the grout inlet. When the resin starts emerging from the air outlet, close the outlet, maintain pressure for 1-2 minutes, close the cock of the nipple, then disconnect the pump. Deshutter after the cure time of the resin system.

### EQUIPMENT

**Injection :** Twine Line manual crack injection equipment or Peristaltic pump or air operated (pressure pot type) pump.

### CLEANING

Clean the tools and equipment immediately after use, with a suitable solvent such as xylene or toluene.

Ensure that the twin line injection machine is cleaned before the resin in the mixing head starts setting.

### PACKAGING

CONCRESlVE 1322 is available in 15 L and 615 L sets. The components of CONCRESlVE 1322 are available in the following packaging.

Component	Packaging	
	15 L set	615 L set
Part A	10 L	2 x 205 L
Part B	5 L	205 L

### SHELF LIFE

CONCRESlVE 1322 can be stored in unopened original packing for 12 months below 30°C.

### PRECAUTIONS

**Health :** CONCRESlVE 1322 contains certain chemicals that can cause skin irritation if exposed and respiratory reaction if inhaled. Wear gloves, masks and use hand barrier creams while handling the product. Wash hands thoroughly after handling. Should skin contact occur wash immediately with soap and water, or an effective hand cleaner.

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

**Fire :** CONCRESlVE 1322 is combustible. Avoid exposure to naked flame. Do not smoke while handling the product.

**Flash point :** 90°C

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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### STATEMENT OF RESPONSIBILITY

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