

# METZ 10

## EPOXY CONCRETE



### DESCRIPTION:

Metz 10 is a 100% solids epoxy resin based polymer concrete, designed to replace chemically attacked concrete in many applications. It can also be applied to new concrete surfaces in areas subject to severe chemical and mechanical stress.

Metz 10 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 10 is applied at thicknesses of 15 mm and above.

### FEATURES AND BENEFITS:

- **Chemical Resistance**  
Excellent resistance to a wide range of acids, alkalis, solvents, oils and fats. Refer Metz Chemical Resistance Chart under Metz 33.
- **Excellent Adhesion**  
Tenacious bond to correctly prepared concrete surfaces.
- **Solventless**  
100% solids system.
- **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 conventional trowel or power trowel methods.

### RECOMMENDED:

As a monolithic topping or as an underlayment beneath resin-based toppings to protect or repair concrete in areas of chemical and mechanical attack in:

- Chemical and Petrochemical plants
- Aluminium production plants
- Food processing plants
- Steel plants

### NOT RECOMMENDED:

- Areas subject to significant spillages of strong solvents or concentrated organic or oxidising acids,
- Refer Metz 93PU or Metz 33-TG Epoxy Novolac.
- For thicknesses below 15 mm. Refer Metz 33-TG.

### PHYSICAL PROPERTIES: (Typical Values)

Density g/cm <sup>3</sup>	2.25 - 2.35
Compressive Strength, MPa	>100
Adhesion to concrete (ASTM C1583)	>1.5MPa (concrete failure)
Flexural Strength, MPa	58
Coefficient of thermal expansion, per °C	35 x 10 <sup>-6</sup>

### COVERAGE:

Theoretical quantities (allow for wastage)

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

### APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 4 to 30°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 30°C, the working time decreases.



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### INSTRUCTIONS FOR USE

#### 1. Temperature of Working Area

For optimum results, maintain a temperature of 4 - 30°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 30°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. Surface Preparation

All surfaces must be clean and free from oil, grease, water and other contaminants which may inhibit bond. Remove all standing water. 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 prepared surfaces must be allowed to dry prior to coating application. All surfaces must be vacuumed to remove any loose deposits and contamination.

#### 3. Mixing

##### i) *Mixing Equipment*

Use a standard concrete mixer. Ensure mixer is clean and dry.

##### ii) *Mixing Proportions*

(a) Metz Epoxy Primer	By Weight	By Volume
Liquid	1.85	1.6
Hardener	1	1
(b) Metz 10		
Liquid L1	2	1.79 litres
Hardener	1	0.95 litres
Powder	20	20 kg
Aggregate	20	20 kg

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

The powder and aggregate 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 10, mix liquid and hardener together thoroughly for 1 - 2 minutes. Add powder gradually with constant stirring, then add aggregate slowly.

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 at 20°C*

Metz Epoxy Primer 70 minutes

Metz 10 30 minutes

Note: Increase in temperature will decrease pot life, as will leaving mixed material in a large mass. Spread out material in a thin layer as soon as possible after mixing.

##### 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](http://www.metz.net.au) for most current data sheet version.

#### 4. Installation

i) Metz Epoxy Primer - Apply to concrete using short nap adhesive roller or nylon bristle brush. Metz 10 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 10.

ii) Metz 10 - Material should be placed immediately after mixing. Do not let mixed material remain in mixing vessel. Spread Metz 10 to desired thickness (minimum 15 mm). Use power trowel or hand trowel to compact and finish surface. Finishing must be completed within 30 minutes of mixing at 20 °C. If Metz 10 Concrete is being used as an underlayment, finish to a textured surface (do not over-trowel).

#### 5. Setting/Curing

Initial set, at 20°C: 12 hours

Full cure, at 20°C: 7 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.

#### 6. 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 Material Safety Data Sheets for all components.

**Always ensure you have the latest data sheet version, refer [www.metz.net.au](http://www.metz.net.au)**

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