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# MasterEmaco® S 488 PG (Formerly known as Emaco® S88)

## Structural Repair Mortar

### Description of Product

MasterEmaco® S 488 PG, is cement based one part, polymer modified, fibre reinforced, pourable, structural repair mortar.

- strength concrete elements
- Surface repair of the RC elements before polymer coating applications
- Repair of the tie-rod, test and cone holes

### EN 1504-3/R4


### Fields of Application

- Repair of the reinforced concrete elements
- Protection of the concrete against sulphate and chloride attacks
- Repair of the marine structures
- Repair of the underground structures
- Structural and non-structural repairs of high

### Features and Benefits

- Mixed with only water and can be poured into form easily
- Perfect bonding to the concrete and steel
- High strength
- Waterproof
- Resistant to freeze-thaw cycle
- Resistant to sulphate and chloride attacks
- Resistant to oils
- Shrinkage compensated

### Technical Data

Product Chemistry	Mineral Fillers, Fibre and Polymer Modified Cement	
Color	Grey	
Compressive Strength (20°C) TS EN 196		
1 day	> 20 N/mm <sup>2</sup>	
7 days	> 50 N/mm <sup>2</sup>	
28 days	> 60 N/mm <sup>2</sup>	
Flexural Strength (20°C) (28 days) TS EN 196	> 8 N/mm <sup>2</sup>	
Bonding Strength (to concrete) (28 days)	> 2 N/mm <sup>2</sup>	
Elasticity Modulus (28 days)	> 20.000 N/mm <sup>2</sup>	
Capillary Water Adsorption (TS EN 13057)	≤ 0.5 kg.m <sup>-2</sup> .saat <sup>-0.5</sup>	
Application Thickness	Min. 10 mm Max. 40 mm	
Application Temperature	+5°C - +30°C	
Service Temperature	-20°C - +400°C	
Pot Life (20°C)	30 minutes	
Fully Cured at 20°C	28 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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## Application Procedure

### Preparation of Substrat

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. The perimeters of repairs to concrete that involve concrete removal and subsequent materials replacement shall be saw cut perpendicular to the repair surface, corroded reinforcements should be cleaned and if needed replaced with new ones. The surfaces should be wetted before application. If there is a water leakage it must be drained or properly plugged.

### Placing Additional Reinforcement

If the application thickness exceeds 4 cm, additional reinforcement should be placed. The concrete cover should be 10 mm at minimum.

### Mixing

Add enough water into a clean mixing bucket by using a proper water gauge. Add the powder into the bucket slowly and continuously. Mix the fresh mortar with a proper electrical mixer (300-600 rpm) for 4 minutes until having a homogenous consistency. Let the mortar have rest for 4 minutes and re-mix for 30 seconds.

### Mixing Ratio

MasterEmaco® S 488 PG	1 kg Powder	25 kg Bag
Quantity	< 0.16 liter	< 4.00 liter
Mixed Density	~ 2.25 kg/liter	

## Application Method

**MasterEmaco® S 488 PG** should be poured in to the form from single opening and continuously. For preventing air gaps in the form, avoid from casting the mortar from multiple openings. Application thickness should be between 1-4 cm. For placing the mortar, a steel hook should be use. Do not use vibrator. Do not remove the forms before 24 hours. Open areas should be protected from the rain, wind, etc. aggressive whether conditions during the first 24-48 hours after finishing repair by using wet clothes, curing membranes etc.

### Coverage

19.40 kg/m<sup>2</sup> for obtaining 1cm thick layer

### Watch Points

- Repair mortar should be applied in 30 minutes in 20°C.
- Open areas should be protected from the rain, wind, etc. aggressive whether conditions during the first 24 hours after finishing repair.
- Cement based materials' pot life and curing times vary depending on the relative humidity, substrate and environment 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 environment temperature shouldn't be under allowed application temperature.
- Do not use **MasterEmaco® S 488 PG** in case of contacting to liquids with a PH under 5.5.
- Do not use as a screed or concrete topping in wide areas.
- Do not use vibrator for placing the mortar.



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## Cleaning of Tools

After the application all tools should be cleaned with water. **MasterEmaco® S 488 PG** can be cleaned with only mechanical abrasion after hardening.

## Packaging

25 kg bag

## Storage

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

## Shelf life

12 months under proper storage conditions after production date.


## Health and Safety Precautions

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Due to irritant effects of the non-cured material, avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

## Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is only responsible for

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11 1020 - CPD - 040 039921	
EN 1504-3 Structural and non-structural repair Class R4	
Principle 3: Concrete Restoration	3.1 Applying mortar by hand 3.2 Recasting with concrete
Principle 4: Structural Strengthening	4.4 Adding mortar or concrete
Principle 7: Preserving or Restoring Passivity	7.2 Replacing contaminated concrete
Compressive Strength	≥ 45 N/mm <sup>2</sup>
Chloride Ion Content	≤ 0,05%
Adhesive Bond	≥ 2,0 N/mm <sup>2</sup>
Restrained Shrinkage/Expansion	≥ 2,0 N/mm <sup>2</sup>
Carbonation Resistance	Passes
E-modulus In Compression	≥ 20 Gpa
Reaction To Fire	A1
Dangerous Substances	Complies with 5.4