

# METZ 33EN-VG

## EPOXY NOVOLAC

### CORROSION RESISTANT EPOXY RENDER



#### DESCRIPTION:

Metz 33EN-VG Epoxy Novolac is a 100% solids trowel applied render, based on special resins and hardeners which impart outstanding chemical resistance, especially against concentrated inorganic acids. It can be used on vertical surfaces up to 8mm thick in one application. Metz 33EN-VG is applied at a thickness of 3 - 8 mm.

Metz 33EN-VG Epoxy Novolac also cures rapidly even at low temperatures, thus minimising downtime.

#### 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
- **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
- C.I.P. rooms in food and beverage plants
- Food processing plants
- Meat and Poultry plants
- Steel Mills
- Water treatment and sewerage plant infrastructure

#### NOT RECOMMENDED:

- For exposure to some solvents and concentrated organic acids. Refer Metz 93PU-VG and Metz Chemical Resistance Chart.
- For thickness above 8mm in one application.
- For heavy forklift traffic, use Metz 33EN-TG

#### PHYSICAL PROPERTIES:

	(Typical Values)
Density:	1.7 - 1.8 g/cm <sup>3</sup>
Compressive Strength:	100 MPa
Adhesion to concrete (ASTM C1583):	>1.5MPa (concrete failure)
Flexural Strength:	35 MPa
Maximum Service Temperature, per °C:	120
Coefficient of Thermal Expansion, per °C:	40 x 10 <sup>-6</sup>
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-VG Epoxy Novolac	5.3 kgs per sq metre at 3mm thickness
	14 kgs per sq metre at 8mm thickness

#### APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 5°C to 25°C on air and substrate and components during mixing, application and curing.

Note: At ambient temperatures below 15°C, the liquid should be warmed to 20-25°C prior to use.



**Your Acid Proofing & Industrial Flooring Specialist**

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#### INSTRUCTIONS FOR USE

##### 1. Temperature of Working Area

For optimum results, maintain a temperature of 5°C to 25°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 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. 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 behind.

###### (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. All prepared surfaces must be vacuumed to remove any loose deposits and contamination.

###### (iii) Edge Detail

Wherever a free edge occurs (e.g. at the top of a cove), consideration should be given to cutting an anchoring and sealing groove in the substrate. This groove should be at least 6mm deep. Consult Metz for full details.

##### 3. Mixing

###### a) Mixing Equipment

Mechanical mixing is recommended. A special resinous cements mixer or mortar mixer is suitable.

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

###### b) Mixing Proportions

	By Weight	By Volume
<b>Metz Epoxy Primer</b>		
Liquid	1.85	1.6
Hardener	1	1
<b>Metz 33EN-VG</b>		
Liquid L2	2	2.75 litres
33EN Hardener	1	1.5 litres
33-VG Powder	10	16kg (1 bag)

**Note: The liquid to hardener ratio must not be altered under any circumstances**

The powder proportion can be adjusted 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-VG Epoxy Novolac:

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 at 20°C

Metz Epoxy Primer	70 minutes
Metz 33EN-VG Epoxy Novolac	40 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](http://www.metz.net.au) for most current data sheet version.

##### 4. Installation

###### (i) Metz Epoxy Primer

Apply to concrete using short nap roller or brush. Metz 33EN-VG is best applied whilst the primer is tacky. It is possible to broadcast the Metz 33EN-VG aggregate into the still wet primer if application is to occur after the Metz Epoxy Primer has hardened provided all Metz 33EN-VG is then applied within 24 hours at 25°C.

###### (ii) Metz 33EN-VG Epoxy Novolac

Material should be placed immediately after mixing. Do not let the mixed material remain in mixing vessel. Spread Metz 33EN-VG Epoxy Novolac with a trowel to desired thickness (3-8 mm). Ensure surface is closed and compacted. Finishing must be completed within 40 minutes of mixing at 20°C. For added protection it is possible to immediately topcoat with Metz 33-EN Sealer - consult Metz for details.

<b>5. Setting/Curing:</b>	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. Storage

Store in original containers in cool dry place. Under these conditions minimum shelf 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 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)**

- 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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