



The Chemical Company

MasterBrace® ADH 1420

(Formerly known as CONGRESIVE® 1420)

Epoxy Based, Flowable Adhesive

Description of Product

MasterBrace® ADH 1420 is epoxy based, solvent free, moisture tolerant, flowable adhesive with two components for bonding freshly mixed and hardened concrete.

Fields of Application

- Bonding freshly mixed concrete and hardened concrete,
- Corrosion protection of reinforcement in structural repairs,
- Priming the concrete substrates under repair mortars,

Complies with EN 1504-4 and EN 1504-6

Technical Data

Product Chemistry MasterBrace® ADH 1420 Comp A MasterBrace® ADH 1420 Comp B	Epoxy Resin Epoxy Hardener	
Color	Fume	
Solid Content	100%	
Mixed Density	1.55 ± 0.05 kg/litre	
Viscosity	8500 mPa.s	
Compressive Strength TS EN 196 (1 day) (7 days)	> 50 N/mm ² > 80 N/mm ²	
Flexural Strength TS EN 196 (1 day) (7 days)	> 20 N/mm ² > 30 N/mm ²	LX
Tensile Strength BS 6319-7 (7 days) (28 days)	> 20 N/mm ² > 30 N/mm ²	
Elasticity Modulus TS EN 13412 (Under Compression) (28 days)	> 5000 N/mm ²	
Bonding Strength (7 days) to concrete to steel	> 3,0 N/mm ² > 3.5 N/mm ²	
Application Thickness	Min 0.5 mm Max 30 mm	
Application Temperature	+10°C - +30°C	
Service Temperature	-30°C - +80°C	
Pot Life	60 minutes	
Covering with Freshly Mixed Concrete	Min 5 minutes Max 40 minutes	
Fully Cured at 20°C	7 days	

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations



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- Bonding various building materials to each other, concrete, stone, metals etc.,
- Chemical anchoring.

Features and Benefits

- Easy to apply with brush, roller or directly pouring.
- Perfect adhesion between the freshly mixed and hardened concrete.
- Provides a corrosion protection barrier on the reinforcement.
- Provides perfect adhesion even on damp surfaces.

Application Procedure

Preparation of Substrate

The concrete surfaces must be sound, clean and dry. It shouldn't be weakened by over-troweling and lack of curing. The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. If there is a water leakage it must be drained or properly plugged. Steel surfaces should be cleaned from rust by sand blasting and if needed new reinforcement should be installed. The edges of the broken surfaces should be saw cut.

Mixing

MasterBrace® ADH 1420 has two components in pails, produced according to right mixing ratio. Material temperature should be between 15 - 25°C before mixing. Component B should be added into the Component A without any remaining material in the pail. It should be mixed with using a proper mixer (~300rpm) for polymer mixing. Mix the components at least 3 minutes to have a homogenous mixture.

Mixing Ratio

MasterBrace® ADH 1420	Part A	Part B
Quantity	3.33 kg	1.67 kg
Mixed Density	1.55 kg/litre	

Application Method

MasterBrace® ADH 1420 should be applied to the prepared surface by using a paint brush, roller or can be sprayed with proper equipment. Freshly mixed concrete should be cast when the epoxy is still wet. Time interval for concrete casting can be changed depending on the weather conditions. The concrete should be cast in 40 minutes after priming the hardened concrete.

For anchoring the anchor holes should be drilled 6mm wide than anchor bar's diameter and in designed depth. The holes should be cleaned by using steel brush and air guns. Mixed material should be put in a mortar gun with a proper nozzle and start to fill the holes into half depth. Install the anchor bar into the hole slowly by screwing and do not drive the bars.

Coverage

1.6 kg/m² for obtaining 1 mm thick layer.

Watch Points

- During the application the substrate and ambient temperature should be between 5 - 30°C.
- Resinous materials' pot life and curing times vary depending on the relative humidity, substrate and ambient temperature. Reaction gets slow in low temperatures and it causes to extension on pot life and working time. On the other hand high temperatures speed up the reaction, which results to short pot life and



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working time. For full curing of material, both the substrate and ambient temperature shouldn't be under allowed application temperature.

- **MasterBrace[®] ADH 1420** is provided in ready to mix pails. Do not add any solvent etc. into the mixture during the application.
- Mixing should be made with proper mixers and do not allow mixing by hand.

wash your skin with water and go to doctor immediately.

Don't bring any food and drink to the application area. Store the material away from the children. For further information Material Safety Data Sheets should be read.

Cleaning of Tools

After the application all tools should be cleaned with a proper detergent or solvent such as thinner. **MasterBrace[®] ADH 1420** can be cleaned with only mechanical abrasion after hardening.

Packaging

5 kg set

Component A: 3.33 kg pail

Component B: 1.67 kg pail

Storage

Store in original container in cool (+5°C - +25°C) and dry indoor conditions.

Shelf Life

18 months under proper storage conditions after production date.

Health and Safety Precautions

It is dangerous to get close to the store areas with fire. The store must be well ventilated.

Work clothes, protective gloves, glasses and mask defined in Labour Laws must be used during the application. Avoid from material to contact with skin and eyes. In case of contacting



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The information given here is true, represents our best knowledge and is based not only on laboratory work but also on field experience. However, because of numerous factors affecting results, we offer this information without guarantee and no patent liability is assumed. For additional information or questions, please contact your local representative.

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