

EMACO[®] T545 (Emaco Set-45)

Rapid setting trafficable repair mortar

DESCRIPTION

Emaco T545 is a one component concrete repair and anchoring material which sets in 15 minutes and will accommodate rubber-tyre traffic 45 minutes after placement. This product bonds to both concrete and masonry and can be used indoors and outdoors for highway and heavy industrial repair jobs.

RECOMMENDED FOR

- Bridge deck and highway overlays
- Concrete pavement joint repairs
- Airport runway light installations
- Full depth structural repairs
- Expansion device nosings
- Anchoring iron or steel bridge and balcony railings
- Commercial freezer room repairs
- Loading dock repairs
- Parking deck and ramp repairs
- Heavy industrial repairs

FEATURES AND BENEFITS

- **Easy-to-use** – just add water
- **Wide temperature use range** – from below freezing to hot weather exposures
- **Strength**- rapid, high-early strength
- **Superior bonding** – no bonding agent is needed
- **Resistant**-to freeze/thaw cycles and deicing chemicals
- **Thermal expansion/contraction rate**- similar to Portland cement concrete
- **Virtually no drying shrinkage**
- **Curing**-only air-curing required

PERFORMANCE DATA

Typical Compressive Strengths – MPa
(Materials and curing times at specified temperatures)
AS2073 Part 10 (Modified)

	Emaco T545 Normal @ 2°C	Emaco T545 Normal @ 22°C
1 hour	-	20
1 day	10	40
28 days	48	48

Modulus of Elasticity (ASTM C469)	Emaco T545	7 days	28 days
		28.8 GPa	31.4 GPa
		33.8 GPa	36.2 GPa

Freeze/Thaw Durability Test[®] (ASTM C 666, Procedure A modified)	Normal Relative Dynamic Modulus greater than 80% after 300 cycles.
Sulfate Resistance (ASTM C 1012)	Length change after 52 weeks – 0.9%.
Typical Setting Times (Gilmore ASTM C 266 modified) 22°C	Initial – 10 to 15 minutes Final – 12 to 20 minutes.
Coefficient of Thermal Expansion[®] (CRD-C 39-81)	12.8 x 10 ⁻⁶ /°C.
Flexural Strength (ASTM C 78 modified) 75mm x 100mm x 406mm prisms at 1 day strength	Emaco T545 mortar – 3.8MPa Emaco T545 mortar with (10mm) pea gravel – 4.2MPa Emaco T545 mortar with (10mm) crushed angular non-calcareous hard aggregate – 4.5MPa

^① Surface carbonation inhibits chemical bond. Apply an indicator to the prepared surface to determine if carbonation is present.

^② Special procedures must be followed when angular aggregate is used. Consult your local BASF Construction Chemicals technical representative for more information.

^③ Method states that test is discontinued when 300 cycles or an RDM of 60% is reached.

^④ Determined using 25mm x 25mm x 279mm bars. Test was run with neat mixes (no aggregate). Lower coefficient of thermal expansion results are obtained when extended mixes (with aggregate) are used.

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

PROPERTIES

Emaco T545 dries to the colour of Portland cement mortar.

ESTIMATING DATA

Note: WATER CONTENT IS CRITICAL.

A 20kg bag of **Emaco T545** concrete mixed with a maximum 1.4 litres of water produces a volume of approximately 0.01m³. A 60% extension (12kg/bag) using 14mm, rounded, sound aggregate produces a volume of approximately 0.014m³.



The Chemical Company

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APPLICATION

Substrate condition

Surface to be repaired should be sound and free from oils and grease and other contaminants. To obtain permanent type repairs the edge of the patch should be square cut and to a depth of not less than 10mm. Flush the area with clean water to remove all debris and dust^①.

Mixing Instructions

Use neat material for patches less than 25mm in depth or width. For deeper patches, 20kg bag **Emaco T545** concrete must be extended by adding up to 12kg of properly graded, dust-free, hard, rounded aggregate^②. (Do not use calcareous aggregate made from soft limestone. Test aggregate for fizzing with 10% HCl. If fizzing occurs, aggregate is unsuitable for use with **Emaco T545**). Mix for approximately 1 to 1½ minutes and place. **Emaco T545 Normal** will not freeze at temperatures above -7°C.

Note: Consult the product bag for detailed preparation and application information.

For information about application, please obtain a copy of the BASF "Application Guide for Emaco T545" from your local representative.

CURING

Emaco T545 should air dry for proper cure. Liquid membrane curing compounds or plastic sheeting may be used to give the surface early protection from rain, but **never** wet cure **Emaco T545**.

CLEANING

Tools should be cleaned with water before material hardens.

PACKAGING

Emaco T545 is packaged in 20kg moisture resistant bags.

SHELF LIFE

Emaco T545 can be stored in tightly sealed original bags for 12 months if kept dry and at moderate temperature.

PRECAUTIONS

- Do not add sand, fine aggregate or Portland cement to **Emaco T545** concrete.
- Do not use **Emaco T545** for patches less than 13mm deep. WATER CONTENT IS CRITICAL. Do not deviate from the recommended water content printed on the bag.
- When mixing or placing **Emaco T545** in a closed area, provide adequate ventilation.
- Do not use **Emaco T545** as a precision, nonshrink grout.
- Never featheredge. For best results, always sawcut the edges of a patch.
- Moisture loss during the first three hours after placement must be avoided. Protect **Emaco T545** with plastic sheeting or curing compound in the event of rapid evaporation conditions. Do NOT wet cure.
- Do not place **Emaco T545** on a hot (32°C) dry substrate.
- When used in contact with galvanised steel or aluminum, consult your local BASF Construction Chemicals technical representative.

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 BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use. **BASF Construction Chemicals data sheets are updated on a regular basis and it is the user's responsibility to obtain the most recent issue.**

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.

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