METZ 33EN-TG
CORROSION RESISTANT EPOXY NOVOLAC TOPPING

DESCRIPTION:

Metz 33EN-TG Epoxy Novolac is a 100% solids trowel applied monolithic topping, based on special resins and hardeners which impart outstanding chemical resistance, especially against concentrated inorganic acids.
It also cures rapidly even at low temperatures, thus minimising downtime. Use Metz 33EN-VG Epoxy Novolac for coves and vertical surfaces.

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.
- High Temperature Resistance
- High bond, tensile and compressive strengths
- Solventless
  100% solids formulation.
- Rapid Cure
  Fast setting, minimises downtime.
- Low Temperature Cure
  Cures at temperatures down to 0°C
- Can be laid by 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 monolithic topping to protect concrete against chemical and mechanical attack in:

- Secondary containment linings
- Acid plants
- Oil refineries
- Steel Mills
- Food processing plants
- Meat and Poultry plants
- C.I.P. rooms in food & beverage plants
- Water treatment & sewerage plant infrastructure

NOT RECOMMENDED:

- For exposure to some strong organic acids and solvents. Refer Metz 93PU-TG and Metz Chemical Resistance Chart.

PHYSICAL PROPERTIES: (Typical Values)

Density:	2.0 - 2.2 g/cm^3
Compressive Strength:	100 MPa
Adhesion to concrete (ASTM C1583):	>1.5MPa (concrete failure)
Flexural Strength:	35 MPa
Maximum Service Temperature, per °C:	150
Coefficient of Thermal Expansion, per °C:	40 x 10^{-6}
Colour:	Colour changes may occur upon ageing, exposure to U.V. light or strong chemicals

COVERAGE: Theoretical quantities (allow for wastage)

Metz Epoxy Primer	0.21 kgs per sq metre at 0.2mm thickness
Metz 33EN-TG Epoxy Novolac	12.6 kgs per sq metre at 6mm thickness
Metz 33EN-Sealer (if required)	0.25 kgs per sq metre (depending on surface finish)

APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 5°C to 40°C on air and substrate and components during mixing, application and curing.
Note: Materials should be kept as cool as possible. Reducing material temperature will increase pot life.

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INSTRUCTIONS FOR USE

1. Temperature of Working Area
For optimum results, maintain a temperature of 5°C to 40°C on air and substrate and components during application and curing. At temperatures below 5°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. Note: At ambient temperatures below 15°C, the liquid should be warmed to 20-25 °C prior to use.

2. Surface Preparation
All surfaces must be clean, dry 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.

(i) 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. Abrasive blast or high-pressure water blast to remove laitance and provide a uniform, textured surface. Surface moisture content should be less than 10%.

(ii) 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 and all slopes reestablished with approved repair material (e.g Metz 10 or Metz 10EN Epoxy Concretes).
All prepared surfaces must be vacuumed to remove any loose deposits and contamination.

(iii) Edge Detail - Where ever an exposed edge of the material occurs, (e.g. in doorways) an anchoring groove at least 9mm deep should be cut in the substrate. Consult Metz for full details.

3. Mixing

a) Mixing Equipment
Mechanical mixing is required. A special resinous cements mixer or mortar mixer is suitable.
Smaller quantities can be mixed using a heavy duty slow speed drill with a suitable paddle. Consult Metz for details.

b) Mixing Proportions

Metz Epoxy Primer (MEP)	By Weight	By Volume
L1 Neutral Liquid	1.85	1.6
MEP Hardener	1	1
Metz 33EN-TG		
L2 Liquid	2	2.2 litres
33EN Hardener	1	1.2 litres
33-TG Powder	15	20kg (1 bag)

Note: The liquid to hardener ratios must not be altered under any circumstances
The powder proportion can be altered by up to 10% to suit conditions. The addition of extra powder may result in a more porous surface.

c) Mixing Procedure
Remix liquids prior to use.
For Metz Epoxy Primer: Mix liquid and hardener together thoroughly for 1-2 minutes.
For Metz 33EN-TG: Mix liquid and hardener together thoroughly for 1 - 2 minutes. Add powder gradually with constant stirring. Mix for 3 - 5 minutes. At the 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.

d) Pot Life

Metz Epoxy Primer	Metz 33EN-TG
at 20°C 70 minutes	at 20°C 40 minutes
at 30°C 40 minutes	at 30°C 30 minutes
at 40°C 30 minutes	at 40°C 20 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.

e) Clean Up
Mixing equipment, tools, etc., can be cleaned with Metz Cleaner, xylene, acetone or MEK 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.

4. Installation

(i) Metz Epoxy Primer
Apply to concrete using squeegee then back-roll with short nap roller. Metz 33EN-TG Epoxy Novolac can be placed immediately after the 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 33EN-TG Epoxy Novolac topping.

(ii) Metz 33EN-TG
Material should be placed immediately after mixing. Do not let the mixed material remain in mixing vessel. Spread Metz 33EN-TG with screedbox, screed or by hand to desired thickness (nominally 6mm). Use steel float to compact and finish surface. Finishing must be completed within the pot life of the material. Consult Metz for screedbox and power trowel directions.
For added protection it is possible to topcoat with Metz33EN-Sealer - refer data sheet for details.

5. 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

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

7. 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

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