

# CONCRESlVE<sup>®</sup> 1414

## Long open time epoxy bonding agent

### Description

CONCRESlVE 1414 is a two component epoxy system which on mixing yields an adhesive for internal or external bonding of renderings, granolithic toppings, and new concrete to old concrete. It tolerates a degree of moisture before and during curing. The ultimate bond strength is greater than the tensile strength of concrete. CONCRESlVE 1414 does not shrink and provides an even and stress-free bond.

### Uses

CONCRESlVE 1414 is recommended for bonding:

- Fresh concrete to set concrete
- Repair mortar to concrete or mortar

### Advantages

- High bond strength
- Sufficient time to apply the overlay
- Moisture tolerant
- Effective transfer of stresses at bond line
- Resistant to chemical attack
- Effective barrier to migration of chlorides
- Supplied in pre – weighed units

### Typical properties

Aspect	: Grey viscous dispersion
Mixed density	: 1.48 kg/litre
Mixed Viscosity	: 2450±450 cps at 25°C
Mixing Ratio, by weight	: 83(Base) : 17(Hardener)
Compressive Strength	: 65 MPa at 7 Days
Tensile Strength	: 25 MPa at 7 Days
Adhesive bond strength to concrete (ASTM D4541)	: > 2.5 MPa (substrate failure)
Slant Shear bond Strength (BS 6319, Part 4)	: > 11 MPa (concrete failure)
Pot life	: 2 Hours at 25°C : 1 Hours at 40°C
Overlay time (Open time)	: 8 Hours at 25°C : 6 Hours at 40°C
Setting time	: 150 minutes at 25°C
Full cure	: 7 days

### Standards

ASTM C881 Type 2, Grade 2, Class B & C.

### Specification Clause

The structural grade bonding agent shall be CONCRESlVE 1414, a two component, solvent less epoxy resin based. It shall be formulated to meet the requirement of ASTM C881 Type 2, Grade 2, Class B & C. The Bonding agent shall exhibit minimum open time of 6 hours and shall exceed the tensile strength of

concrete in terms of its adhesive bond strength. It shall be fully compatible with EMACO Range of repair mortars.

### 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

All surfaces must be thoroughly cleaned and prepared. All loose particles, laitance, dust, curing compounds, floor hardeners, oil, grease, fat, bitumen and paint must be removed if good bond strength is to be achieved. Gloss surfaces must be abraded.

If oil, grease, fat, etc. are present, they should be removed before starting any other form of preparation. All laitance weak or friable concrete should be removed by chipping, grit blasting, or scrubbing until a sound base is obtained.

All laitance should be removed by mechanical scarification, grit blasting, or by acid etching. Visible signs of mould growth, lichen, or algae, should be removed and treated with a fungicidal wash.

New concrete should have cured until the shrinkage and moisture movement is low. Surfaces heavily impregnated with mould oil should be degreased and grit blasted or mechanically scarified to remove the contaminated surface. All curing compounds should have disintegrated or be removed and application carried out only onto a clean, dust free surface.

#### Mixing

Carefully transfer the entire Hardener to the Base and thoroughly mix, using a stout palette knife or a slow running drill with a paint mixing paddle until uniformity is achieved. This normally takes about three minutes. Avoid part mixing at site to achieve best performance.

### Placing

Apply CONGRESIVE 1414 evenly across the whole surface with a clean, short haired paint brush.

Apply the screed overlay within 45-50 mins to achieve best performance.

For bonding fresh concrete to old concrete ensure to place the fresh concrete within the overlay time depending upon the ambient temperatures, in case exceeded re-apply the bonding agent and place the concrete.

It is important to protect applied CONGRESIVE 1414 from contamination, especially in horizontal surfaces, until overlay is placed

### Curing

Although CONGRESIVE 1414 is self curing, it will cure slowly at low temperatures. The reaction stops at below 5°C.

### Equipment care

Use CLEANING SOLVENT NO. 2 to clean tools when CONGRESIVE 1414 is still wet or tacky. Once CONGRESIVE 1414 has set hard, it can only be removed by chipping or burning.

### Coverage

2 - 2.7 m<sup>2</sup>/kg dependent on substrate profile.

### Packaging

CONGRESIVE 1414 is available in 1 kg & 3kg units consisting of base and hardener.

### 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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