

# MASTERFLOW<sup>®</sup> 410 PC T

## High strength impermeable epoxy mortar

### Description

MASTERFLOW<sup>®</sup> 410 PC T is a high performance non-shrink, solvent-free impermeable epoxy mortar for pile cap surfaces, to ensure the proper transmission of static and dynamic loads to the foundations. These properties combined with its impermeability to moisture, make it ideal for pilecap waterproofing applications.

### Advantages

MASTERFLOW<sup>®</sup> 410 PC T is a three component system that includes a two-part epoxy resin and carefully blended aggregate. At elevated temperatures, MASTERFLOW<sup>®</sup> 410 PC T provides excellent resistance to creep, high compressive strength, modulus of elasticity and excellent resistance to cracking. This product also produces a high percentage of bearing surface, and good adhesion to steel and concrete. MASTERFLOW<sup>®</sup> 410 PC T is chemically stable for temperatures up to 150°C.

The product is easily mixed on-site to a pourable consistency. MASTERFLOW<sup>®</sup> 410 PC T is suitable for an application thickness range of 20mm-150mm above which steel reinforcement should be used.

MASTERFLOW<sup>®</sup> 410 PC T is resistant to oil, synthetic lubricants, water and most chemicals, and cures quickly which means the pile cap can be placed and waterproofed rapidly.

- Versatile application thickness.
- High tensile, flexural and compressive strength.
- Excellent adhesion to steel and concrete.
- Rapid installation and strength gain.
- Excellent fatigue resistance.

- High resistance to dynamic loads and chemical attack.
- Non-shrink and damp tolerant.

### Typical applications

- Anchors, rails and bolt fixing.
- Structural filling of holes and cavities in concrete.
- Bridge bearing seats.
- Pile cap waterproofing.

### Packaging

MASTERFLOW<sup>®</sup> 410 PC T is supplied in 13.5 litre units - combined weight of components.

**Colour** - Grey

### Typical properties

**Properties listed are only for guidance and are not a guarantee of performance**

|  |                                |
|--|--------------------------------|
| Compressive strength<br>ASTM C 579 Method B @ 25°C | 65MPa at 7 days                |
| Flexural strength<br>BS 6319 Part 3 @ 25°C         | >18N/mm <sup>2</sup> at 7 days |
| Tensile strength<br>BS 6319 Part 7 @ 25°C          | >9N/mm <sup>2</sup> at 7 days  |
| Resistance to water                                | Resistant to passage of water  |

### Chemical resistance

MASTERFLOW<sup>®</sup> 410 PC T resists non-oxidising mineral acids and salts, caustics, dilute oxidising acids and salts, plus some organic acids and solvents. For more specific information contact your BASF Representative.



The Chemical Company

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## **Cure time vs. temperature**

Cure time of the mortar will depend upon the temperature of the base and foundation rather than the ambient air temperature. Unless the ambient air temperature has been constant for several days the base / foundation temperature will generally be lower than air temperature. A surface thermometer and field judgement should be used to determine actual cure rates. Cured grout should have solid, almost metallic ring when struck lightly with a hammer, checking as close to the base as possible.

## **Application thickness**

MASTERFLOW<sup>®</sup> 410 PC T can be used for thick section applications.

The following procedures briefly describe the installation of MASTERFLOW<sup>®</sup> 410 PC T:

## **Concrete preparation & sealing**

### **Surface preparation:**

As with all epoxy resin applications the quality of surface preparation has a direct effect on the performance and durability of the system. Concrete surfaces should be sound, dimensionally stable, clean, free from laitance, paint, oil, grease, mould release agent and residual curing compound. The concrete surface must be scabbled so that large aggregate is exposed to ensure removal of all laitance and weak surface material. New concrete should have a compressive strength of at least 25 MPa; greater strength is preferred. THE CONCRETE SURFACE MUST BE CLEAN AND DRY WHEN THE GROUT IS POURED. The concrete areas to be grouted should not be primed or sealed.

Do not apply MASTERFLOW<sup>®</sup> 410 PC T when the contact surfaces are less than 10°C. If the ambient temperature is less than 10°C then

artificial heating may be used. In summer weather shade host concrete from direct sunlight.

## **Mixing**

**Do not split packs** or alter the ratio of resin components in any way. Mix with a slow speed drill and paddle. Add the contents of the reactor container to the base component in a suitable mixing vessel, ensuring complete transfer of both resin components.

Mix for one minute before slowly adding the aggregate and continue mixing until a pourable consistency is achieved. Do not overmix as this may entrain air.

## **Metal preparation and priming**

Metal surfaces or components to be bedded, should be free from any rust or scaling. Base plates or rails and other metal surfaces to be grouted should be cleaned to obtain proper adhesion. This is preferably done just prior to grouting. Primer should be used ONLY when a long delay between cleaning and grouting will allow rusting or contamination. Surfaces where a bond is not desired should be protected with heavy coats of wax.

## **Forming**

MASTERFLOW<sup>®</sup> 410 PC T requires forms. Forms are generally wood, the same as used for forming concrete. They should be of sufficient strength, anchored or braced to withstand pressure from the grout and must be liquid tight. Wrapping forms in polyethelene will ensure clean release.

## **Placing**

Place immediately after mixing, into the prepared area and use a steel trowel to level.

90-180 min at 10°C

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Allow the grout to set prior to removal of formwork (normally after 6 hours).

## Working time

The following chart is a guide for the working time of a fresh grout mix at various ambient temperatures. The working time of a MASTERFLOW<sup>®</sup> 410 PC T mix begins when the hardener is added to the liquid.

40-60 min at 35°C

50-100 min at 20°C

## Storage

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. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult BASF's Technical Services Department.

## Safety precautions

MASTERFLOW<sup>®</sup> 410 PC T is formulated for industrial and professional use only and must be kept out of the reach of children. These products contain chemicals which may be COMBUSTIBLE and potentially HARMFUL to your health if not stored and used properly. Hazards can be significantly reduced by observing all precautions which are found on material safety data sheets, and product labels. Please read this literature carefully before using the product.

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 is fully cured or dried). Treat splashes to skin and eyes immediately. If accidentally ingested, seek medical attention. Reseal containers after use. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

## Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF representative.

BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

## Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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**As all BASF technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.**

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