

METZ 10EN

EPOXY NOVOLAC CONCRETE



DESCRIPTION:

Metz 10EN is a 100% solids epoxy novolac resin based polymer concrete, designed to replace chemically attacked concrete in many applications. It can also be applied on top of, or instead of new concrete in areas subject to severe chemical and mechanical stress. Metz 10EN can also be used as an underlayment and to re-establish falls in floors, and can be overcoated with resin-based toppings if required. Metz 10EN is applied at thicknesses of 15 mm and above.

FEATURES AND BENEFITS:

- **Outstanding Chemical Resistance**
Resistant to a wide range of concentrated acids and alkalis, solvents, oils and fats. Resistant to spillages of concentrated sulphuric, hydrochloric and phosphoric acids. Refer Metz Chemical Resistance Chart.
- **Excellent Adhesion**
Tenacious bond to correctly prepared concrete surfaces.
- **Solventless**
100% solids system.
- **Speed of Installation**
Avoids need for application of protective coatings. Fast curing minimised downtime.
- **Cures under Adverse Conditions**
Cures at temperatures down to 4°C, and high relative humidity.
- **High Strength**
Capable of withstanding heavy mechanical stress.
- **Easy to use**
Can be laid by casting conventional hand trowel or power trowel methods.
- **Quality Accreditation**
The management system governing the development and manufacture of this product is proudly ISO9001:2008 certified.

RECOMMENDED:

As a corrosion resistant castable for construction of

- Plinths
- Pits
- Columns
- Drains
- Pump Bases
- Kerbs and Walls
- Ramps

As a thick monolithic topping or underlayment to protect or repair concrete in areas exposed to chemical and mechanical attack in:

- Acid plants
- Metal plants
- Chemical plants
- Chemical and Petrochemical plants
- Mine sites
- Water treatment and sewerage plant infrastructure

NOT RECOMMENDED:

- For exposure to some strong organic acids and solvents. Refer Metz 93PU-TG and Metz Chemical Resistance Chart.
- For thicknesses below 15 mm. Refer Metz 33EN-TG.

PHYSICAL PROPERTIES: (Typical Values)

Density g/cm ³	2.25 - 2.35
Compressive Strength, MPa	>100
Adhesion to concrete (ASTM C1583)	>1.5MPa (concrete failure)
Flexural Strength, MPa	20
Maximum Service Temperature	150°C
Coefficient of thermal expansion, per °C	35 x 10 ⁻⁶

COVERAGE:

Theoretical quantities (allow for wastage)

Primer: Metz Epoxy Primer	0.21kg per sq. metre at 0.2 mm thickness
Topping: Metz 10 Epoxy Concrete	2.3kg per sq. metre per mm of thickness

APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 4 to 40°C on air and substrate and components during mixing, application and curing. At temperatures below 4°C, the application becomes more difficult and curing is retarded.

At temperatures above 40°C, the working time decreases.

Note: Material should be kept as cool as possible. Reducing material temperature will increase pot life.



Acid Protection • Industrial Flooring • Specialty Ceramic Tiling

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INSTRUCTIONS FOR USE

1. Temperature of Working Area

For optimum results, maintain a temperature of 4 - 40°C on air and substrate and components during application and curing. At temperatures below 4°C, the application becomes more difficult and curing is retarded. At temperatures above 40°C, the working time decreases. Application in direct sunlight and rising surface temperatures may result in blistering of the coating due to expansion of entrapped air or moisture in the substrate.

2. Reinforcement

When casting Metz 10EN reinforcement similar to that which would be used in a Portland Cement concrete casting the same size and shape can be used.

3. Surface Preparation

All surfaces must be clean and free from oil, grease, water and other contaminants which may inhibit bond. For best results, surfaces should be dry. Concrete on grade should utilise a waterproof barrier beneath the slab.

New Concrete

New concrete should have attained a compressive strength of 20 MPa minimum. Surface must be free from laitance, form oils and curing compounds. The surface should have a fine wood floated or lightly broomed finish and be 28 days old.

