

MASTERFLOW™ 410 PC T

High strength impermeable epoxy mortar

Description

MASTERFLOW 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.

MASTERFLOW 410 PC T is a three component system that includes a two-part epoxy resin and carefully blended aggregates. MASTERFLOW 410 PC T enables high percentage of bearing surface, and good adhesion to steel and concrete. MASTERFLOW 410 PC T is suitable for an application thickness range of 20 mm – 150 mm; above which reinforcement should be used. MASTERFLOW 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 waterproof rapidly.

Uses

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

Advantages

- 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 properties

Mix Density	: 2.40 gm/cc
Volume solids	: 100 %
Pot life	: 70 Minutes at 25°C
	: 35 Minutes at 40°C
Compressive strength	: 45 MPa at 1 Day
(BS 6319, part 2)	: 70 MPa at 3 Days
	: 80 MPa at 7 Days
Flexural Strength (BS 6319, part 3)	: 20 MPa at 7 Days
Tensile Strength (BS 6319, part 7)	: 10 MPa at 7 Days
Adhesive bond strength to concrete	: > 1.5 MPa
(ASTM D4541)	(concrete failure)

Specification Clause

The low-exothermic, impermeable epoxy mortar shall be MASTERFLOW 410 PC T, filler-extended, high strength, flowable. The mortar shall exhibit high early strengths by exceeding compressive strength of 45 MPa at 1 day and 80 MPa at 7 days. The formulation shall be free of VOC and designed for application of up to 150mm thick layer in single pour with out any cracking due to exothermic reaction.

Directions for use

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 MORTAR IS PLACED.

All metal components to be in contact with MASTERFLOW 410 PC T must be mechanically abraded to a bright white metal finish for maximum adhesion.

Do not apply MASTERFLOW 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.

Forming

Protect the host concrete from rain or moisture. Water will tend to prevent good bond and inhibit cure.

MASTERFLOW 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 polyethylene will ensure clean release.

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 over mix as this may entrain air.

Placing

Place immediately after mixing, into the prepared area in such a manner that it has the shortest distance to flow. For long pours a suitable head pressure may be required. Ensure that the area to be grouted is not completely sealed, and displaced air can be expelled. Use steel trowel to level and finish.

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

Where placement exceeds depths of 150mm, application should be carried out in layers or shall be reinforced. Allow for 6 to 8 hours before placement of successive layer.

Equipment care

Clean all equipment promptly with CLEANING SOLVENT NO. 2. Any excess cured material will have to be mechanically removed.

Packaging

MASTERFLOW 410 PC T is supplied in 20 kg pack which shall yield 8.3 litres of volume per pack

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.

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