

MasterEmaco T 2040

Polymer-based, fast-setting traffic repair mortar for 5 – 30 mm thickness, can be applied down to -25°C

Material Description

MasterEmaco T 2040 is a fast setting three-component, screedable patching mortar for floors utilizing natural aggregate and binder based on APS (advanced polymer system) technology. **MasterEmaco T 2040** consists of a hybrid polymer (Part A), 2 different activators (Part B) to be chosen by the planned application temperature range, and a reactive filler (Part C).

It offers excellent impact, abrasion and scratch resistance as well as a high resistance to chemical attack.

Areas of Application

MasterEmaco T 2040 is recommended for fast horizontal concrete repair in 5 to 30 mm thickness, e.g. for:

- Car parks, production halls, floors in food processing industries, spalled and worn areas on concrete slabs, cold stores (also for food stuff), etc.
- Concrete floors in commercial and industrial plants where a minimum shutdown time is desired, and floors must be back in service within a few hours.

Characteristics and Benefits

- Fast repair execution allows quick return to service.
- Plastic Pail of Part C can be used as mixing container
- No priming required.
- Excellent workability.
- No need for post curing treatment.
- Hardening at low temperatures down to -25°C.
- Minimum traffic shutdown even at very low temperatures.
- Fast early and final strength development (compressive strength > 30 N/mm² after only 3 hours at -25°C).
- High final compressive and flexural strength.
- Low modulus of elasticity (to absorb shocks, vibration and other mechanical stresses).
- Excellent abrasion and scratch resistance.
- High resistance to the most common chemicals (mineral acids, alcohol, etc.).
- Tolerant to damp.
- Excellent freeze/thaw resistance.

- Impermeable to water and chlorides.
- With official external certificate of compliance for the use in food storage areas.
- CE-Certified as synthetic resin screed class SR-B2,0-AR0,5-IR8 according to EN 13813.
- Reaction to fire class A2fl-s1.

Application

Surface Preparation

The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. The concrete surfaces should be chipped and if there is a water leakage, it must be drained or properly plugged. Mechanical surface profiling by grit or shot blasting, high-pressure water jetting, grinding or scabbling (including the necessary post-treatment) are the preferred floor preparation methods. In instances of repair the edges of the repair have to be square cut to a minimum of 5 mm to avoid feather edging. Surfaces should be dry. Use vacuum and/or oil free compressed air to remove free standing water. The concrete areas to be repaired should not be primed or sealed.

In applications which are subject to medium to severe mechanical loads and stresses e.g. in flooring and car park deck applications, the bond strength of the concrete should exceed > 2 N/mm² (check with an approved pull-off tester at a load rate of 100 N/s) after surface preparation.

Mixing

MasterEmaco T 2040 is supplied in working packs which are pre-packed in the correct ratio.

Mixing Ratio	Part A	Part B	Part C
A:B:C	2.4kg	0.4kg	22.5kg

The Part B version needs to be chosen according to the planned application temperature range:

- For 0 – +20°C: MasterEmaco T 2040 Part B (normal)
- For -25 – 0°C: MasterEmaco T 2040 RS Part B (fast).

Preferably store and mix the product at temperatures between +5 and +25 °C and transfer to the job site directly before application. As temperature drops under 0°C, the cure time will increase, and the material will stiffen and difficult to work in very cold conditions.



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Take out the bag of the pail of Part C and pour the content of Part A into the empty pail. Add Part C out of the bag while mixing with a mechanical drill and paddle at low speed for approx. 1 minute until a homogeneous, lump-free consistency is achieved.

Add Part B to the mix and remix for at least 2 minutes.

Application

After mixing, **MasterEmaco T 2040** is applied to the pre-pared, un-primed substrate by spreading with a trowel at the required thickness. The use of screed rails may be of assistance. Compact and form as required. **Note: Do not over-trowel!**

It is recommended to apply the whole area in one continuous operation. When **MasterEmaco T 2040** is applied exposed to direct sunshine, the surface should be completely finished immediately in one pass, avoiding the retouching of the finished surface. To reduce the tack free time at temperatures below 5°C, or to achieve anti-slip finish, the surface can be broadcast with fine sand (0.1 – 0.3 mm), when bulk curing has taken place. The excess sand should be removed after 15 minutes. After application, the material should be protected from direct contact with water. Within this period, contact with water can cause surface tackiness.