Old Concrete

Concrete must be sound. Remove laitance, old paints, protective coatings and attacked or deteriorated concrete chemically clean surface to remove any contaminants. Abrasive blast or high-pressure water blast to remove laitance and provide a uniform, textured surface. All structural cracks should be repaired. All surfaces must be vacuumed to remove any loose deposits and contamination.

4. Mixing

i) Mixing Equipment

Use a clean and dry, standard concrete mixer for Metz 10EN.

ii) Mixing Proportions

(a) Metz Epoxy Primer (MEP)	By Weight	By Volume
Liquid L1 Neutral	1.85	1.6
MEP Hardener	1	1

(b) Metz 10EN		
Liquid L2	2	1.40 litres
10EN Hardener	1	0.76 litres
P4 Powder	24	20 kg (1 bag)

Note: The liquid to hardener ratios must not be altered under any circumstances.

The powder proportion can be adjusted to suit. The addition of extra powder may result in a more porous surface.

iii) Mixing Procedure

Remix liquids prior to use.

For Metz Epoxy Primer, mix liquid and hardener together thoroughly for 1 - 2 minutes.

For Metz 10EN, mix liquid and hardener together thoroughly for 1 - 2 minutes. Add powder gradually with constant stirring.

Mix for 3 to 5 minutes. At end of the mixing period, all material should be wetted out and uniform in colour and consistency. Material which has begun to set must be discarded. Do not add any solvent, additive or adulterant to any component, or to the mixed material.

iv) Pot Life

Metz Epoxy Primer	Metz 10EN
at 20°C 70 minutes	at 20°C 30 minutes
at 30°C 40 minutes	at 30°C 20 minutes
at 40°C 30 minutes	at 40°C 15 minutes

Note: Increase in temperature will decrease pot life, as will leaving mixed material in a large mass.

v) Clean Up - Mixing equipment, tools, etc., can be cleaned with Metz Cleaner, xylene, acetone or M.E.K. prior to initial set of cement.

Note: Ensure you have the latest mixing instructions, refer www.metz.net.au for most current data sheet version.

5. Installation

i) Metz Epoxy Primer - Apply to concrete using short nap adhesive roller or nylon bristle brush. Metz 10EN can be placed immediately after application of the primer, and must be placed whilst the primer is still tacky. If the primer has hardened, consult Metz. Do not apply Metz 10EN.

ii) Metz 10EN - Material should be placed immediately after mixing. Do not let mixed material remain in mixing vessel. spread Metz 10EN to desired thickness (minimum 15 mm). Use power trowel or hand trowel to compact and finish surface. Finishing must be completed within the pot life of the material. If Metz 10EN Concrete is being used as an underlayment, finish to a textured surface (do not over-trowel).

6. Setting/Curing

Setting Time	Full Cure
at 20°C 6 hours	at 20°C 3 days
at 30°C 4 hours	at 30°C 2 days
at 40°C 3 hours	at 40°C 2 days

If used under a resin-based topping, apply topping within 24 hours. If this time is exceeded, consult Metz.

Do not allow water, chemicals or traffic on the material surface for a minimum of 24 hours. For harsh chemical or physical environments, cure a minimum of 72 hours at 20°C prior to exposure.

7. Storage

Store in original containers in cool dry place. Under these conditions minimum shelf life is 12 months.

8. Safety Precautions

Liquid and Hardener

Use chemical goggles, PVC gloves and barrier cream. Avoid contact with skin and eyes.

Powder

Avoid breathing dust. Ensure adequate ventilation.

For full safety precautions refer to Safety Data Sheets for all components.

Always ensure you have the latest data sheet version, refer www.metz.net.au

- The customer must comply strictly with the instructions contained in this product data sheet. Metz is not responsible for any advice or variations to this data sheet which are not confirmed in writing.
- If the customer has a claim against Metz in respect of any product supplied to the customer by Metz whether due to a fault in the product or the negligence or breach of contract by Metz or for any other reason:
 - Metz shall not be liable for any loss of damage including consequential loss or damage or loss of profits arising thereby;
 - Metz may at its option replace the defective product free of charge to the customer or refund all payments made to it by the buyer in respect of the defective product; and the maximum liability of Metz shall be the cost of replacing the defective product.

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