

# METZ 94-VG

## POLYURETHANE RENDER



### DESCRIPTION:

Metz 94-VG is a 100% solids render based on polyurethane and concrete technologies, Metz 94-VG is used for coating vertical surfaces, forming coved skirtings, coating pits and hobs etc. Metz 94-VG is typically applied 3-6mm thick.

### FEATURES AND BENEFITS:

- **Chemical Resistance**  
Excellent resistance to a wide range of acids, alkalis, solvents, oils and fats. Refer Metz Chemical Resistance Chart.
- **Surface Preparation Tolerant**  
Can fill voids and irregularities in substrate without the need for prior patching.
- **Impact Resistance**  
Resilient. Absorbs impact and does not shatter easily like most epoxy and polyester systems.
- **Temperature Resistance**  
Withstands temperatures to 120°C. Can be steam-cleaned (use 6mm thick).
- **Non-tainting**  
Does not give off objectionable odours during application or curing. Components not dangerous for transport or storage.
- **Low Expansion Co-efficient**  
Co-efficient of thermal expansion much lower than other resin-based systems such as epoxies and polyesters. Its thermal co-efficient of expansion is much closer to that of Portland cement based concrete than those of epoxies and polyesters.
- **Quality Accreditation**  
The management system governing the development and manufacture of this product is proudly ISO9001:2015 certified.

### RECOMMENDED:

As a lining system for -

- Chemical plants
- Food processing plants
- Breweries and soft drink plants
- Pharmaceutical plants
- Confectionery plants
- Dairies and milk products processing

### PHYSICAL PROPERTIES:

	(Typical Values)
Density g/cm <sup>3</sup>	1.7 - 1.8
Compressive Strength, MPa	50
Adhesion to concrete (ASTM C1583)	>1.5MPa (concrete failure)
Maximum service temperature °C	120
Coefficient of thermal expansion, per °C	10 x 10 <sup>-6</sup>
Shrinkage	0.2%

**COVERAGE:** Theoretical quantities (allow for wastage and substrate irregularities).

Metz PU-Topcoat (as primer)	0.35kg per sq.metre at 250 micron wet film thickness (WFT)
Metz 94-VG	5.3kg per sq.metre at 3mm thickness
	10.5kg per sq.metre at 6mm thickness

Metz 94-VG is an industrial finish, not an architectural finish and therefore the cured surface may contain surface imperfections. Steam cleaning, exposure to strong chemicals and sunlight may cause changes to surface colour.



### INSTRUCTIONS FOR USE

#### 1. Temperature of Working Area

For optimum results, maintain a temperature of 10° - 30°C on air and substrate. Metz 94-VG components should be maintained at a temperature of 15° - 25°C.

At temperatures below 15°C, the application becomes more difficult and curing is retarded.

At temperatures above 30°C, the working time decreases.

Application in direct sunlight or rising surface temperature may result in blistering of the topping due to expansion of entrapped air or moisture in the substrate.

#### 2. Surface Preparation

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 and be at least 14 days old. Surface must be free from laitance, form oils and curing compounds. Abrasive blast or high-pressure water blast to remove laitance and provide uniform, textured surface. Surface moisture content should be less than 5%. Contact Metz for details of testing equipment.

##### (ii) Old Concrete

Concrete must be sound and dry. Remove laitance, old paints, protective coatings and attacked or deteriorated concrete.

All surfaces must be clean, dry and free from oil, grease, water and other contaminants which may inhibit bond.

Chemically clean surface to remove any contaminants. Abrasive blast or high-pressure water blast to remove laitance and provide uniform, textured surface.

All structural cracks should be repaired and all slopes established prior to topping. Consult Metz for details. All prepared surfaces must be allowed to dry prior to application of Metz 94-VG.

##### (iii) Edge Detail

Wherever an exposed edge of the material occurs an anchoring groove at least 6mm deep should be cut in the substrate. Consult Metz for full details.

#### 3. Mixing: Proper mixing is essential for a successful installation.

##### (i) Mixing Equipment

The correct mixing equipment is essential. The use of incorrect equipment can result in blistering of the coating. A forced action planetary mixer is required. Consult Metz for details. Use equipment and procedures that minimise the entrapment of air in the mix. A timer should be fitted to ensure consistent mixing times.

##### (ii) Mixing Proportions

	By Weight	By Volume
94 Liquid	1.0	1.25 litres
PU-H1 Hardener	1.18	1.2 litres
PU-VG Powder	8	10 kg (1 bag)

PU Accelerator can be added for fast cure.

Note: Powder can be adjusted  $\pm 5\%$  only to suit conditions.

##### (iii) Mixing Procedure - Ensure Metz 94-VG components are at a temperature of 15 - 25°C.

Mixing times and procedures are critical and must be carefully controlled. Mix the liquid and hardener together in **the correct proportions for 10 seconds only. Begin adding powder immediately**. Add powder gradually. Material must be thoroughly wetted out and uniform in consistency. In colder conditions a longer mixing time is required.

As a guide, mixing time after addition of powder should be 4 - 5 minutes at 15°C, 3 - 4 minutes at 20°C and 2½ - 3 minutes at 25°C. Do not mix for less than 2½ minutes.

Complete mixing is essential.

Any 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.

Do not use residual material from the sides or bottom of the mixing container.

##### (iv) Pot Life at 20°C: 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.

#### 4. Installation

**Use of Metz PU-Topcoat as a primer before installation will ease installation.** Metz 94-VG is best applied when the Metz PU-Topcoat is tacky (30min - 1hr depending upon weather conditions). Refer Metz PU-Topcoat TDS for more details.

Metz 94-VG should be placed immediately after mixing. Do not let mixed material remain in mixer.

Apply Metz 94-VG at 3-6mm thickness. For best results, apply and finish with steel trowel.

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

#### 5. Setting/Curing

Initial Set, at 20°C: 24 hours

Full Cure, at 20°C: 7 days

Do not allow water, chemicals or direct sunlight on the material surface for a minimum of 24 hours. For harsh chemical or physical environments, cure for a minimum of 72 hours prior to exposure. If temperature is below 20°C, a longer curing period will be required.

#### 6. Storage

Store materials between 5° and 30°C and protect from moisture.

If these conditions followed, shelf life is min 6 months for all items.

#### 7. Safety Precautions

Use chemical goggles, PVC gloves and barrier cream when handling components or mixed material. Avoid contact with skin and eyes.

Avoid breathing dust. Ensure adequate ventilation.

For full safety precautions refer to the 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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