Curing

MasterEmaco T 2040 should be allowed to cure for at least 4 – 6 hours during which it should be protected from traffic and spillages. The curing time of the material is influenced by the ambient, material and substrate temperatures. At low temperatures, the chemical reactions are slowed down; this lengthens the pot life, open time and curing times. High temperatures speed up the chemical reactions thus the time frames mentioned above are shortened accordingly. To fully cure, the material, substrate and application temperature should not fall below the minimum.

Working Time

Approximately 20 minutes.

Coverage

Approx. 23 kg per m² at 10mm thickness.

Finishing & Cleaning

Tools and mixer can be cleaned immediately after use with water. Cured material can only be removed mechanically.

Packaging

Part A	2.4kg
Part B	0.4kg
Part C	22.5kg
Yield	10.5L

Storage & Shelf Life

Store at ambient temperatures (+5 – +25°C), out of direct sunlight, in cool, dry warehouse conditions and clear of the ground on pallets protected from rainfall prior to application. No permanent exposure to temperatures over +30°C. **MasterEmaco T 2040** has a shelf life of 6 months for Part A and 12 months for Parts B and C, if stored at above mentioned storage conditions.

Watchpoints

- Do not add any other substance that could affect the properties of the product.
- Do not apply at temperatures below -25 °C nor above +20 °C.
- The working time can be extended by storing the individual components in a cool place.
- The maximum installation depth of 30 mm must not be exceeded, even when **MasterEmaco T 2040** is mixed with quartz sand.
- For a higher layer thickness, a second application of **MasterEmaco T 2040** must be carried out within 2 hours or **MasterEmaco T 2800 PG** must be used (allows up to 100 mm layer thickness in one work step).
- No adhesion to galvanized sheet metal.

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Precautions

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

Product Data

Property	Standard	Data	Unit
Chemical base	-	Acrylate polymer	-
Colour	-	Grey	-
Layer thickness	-		
Minimum		5	mm
Maximum		30	
Fresh mortar density	-	approx. 2.3	g/cm ³
Working time at:	-		
+20°C/-25°C**		approx.. 20/20	min
+10°C/-10°C**		approx.. 30/10	
Application temperatures (ambient and substrate)		-25 to +20	°C
Compressive strength (+20°C/0°C**/-25 °C)	EN 196-1		
3 hours			
1 day		72/57/31	N/mm ²
7 days		79/70/33 82/80/41	
Flexural strength (+20°C/0°C**/-25°C)	EN 196-1		
3 hours			
1 day		17/18/13	N/mm ²
7 days		18/21/13 20/23/18	
Elasticity Modulus (+20°C/-25°C**)	EN 13412		
7 days		30/35	kN/mm ²
Adhesion to Concrete (20°C*)	EN 13892-8		
1 day		≥3.5	N/mm ²
Adhesion to steel (20°C*)	EN 12188		
1 day		≥6.0	N/mm ²
Thermal expansion coefficient	EN 1770		
7 days		32x10 ⁻⁶	1/K
Abrasion resistance	EN 13892-4	Class AR 0.5	-
Absorption of water	EN 1062-3	≤0.01	Kg/m ² H ^{-0.5}
Impact resistance	EN ISO 6272	≥ IR 8	Nm
Reaction to fire	EN 13501-1	Class A2 _{fr} -s1	

Note: * mixed with MasterEmaco T 2040 Part B (normal). Materials are stored at room temperature prior to application.

** mixed with MasterEmaco T 2040 RS Part B (fast). Materials are stored at 0 °C prior to application.

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Chemical Resistance

Media	Resistance
Hydrochloric acid (10%)	++
Sulphuric acid (10%)	++
Lactic acid (10%)	++
Unleaded petrol 98 Octane	++
Diesel	++
Kerosene	++
Glycol (100%)	++
Brake fluid	++
Engine oil (Turbo 400A 10W-40)	++
Xylene	++

Note: ++ Resistant for 21 days

Disclaimer

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STATEMENT OF RESPONSIBILITY

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