

MasterEmaco[®] T 288

Rapid setting high strength micro concrete for trafficable surfaces.

DESCRIPTION

MasterEmaco T 288 when mixed with water is a fast setting pourable micro concrete for rapid repairs to concrete roadways.

MasterEmaco T 288 is suitable for thick section repairs.

RECOMMENDED USES

MasterEmaco T 288 is the ideal material for horizontal structural repairs where the thickness of repair is 35mm and 150mm and fast return to service is required. Typical applications are:

- Emergency reinstatement of local patches on roadways, airport aprons and runways, carparks and other trafficable areas where traffic disruption must be minimised
- Maintenance of civil structures, full depth floor repairs and horizontal load bearing areas
- Reinstatement of honeycombed or defective structural concrete

FEATURES AND BENEFITS

- **Rapid high early strength** – Rapid commissioning of the repaired areas and return to service in 4 hours
- **High final strength** – Strong and durable repairs in load situations
- **Pourable** – fast and easy to place
- **Chloride free** – does not add to chloride load of structure
- **Shrinkage compensated** - Volume stable in wet and hardened state reducing cracking tendency
- **One component, factory made only addition of water** - Uniform predictable performance even in remote situations

PERFORMANCE DATA

Compressive strength (ASTM C109 7cm cube)	20 MPa 2 Hours
	40 MPa 4 Hours
	50 MPa 1 Day
	55 MPa 3 Days
	60 MPa 28 Days
Flow (ASTM C230)	>200 at 1 minute
Bond to concrete	>1.5MPa (concrete failure)

PROPERTIES

Appearance	Grey powder
Density (wet)	Approx. 2.3 kg/L
Mixing water per 25kg bag	Approx. 2.75-3.0 litres
Working time	20 minutes
Setting time	40 minutes
Application temperature	
Substrate material	+5 to +40°C +5 to +30°C

APPLICATION

Surface preparation

Concrete must be fully cured with a minimum direct tensile strength of 1.5 MPa. All loose traces of concrete or mortar, dust, grease oil, etc. must be removed. Damaged or contaminated concrete shall be removed to obtain a keyed aggregate exposed surface. Non-impact/ vibrating cleaning methods, e.g. grit or high pressures water blasting are recommended. Cut the edges of the repair vertically to a minimum depth of 10 mm. Clean all exposed reinforcement to a minimum grade of Sa 2 according to ISO 8501-1 / ISO 2944-4. Ensure back of reinforcing bar is also clean. In case of chloride contamination of the concrete, or when depth of cover is less than 5 mm should the reinforcement be protected by using **MasterEmaco N103 Cl**.

Where reinforcing bars are corroded, cut back the concrete to at least 20mm behind the reinforcing bars. Grit blast around the reinforcing bars to remove corrosion products. Replace the affected part of reinforcing bar if the diameter after grit blasting is found reduced by more than 20% of the original diameter on the advice of the structural engineer responsible for the works.

Formwork

The forms must be of good quality, treated with a chemical release agent such as **MasterFinish** smooth release, provided with water drain holes, strong and well braced to withstand the fluid pressure of the mortar until it hardens. For best results in patches bigger than 500mm² the use of additional reinforcement is required. Ensure the reinforcement is correctly anchored to the base concrete and the top of the reinforcement is at least 25mm below the final surface of the repair.

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Mixing

Only full bags are mixed. Damaged or opened bags should not be used. Mix **MasterEmaco T 288** in a forced action pan mixer, or with a helical paddle attached to a low speed (300-600rpm) mixer for 3 minutes until a lump free, thixotropic consistency is achieved. Only use clean water. Mixing water needed: 2.75 to 3.0 litres per 25kg bag. Allow the mortar to rest for 2 - 3 minutes and then remix briefly before applying.

Priming Concrete

No special primer is required. To obtain extra strong bonding, the damp substrate can be primed with a slurry brush coat of **MasterEmaco T 288** (2 parts powder to 1 part water).

Mortar application

The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product. The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying **MasterEmaco T 288** ensure all water is removed from formwork prior to installation and formwork is resealed. **MasterEmaco T 288** should be poured into the prepared formwork until the void is filled. The use of a tremmie tube is recommended if the repair is deep and vertical.

Apply to the desired layer thickness and level using a screeding bar, trowel, or wooden board. Can be applied in thicker layers in smaller patches or where additional reinforcement is present. Smoothing with a trowel or finishing by float or sponge can be done as soon as the mortar has begun to stiffen.

Protective coatings

Subsequent coatings of **MasterProtect** anti-carbonation barriers or silane impregnations should be applied as recommend on the individual datasheets.

CURING

MasterEmaco T 288 should be cured with **MasterKure** 181 or clear polythene sheeting over wet hessian.

ESTIMATING DATA

Each bag of **MasterEmaco T 288** when mixed with 3.5L of water yields 12.8L.

PACKAGING

MasterEmaco T 288 is available in 25kg bags

SHELF LIFE

MasterEmaco T 288 has a shelf life of 6 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the Master Builders Solutions Material Safety Data Sheet (MSDS) from our office or our website.

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