



# CONSOL 71 EP

## 2-Part Thixotropic Multipurpose Epoxy Adhesive

### DESCRIPTION

**CONSOL 71 EP** is a moisture tolerant, thixotropic, structural two part adhesive and repair mortar. Based on a combination of epoxy resins and special fillers.

### RECOMENDED FOR

**CONSOL 71 EP** may only be used by experienced professionals. As a structural adhesive and mortar for:

- Concrete element
- Polyester, Epoxy
- Mortar, bricks, masonry
- Ceramics, fiber cement
- Hard natural stone
- Steel, iron
- Wood

### As a repair mortar and adhesive:

- Corners and edges
- Holes and void filling
- Vertical and overhead use
- Joint filling and crack sealing
- Joint and crack aris/ edge repair

### BENEFITS

**CONSOL 71 EP** provides the following properties of benefit such as:

- Easy to mix and apply
- Suitable for dry and damp concrete surface
- Thixotropic: non-sag in vertical and overhead applications
- Good adhesion to most construction materials
- Abrasion resistant
- No primer needed
- Chemical resistant
- Impermeable to liquids and water vapour
- Hardens without shrinkage
- Different colored component
- Sea water resist

### PRODUCT DATA

**Form**  
Epoxy Resin

**Appearance**  
Part A: White  
Part B: Dark grey  
Mixed of A+B: Concrete Grey

**Density**  
2.09 ± 0.1 kg/L (part A+B mixed) (at +23<sup>0</sup> C)  
(evacuated)

**Packaging**  
6 Kg (A+B) Pre-Batched unit

**Storage**  
Dry, shaded place. Protect from direct sunlight and frost. Store in dry condition at temperatures between +5<sup>0</sup> C and +30<sup>0</sup> C.

**Shelf Life**  
**CONSOL 71 EP** can be stored for 12 months if stored as recommend in original unopened container.

### TECHNICAL DATA

**Compressive Strength**

ASTM D 695

| Curing Temperatures |                        |                        |
|---------------------|------------------------|------------------------|
| Curing Time         | +10 <sup>0</sup> C     | +25 <sup>0</sup> C     |
| 1 Day               | ~ 20 N/mm <sup>2</sup> | ~ 40 N/mm <sup>2</sup> |
| 3 Days              | ~ 50 N/mm <sup>2</sup> | ~ 52 N/mm <sup>2</sup> |
| 7 days              | ~ 56 N/mm <sup>2</sup> | ~ 57 N/mm <sup>2</sup> |
| 14 days             | ~ 58 N/mm <sup>2</sup> | ~ 60 N/mm <sup>2</sup> |

### Flexural

3 Days >30 N/mm<sup>2</sup> at 25 °C

### Modulus of Elasticity in Compression

**Compressive**  
>4800 N/mm<sup>2</sup> (14 days at 23 °C)

ASTM D 695

**Flexural**  
>5200 N/mm<sup>2</sup> (14 days at 23 °C)

EN 53452



## Theoretical Number of rebar per Pack

| Theoretical Number of rebar per Pack (Applies to Solid Substrate) |                      |              |              |              |              |              |              |
|---|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1 Pack Volume   | Effective Depth (mm) | D8           | D10          | D12          | D16          | D20          | D24          |
|   |                      | Drilling ø10 | Drilling ø12 | Drilling ø14 | Drilling ø18 | Drilling ø22 | Drilling ø26 |
| 6 Kg  | 8D                   | 1586         | 1038         | 732          | 419          | 271          | 190          |
|   | 10D                  | 1269         | 830          | 585          | 335          | 217          | 152          |
|   | 12D                  | 1015         | 692          | 502          | 298          | 197          | 140          |

## Tension Bonding Capacity

| Tension Bonding Capacity                             |      |      |      |       |       |       |
|--|------|------|------|-------|-------|-------|
| Rebar  | D8   | D10  | D12  | D16   | D20   | D24   |
| Effective embedment (mm)                             | 90   | 110  | 125  | 170   | 250   | 300   |
| Tension Bonding Capacity (kN)<br>Safety factor = 1.4 | 3,23 | 4,94 | 6,73 | 12,21 | 22,44 | 32.31 |

## Tensile Strength in Flexural

DIN EN 53452

| Curing Temperatures |                        |                        |
|---------------------|------------------------|------------------------|
| Curing Time         | +10° C                 | +25° C                 |
| 1 Day               | ~ 12 N/mm <sup>2</sup> | ~ 19 N/mm <sup>2</sup> |
| 3 Days              | ~ 26 N/mm <sup>2</sup> | ~ 28 N/mm <sup>2</sup> |
| 7 days              | ~ 28 N/mm <sup>2</sup> | ~ 30 N/mm <sup>2</sup> |
| 14 days             | ~ 30 N/mm <sup>2</sup> | ~ 32 N/mm <sup>2</sup> |

## Tensile Adhesion Strength

≥2 N/mm<sup>2</sup> (CONCRETE FAILURE)

## APPLICATION INFORMATION

### Mixing Ratio

Part A : Part B = 2 : 1 by weight or volume

### Consumption

The consumption of **CONSOL 71 EP** is ~ 2.0 kg/m<sup>2</sup> per mm of thickness

### Layer Thickness

30 mm max.

When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction handling time.

### Sag Flow

On vertical surfaces it is non-sag up to 15 mm thickness

### Ambient Air temperature

+10° C min / +40° C max

## Dew Point

Beware of condensation.

Substrate temperature during application must be at least 3 °C above dew point.

## Substrate Temperature

+10° C min / +40° C max

## Substrate Moisture Content

When applied to mat moisture concrete, brush the adhesive well into substrate.

## Pot Life

25° C = ± 60 Minutes

## APPLICATION INSTRUCTION

### Substrate Quality

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).

Verify the substrate strength (concrete, masonry, natural stone).

### Substrate Preparation

The substrate surface (all types) must be clean, dry and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc. Steel substrate must be de-rusted similar to 2.5.

The substrate must be sound and all loose particles must be removed. Concrete, mortar, stone, and bricks:

Substrate must be sound, dry, clean, and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve



laitance and contaminant free, open textured surface.

Steel:

Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blast cleaning and vacuum. Avoid dew point conditions.

### Mixing

Pre-Batched units:

Mix part A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max.300rpm) until the material becomes smooth and a uniform grey color.

Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within this potlife.

### Application

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves). When using for bonding metal profiles onto vertical surface, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature. Once hardened check the adhesion by tapping with a hammer.

### Cleaning tools

Clean all tools and application equipment with general cleaner after use. Hardened/cured material can only be mechanically removed.