METZ 16VE-LINING
VINYL ESTER LAMINATE

DESCRIPTION:

Metz 16VE-Lining is a glass fibre reinforced novolac based vinyl ester coating system. The saturant liquid contains glass flake to reduce permeability. 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 protective membrane behind acid tile and brick systems or as a standalone corrosive resistant coating. The typical system is 1-1.5mm thick, though multiple layers can be built up if required.

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. Winter and summer formulations available.
- 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 the membrane component of an acid brick or tile system or a standalone coating system used 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 Resistance 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 Saturant 1.5kg/m^2 for 1 layer of 450gsm chopped strand mat plus 1 layer of surface tissue. When using Metz 16VE-Lining as a standalone system, always finish with Metz 16VE-Topcoat. Refer to Metz 16VE-Topcoat TDS for more detail.

Contact Metz for other configurations.

Chopped strand mat and surface tissue to be ordered separately.

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METZ®

INSTRUCTIONS FOR USE

1. Temperature of Working Area

For optimum results, maintain a temperature of 15 - 30ºC on air, substrate and components during application and curing.
At temperatures below 15ºC the application becomes more difficult and curing is retarded.
At temperatures above 30ºC, 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 16VE-Lining is supplied as 3 parts as described below:
- Metz 16VE Liquid - the base resin
- Metz 16VE Promoter - pre measured pack added in full to the Metz 16VE Liquid to ready it for use.
- Metz 16VE Hardener - added accurately immediately before use in quantity required. There is a summer and winter pack size available.

c) Mixing Procedure - Liquid component must be promoted prior to its use. As standard Metz supplies unpromoted liquid to maximise shelf life. Add entire contents of promoter to liquid and slowly mix for minimum 3 minutes ensuring thorough mixing. RELABEL LIQUID AS HAVING BEEN PROMOTED .
Metz 16VE Liquid comes with a pre-measured container of hardener to suit the liquid pack size.
Mix liquid and hardener together thoroughly for 3 minutes. After promoted liquid is mixed with hardener it becomes the saturant.
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

		Summer	Winter
Metz VE Primer	at 20°C	60 minutes	30 minutes
Metz 16VE saturant	at 20°C	60 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.au for latest data sheet version.

4. Installation

(i) Metz VE Primer - Fill any voids with Metz 16VE Plaster prior to priming. 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.

(ii) Metz 16VE-Lining - Apply the mixed saturant to the substrate in a thick layer using a brush or paint roller. Embed Chopped Strand Mat (CSM) using a consolidating roller to ensure that the mat is fully wetted out and all air removed. Add additional saturant using a brush as required. All joints in CSM should be overlapping by 100mm minimum. Once the materials have set it should be lightly abraded to promote adhesion for subsequent layers or top coats and to remove any glass fibre protuberances.

For the final layer, we recommend using surface tissue to ensure a smooth finish. Apply the mixed saturant to the surface in a thick layer using a brush or paint roller. Embed Surface Tissue using a consolidating roller to ensure that the tissue is fully wetted out and all air pockets removed. Add additional saturant and spread to even thickness using a short nap roller as required. All joints in surface tissue should be overlapping by 50mm minimum.

If Metz 16VE-Lining is to be used as a standalone system, apply Metz 16-VE Topcoat as a seal coat. Do not use Metz 16VE-Topcoat if there is a plan to apply other material/products on top of Metz 16VE-Lining. Refer to Metz 16VE-Topcoat TDS for detail.

If Metz 16VE-Lining is to be used under tile/brick; broadcast some sands on the surface of the final layer before the material sets to act as a mechanical grip for the tile adhesive/mortar.
Refer to Metz for more detail.

Recoat times at 20ºC
Minimum: 2 hours Maximum: 6 hours

5. Setting/Curing:

Setting Time	Full Cure
at 20°C 6 hours	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 ensure full cure occurs.

6. Storage

Store under cover in sealed containers in dry conditions at temperatures 16VE liquid and hardener should be stored at temperatures below 20ºC 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 of 3 months. Promoted liquid has a reduced shelf life and should be used within 1 month.
Liquid and hardener should be stored separately. Promoter must be stored seperately.
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.au

1. 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.
2. 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:
   a) Metz shall not be liable for any loss or damage including consequential loss or damage or loss of profits arising thereby;
   b) 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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