METZ 33EN-SL

SLIP RESISTANT EPOXY NOVOLAC TOPPING

DESCRIPTION:

METZ 33EN-SL Epoxy Novolac is a 100% solids pour and spead 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 ambient temperatures, thus minimising downtime. Metz 33EN-SL with broadcast aggregate provides a textured, slip resistant surface. Metz 33EN-SL is applied to a nominal thickness of 3 mm. If using the broadcast system, the final thickness is 4-5mm.

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, nitric and phosphoric acids.
- **Range of Surface Profiles**
  If required, broadcast system provides a highly slip resistant surface. Without broadcast provides a smooth, easy to clean surface
- **High Temperature Resistance**
  Resistant to temperatures up to 150°C
- **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
- **Ease of Application**
  Flowable consistency enables quick, easy application.

RECOMMENDED:

As a monolithic topping to protect concrete against chemical and mechanical attack in:

- Secondary containment linings
- Acid plants
- Fertiliser plants
- Oil refineries
- Steel Mills
- C.I.P. rooms in food and beverage plants
- Food processing plants
- Meat and Poultry plants

NOT RECOMMENDED:

- For exposure to some organic acids and solvents. Refer Metz 93PU series.
- For areas where appearance is critical. Metz 33EN-SL is an industrial flooring product where corrosion resistance is of paramount importance. The cured surface may contain imperfections.

PHYSICAL PROPERTIES:

	(Typical Values)
Density:	1.9 - 2.1 g/cm^3
Compressive Strength:	100 MPa
Adhesion to concrete (ASTM C478):	concrete failure
Flexural Strength:	60 MPa
Coefficient of Thermal Expansion, per °C:	75 x 10^{-6}

COVERAGE: Theoretical quantities (allow for wastage)

METZ Epoxy Primer	0.21 kgs per sq metre at 0.2mm thickness
METZ 33EN-SL (Base Coat)	6 kgs per sq metre at 3mm thickness
Broadcast Aggregate (if required)	6kgs per sq metre
33EN Sealer (if required)	0.43 kgs per sq metre at 0.4mm thickness for standard 18/40 aggregate. Allow extra if coarser aggregate used.

APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 10ºC to 25ºC on air and substrate and components during mixing, application and curing.

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INSTRUCTIONS FOR USE

1.Temperature of Working Area:

For optimum results, maintain a temperature of 10°C to 25°C on air and substrate and components during application and curing.

At temperatures below 10°C, the application becomes more difficult and curing is retarded.

At temperatures above 25°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.

Abrasive blast, grind or high-pressure water blast to provide a uniform, textured surface. All surfaces must be vacuumed to remove any loose deposits and contamination.

New Concrete

New concrete should have attained a compressive strength of 20 MPa minimum and be at least 28 days old. Surface must be free from laitence, form oils and curing compounds. Surface moisture content should be less than 10%. Consult METZ for details of testing equipment.

Old Concrete

Concrete must be sound. Remove laitence, old paints, protective coatings and attacked or deteriorated concrete Chemically clean surface to remove any contaminants. All structural cracks should be repaired and all slopes re-established with approved repair material. All prepared surfaces must be allowed to dry prior to coating application.

Edge Detail

Whenever 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:

(i) Mixing Equipment

Mechanical mixing is recommended. A special resinous cement mixer or Festo mixer is suitable.

Smaller quantities can be mixed using a heavy duty drill with a suitable paddle. Consult METZ for details.

(ii) MIxing Proportions

METZ Epoxy Primer	By Weight	By Volume
Liquid	1.85	1.6
Hardener	1	1
METZ 33EN-SL Epoxy Novolac	By Weight	By Volume
Liquid	2	5.7 litres
Hardener	1	3.1 litres
Powder	6	20 kg (1 bag)
33-EN Sealer (if required)	By Weight	By Volume
Liquid	2	1.83
Hardener	1	1

Notes: **Sealer liquid and hardener are same as 33EN-SL Epoxy Novolac liquid and hardener.**
The liquid to hardener ratio must not be altered under any circumstances

(iii) Mixing Procedure

Remix liquids prior to use.

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

For Metz 33EN-SL Epoxy Novolak, mix liquid and hardener together thoroughly for 1-2 minutes. Add powder gradually with constant stirring. Mix for 3 to 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.

(iv) Pot Life at 20°C

Metz Epoxy Primer	70 minutes
Metz 33EN-SL Epoxy Novolac	40 minutes
Metz 33-EN sealer	15 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.

4.Installation:

(I) Metz Epoxy Primer

Apply to concrete using squeegee then back-roll with short nap roller Metz 33EN-SL Epoxy Novolak can be placed after the primer has become tacky. Primer should be left for no longer than 24 hours prior to applying 33EN-SL Epoxy Novolak.

(ii) Metz 33EN-SL Epoxy Novolac

Material should be placed immediately after mixing.

Do not let mixed material remain in mixing vessel.

Spread Metz 33EN-SL Epoxy Novolac with screed rake, screed or by hand to desired thickness (nominally 3 mm).

Use spiked roller to level and aid air removal.

Finishing must be completed within 30 minutes of mixing at 20°C

(iii) Broadcast & 33-EN Sealer (if required)

Within 30 minutes (at 20°C) of applying METZ 33-SL Epoxy Novolac, broadcast the aggregate onto the surface. Apply to refusal (approximately 6 kgs per sq. m.). Spread evenly. Do not allow to clump. Next day remove excess aggregate by vacuuming, then apply 33-EN Sealer by short nap roller. Ensure sealer covers all exposed aggregate.

5.Setting/Curing:

Initial set, at 20°C:	6 hours
Full cure, at 20°C:	3 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.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.

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