



The Chemical Company

MasterBrace® ADH 1406

(Formerly known as CONGRESIVE® 1406)

Epoxy Based, Repair and Anchorage Mortar

Description of the Product

MasterBrace® ADH 1406 is epoxy based repair, anchorage and adhesive mortar with two components.

Complies with EN 1504-4 and 1504-6

Fields of Application

- Chemical anchoring in concrete and brick walls,
- Repair and insulating of wide cracks,
- Bonding of various types of construction

materials such as steel, concrete, brick to each other,

- Cap seal and entry ports installation in epoxy-polyurethane injection works,
- Fixing the guard bars and seismic isolators to the bridges and viaducts,
- Anchoring the rods and deformed bars to the concrete, stone or brick.

Features and Benefits

- Pasty consistency, easy to apply and non-sag properties in over-head applications.
- Perfect adhesion to the concrete and steel.

Technical Data

Product Chemistry MasterBrace® ADH 1406 Comp A MasterBrace® ADH 1406 Comp B	Epoxy Resin Epoxy Hardener	
Color	Grey	
Mixed Density	1.70 ± 0.05 kg/litre	FM
Compressive Strength TS EN 196 (1 day) (7 days)	30 N/mm ² 75 N/mm ²	
Flexural Strength TS EN 196 (1 day) (7 days)	17 N/mm ² 25 N/mm ²	
Bonding Strength (7 days) to concrete to steel	> 3.0 N/mm ² > 3.5 N/mm ²	
Application Thickness	Min 2 mm Max 30 mm	
Application Temperature	+5°C - +30°C	
Pot Life	40 minutes	
Recoat After	18 - 24 hours	
Service Temperature	-15°C - +90°C	
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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- Resists to chemicals.
- Water and gas impermeable.
- Perfect adhesion to the damp surfaces on concrete.
- Solvent free.

Application Procedure

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 1406 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 1406	Part A	Part B
Quantity	3,75 kg	1,25 kg
Mixed Density	1,70 kg/litre	

Application Method

MasterBrace[®] ADH 1406 should be applied to

the prepared surface by using a steel spatula or steel trowel. Application thickness should be between 2-30 mm. For anchoring the anchor holes should be drilled 6 mm 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

1.7 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 working time. For full curing of material, both the substrate and ambient temperature shouldn't be under allowed application temperature.
- **MasterBrace[®] ADH 1406** 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.

Cleaning of Tools

After the application all tools should be cleaned with a proper detergent or solvent such as



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thinner. **MasterBrace® ADH 1406** can be cleaned with only mechanical abrasion after hardening.

Packaging

5 kg set

Component A: 3.75 kg pail

Component B: 1.25 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 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.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge **BASF Yapi Kimyasallari Sanayi A.Ş.** is only responsible for the quality of the product. **BASF Yapi Kimyasallari Sanayi**

A.Ş. is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones (08/2013).

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BASF YAPI KIMYASALLARI SANAYI A.Ş. Gebze Organize Sanayi Bölgesi İhsan Dede Cad. 1000 Sok. Gebze-KOCAELİ/TÜRKİYE	
11 1020-CPD-040 038990	
EN 1504-4 Structural bonding	
Principle 4: Structural Strengthening	4,4 Bonded mortar or concrete
E-modulus in Compression	≥ 2000 N/mm ²
Shear Strength	≥ 6 N/mm ²
Workable Life	40 min. (23°C)
Shrinkage	≤ 0,1 %
Compressive Strength	≥ 30 N/mm ²
Coefficient of Thermal Expansion	≤ 100 x 10 ⁻⁶ / K
Glass Transition Temperature	≥ 40°C
Adhesion (hardened concrete to hardened concrete)	Failure in concrete
Adhesion (fresh concrete to hardened concrete)	Failure in concrete
Durability	Passes
Reaction to Fire	C-s1,d0
Dangerous Substances	Complies with 5,4

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BASF YAPI KIMYASALLARI SANAYI A.Ş. Gebze Organize Sanayi Bölgesi İhsan Dede Cad. 1000 Sok. Gebze-KOCAELİ/TÜRKİYE	
11 1020-CPD-040 039923	
EN 1504-6 Anchoring product	
Pull-out Strength: displacement at load of 75 kN	≤ 0,6 mm
Chloride Ion Content	≤ 0,05 %
Glass Transition Temperature	≥ 40°C
Creep under tensile load: Displacement after continuous loading of 50 kN after 3 months	≤ 0,6 mm
Dangerous Substances	Complies with 5,3