



The Chemical Company

# EMACO<sup>®</sup> S66 T

## Shrinkage compensated, free flowing precision concrete

### Description

EMACO<sup>®</sup> S66 T is a high strength precision concrete, requiring only the on-site addition of water to provide a free flowing concrete ideally suited for placing in nominal thicknesses of 40mm and above.

When mixed, applied and cured in accordance with the manufacturers instructions, EMACO<sup>®</sup> S66 T produces a free flowing precision concrete free from segregation and bleeding.

### Primary uses

Whenever a material is required to reconstruct heavily congested areas and areas with difficult access.

EMACO<sup>®</sup> S66 T is the ideal material for vertical or horizontal structural repairs wherever the use of formwork is preferable to hand or machine applied repair systems.

Its high early and ultimate strength enables formwork to be stripped at an early age thus minimising delays.

Due to its rheoplastic nature, EMACO<sup>®</sup> S66 T can be utilised as a grout and poured under a head of pressure. EMACO<sup>®</sup> S66 T should not be used where the depth of voids to be filled is less than 20mm.

Used as the capping medium in conjunction with MASTERFLEX 610 in the BASF pile head waterproofing system. For further details of this system, please contact your BASF representative.

### Typical applications

General repair and renovation of decayed, defective or damaged concrete such as:

- Columns
- Walls
- Beams
- Honeycombed concrete
- Floors

### Composition

EMACO<sup>®</sup> S66 T is a pre-packaged blend of Portland cement, carefully graded natural aggregate, specially selected sands, fillers, shrinkage control agents and fluidifiers. When mixed with the stated amount of water it produces a free flowing, cohesive, precision concrete that hardens to produce a dense, durable surface.

### Advantages

- Guaranteed performance - material is precision blended in the factory to ensure consistent results.
- Durable - utilisation of low water cement ratio ensures minimum permeability and high durability.
- Free flowing - eliminates honeycombing in areas of congested reinforcement.
- Self compacting - ensures complete filling of spalled/damaged areas.
- Shrinkage compensated - unique formulation provides dual expansion system in plastic and hardened states.
- Easy to use - simple on site addition of water.

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## Typical properties

Properties listed are only for guidance and are not a guarantee of performance

Wet density:	approx. 2300 kg/m <sup>3</sup>
Compressive strength at 25°C	>25 N/mm <sup>2</sup> at 1 day >35 N/mm <sup>2</sup> at 3 days
BS 1881 Part 116:	>45 N/mm <sup>2</sup> at 7 days >65 N/mm <sup>2</sup> at 28 days
Tensile strength	>3N/mm <sup>2</sup> at 28 days
BS 1881 Part 117:	
Resistivity :	5000-10000Ωcm
Water penetration	Better than low
BS EN 12390 : Part 8	permeability concrete

## Packaging

EMACO<sup>®</sup> S66 T is supplied in 25kg bags.

## Method of use

EMACO<sup>®</sup> S66 T is a versatile repair and renovation mortar. Surface preparation, method of use etc. are dependent on the job in hand. Detailed below are general guidelines for the use of EMACO<sup>®</sup> S66 T. For full specification details and advice on specific repairs contact your local representative.

## Application procedure

### Preparation:

It is essential that the surface of the concrete to be repaired is sound, clean and uncontaminated. Corrosion must be removed from steel reinforcement before application of EMACO<sup>®</sup> S66 T. In certain instances where there is a significant loss of section, the steel may have to be replaced. Defective areas should have a 20mm deep saw cut made around the perimeter. Cut back all defective concrete to a sound base. Feather edging must be avoided.

Care should be taken to ensure formwork is water tight and constructed in line with normal concreting practice. The use of formwork tape is recommended in order to eliminate grout loss. The unrestrained surface of the repair should be kept to a minimum and care should be taken to ensure at least 20mm cover to reinforcement. Soaking prior to placement is essential and provision should be made for drainage outlets. Where EMACO<sup>®</sup> S66 T is to be poured ensure access is available and a head of pressure can be maintained.

### Priming:

Prime reinforcing steel with 2 coats of CONCRETSIVE ZR.

Areas to be repaired should be soaked with water for several hours prior to application of EMACO<sup>®</sup> S66 T to minimise local absorption and to assist in the free flow of the concrete. Before placing ensure concrete surfaces are damp but free of standing water and seal drainage outlets. Ensure formwork is secure to prevent movement during placing and curing.

Providing the substrate has been thoroughly soaked priming is not normally necessary.

The use of CONCRETSIVE 1414, epoxy bonding agent is recommended where high soluble salts are present in the parent concrete. CONCRETSIVE 1414 epoxy bonding agent is recommended as it prevents migration to the repair of deleterious salts such as chlorides or sulphates as well as bonding new concrete to old.

When CONCRETSIVE 1414 is used, pre-soaking is not necessary, but care should be taken to ensure formwork is erected and EMACO<sup>®</sup> S66 T placed



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within open time of CONCRETSIVE 1414 (generally within 8 hours) at 25°C.

## Mixing:

Since EMACO<sup>®</sup> S66 T is a precision concrete it is important that care is exercised in mixing and placing. It is essential that a mechanically powered mixer is used or suitable drill and paddle. The specified amount of water to obtain the desired consistency can be varied according to site conditions but should not exceed 3.5 litres per 25kg bag.

Under no circumstances should EMACO<sup>®</sup> S66 T be re-tempered by the later addition of water. Damp down the inside of the mixer with water prior to mixing the initial batch of EMACO<sup>®</sup> S66 T. Ensure the mixer is damp but free of standing water. Add the pre-measured quantity of water. Slowly add the EMACO<sup>®</sup> S66 T powder mixing continuously. Mix for 3 to 5 minutes until a smooth, uniform, homogenous mix is achieved.

## Placing:

EMACO<sup>®</sup> S66 T should be placed in a single continuous operation. Poured material should be introduced slowly to prevent entrapment of air. It is essential to place the mixed material within 30 minutes of batching.

## Curing:

As with all cementitious material curing is of vital importance to ensure that optimum properties are obtained.

## Subsequent surface finishes:

It is recommended that products from the MASTERSEAL range of protective finishes be applied. Where it is necessary for aesthetic reasons to blend the repair into the background the use of MASTERSEAL 550 is recommended.

**Note:** In addition to shrinkage compensation, this product has been designed to develop tensile strength sufficient to withstand the internal stress generated by volume change to reduce the incidence of drying shrinkage cracking.

## Cleaning

Treat as concrete. Clean all tools with water immediately after use. Hardened material can be removed using mechanical means.

## Coverage

Yield approximately 12.5 litres per 25kg.

## Storage

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Shelf life is 1 year when stored as above.

## Safety precautions

As with other products containing Portland cement, the cementitious material in EMACO<sup>®</sup> S66 T grout may cause irritation. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Call a physician. In case of contact with skin, wash skin thoroughly.



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## Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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### BASF Construction Chemicals UAE LLC

P.O. Box 37127, Dubai, UAE

Tel: +971 4 8090800

www.basf-cc.ae

Fax: +971 4 8851002

e-mail: marketingcc.mideast@basf.com



Certificate No.  
963680



Certificate No.  
945787



Certificate No.  
772556