METZ 16VE-TOPPING
VINYL ESTER LAMINATE

DESCRIPTION:

Metz 16VE-Topping is a glass fibre reinforced novolac based vinyl ester topping system. It is specially formulated to provide outstanding chemical resistance and the glass fibre reinforcement provides a composite with excellent physical properties. It is designed to be used as a stand alone topping system. The typical system is 4-5mm thick.

FEATURES AND BENEFITS:

- Outstanding Chemical Resistance
  Resistant to high concentrations (50%) of Nitric Acid, strong oxidizing agents solvents and bleaches. Refer to Metz Chemical Resistance Chart.
- Outstanding Physical Properties
  The composite structure provides improved resistance to cracking and other damage.
- Rapid Cure
  Fast setting, minimises downtime
- Cures under Adverse Conditions
  Cures at low temperatures and high humidity
- Excellent Adhesion
  Bonds to many substrates, including properly prepared concrete and mild steel.
- Quality Accreditation
  The management system governing the development and manufacture of this product is proudly ISO9001:2015 certified.

RECOMMENDED:

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

- Pulp & Paper Mills
- Acid Plants
- Oil refineries
- Fertiliser Plants
- Steel Mills
- C.I.P. rooms in food and beverage plants
- Solvent Extraction Processes

NOT RECOMMENDED:

For exposure to some strong inorganic acids and solvents. Refer Metz Chemical Resistant Chart.

PHYSICAL PROPERTIES: (Typical Values)

Density g/cm^3:	1.0 to 1.2
Adhesion to concrete (ASTM D7234):	>1.5MPa (Concrete failure)
Max. Continuous Service Temp.:	120°C

Note: For continuous temperatures over 80°C contact Metz re special primer required.

COVERAGE:

Theoretical quantities (allow for wastage)

Metz VE Primer:	0.2 to 0.3 kg/m^2 depending on absorption of substrate
Metz 16VE Plaster	8kg/m^2 for 2 x 2mm layers
Metz 16VE-Saturant	1.2kg/m^2 for layer of 450gsm chopped strand mat (CSM)

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METZ®

INSTRUCTIONS FOR USE

1. Temperature of Working Area
   For optimum results, maintain a temperature of 15 - 30°C on air, substrate and components during application and curing.
   At temperatures below 15°C the application becomes more difficult and curing is retarded.
   At temperatures above 30°C, initial set may take place too rapidly. This difficulty can be overcome by mixing in a cooler area or by cooling the components.
   Note: Materials should be kept as cool as possible.
2. Surface Preparation
   All surfaces must be clean and free from all contaminants which may inhibit bond. 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 form oils and curing compounds. The surface should be a fine wood float finish and be 28 days old. Light abrasive blast, high pressure waterblast or grind to remove laitance and provide uniform textured surface. Surface moisture content should be less than 10%.
   ii) Old Concrete - Concrete must be sound. Remove laitance, loose deposits, old paints, protective coatings and attacked or deteriorated concrete. Chemically clean surface to remove any contaminants. All structural cracks should be repaired, all slopes re-established and all voids filled. Smaller voids can be repaired with Metz 16VE-Plaster.
   iii) Metal - Abrasive blast to AS1627.4 Class 3 for immersion conditions and to Class 2 1/2 minimum for all other conditions, with a minimum blast profile of 50 microns. Check surfaces for soluble salt contamination.
3. Mixing
   Mix Liquid component with a slow speed drill for a minimum of 30 seconds and at least until all material is of consistent appearance.
   a) Mixing Equipment
   Mechanical mixing is recommended. A low speed mixer or a heavy duty drill with an appropriate mixing paddle are suitable. High speed mixers should not be used.
   b) Mixing Proportions

Metz VE Primer	
VE Primer Liquid	1 x 3.2kg
VE Primer Hardener	1 x premeasured pack
Metz 16VE Plaster	
16VE Liquid	2 x 4kg
16VE Hardener	2 x premeasured packs
P6 Powder	1 x 20kg bag
Metz 16VE Saturant	
16VE Liquid	1 x 4kg
16VE Hardener	1 x premeasured pack

   c) Mixing Procedure - Remix liquid for 2 minutes prior to use.
   For Metz VE Primer and Metz 16VE Saturant mix liquid and hardener together thoroughly for 3 minutes.
   For Metz 16VE Plaster mix liquid and hardener together thoroughly for 3 minutes. Add powder gradually with constant stirring. Mix for 3 to 5 minutes.
   At end of the mixing period material should be uniform in colour. 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 VE Primer	Metz 16VE-Plaster	Metz 16VE Saturant
30 minutes	30 minutes	30 minutes

   Note: Increase in temperature will decrease pot life, as will leaving mixed material in a large mass.
   e) Clean Up - Mixing equipment, tools etc can be cleaned with acetone or Metz Cleaner prior to initial set.
   Ensure you have the latest mixing instructions, refer www.metz.net.au for latest data sheet version.
4. Installation
   (i) Metz VE Primer - Apply to prepared surface, then back-roll with short nap roller. Ensure total area is covered and surface is completely sealed. Apply more primer if necessary to seal surface. Allow primer to dry, then inspect surface for voids. Fill any voids with Metz 16VE Plaster.
   (ii) Metz 16VE Plaster- Trowel apply over the primer to an even thickness of 2mm.
   (iii) Chopped Strand Mat (CSM) - Immediately apply 450gsm CSM to wet plaster and roll with consolidating roller to remove all wrinkles and bubbles. All CSM edges should be overlapped by 75mm.
   (iv) Metz 16VE Saturant - Immediately apply to CSM with brush or roller then use consolidating roller to ensure CSM is fully wetted out and all air removed. Add additional liquid using a brush as needed. Allow to set before proceeding with next step.
   (v) Metz 16VE Plaster - trowel apply over laminate to an even thickness of 2mm. Use paint roller to obtain required surface finish.
5. Setting/Curing:

	Setting Time	Full Cure
at 20°C	6 hours	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 ensure full cure occurs.
6. Storage
   16VE liquids and hardener should be stored at temperatures below 25°C and should be kept away from all sources of heat for maximum shelf life.
   Store in a cool, dry place out of direct sunlight. Under these conditions shelf life is 6 months minimum for unpromoted liquid and for hardener. Promoter shelf life is maximum 3 months. Promoted liquid have a reduced shelf life and should be used within 1 month. Liquid and hardener should be stored separately.
   Liquid is classed as DG Class 3- Flammable Liquid and hardener is classed as DG Class 5.2 –Organic Peroxide. All precautions associated with these classes should be observed.
7. Safety Precautions
   Liquid and Hardener - use Chemical goggles, PVC gloves and barrier cream. Avoid contact with skin and eyes.
   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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