

METZ 10VE

VINYL ESTER CONCRETE



DESCRIPTION:

METZ 10VE is a novolac vinyl ester resin based polymer castable concrete, designed to replace chemically attacked concrete in many applications. It can be applied on top of, or instead of new concrete surfaces in areas subject to severe chemical and mechanical stress.

METZ 10VE is applied at thicknesses of 15 mm and above.

FEATURES AND BENEFITS:

- **High Chemical Resistance**
Resistant to strong oxidizing agents, alkalis and bleaches. Refer Metz Chemical Resistance Chart.
- **High Temperature Resistance**
resistant to temperatures up to 125°C.
- **High, tensile and compressive strengths**
- **Speed of Installation**
Fast setting and can avoid the need for protective coatings

RECOMMENDED:

As a castable resinous concrete to repair or replace concrete in areas of chemical and mechanical attack in:

- Chemical and Petrochemical plants
- Pulp & Paper Plants
- Oil Refineries
- Acid plants

NOT RECOMMENDED:

- For exposure to strong solvents. Refer Metz Chemical Resistance Chart for alternative Metz materials.
- For long term immersion in concentrated oxidizing acids. Refer Metz Sauereisen 54SG and Metz 10EN.
- For thicknesses below 15 mm.

PHYSICAL PROPERTIES: (Typical Values)

Density g/cm ³	2.25 - 2.35
Compressive Strength, MPa	>100
Maximum Service Temperature °C	125
Shrinkage %	<0.3

COVERAGE:

Theoretical quantities (allow for wastage)

Topping: Metz 10VE 2.3 kg per sq. metre per mm of thickness

APPLICATION TEMPERATURE:

For optimum results, maintain a temperature of 4 to 30°C on air and substrate and components during mixing, application and curing. At temperatures below 4°C, the application becomes more difficult and curing is retarded. At temperatures above 30°C, the working time decreases.

Note: Material should be kept as cool as possible. Reducing material temperature will increase pot life.



CHEMICAL & CORROSION RESISTANT
MATERIALS OF CONSTRUCTION



METZ 10VE

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INSTRUCTIONS FOR USE

1. Temperature of Working Area

For optimum results, maintain a temperature of 4 - 30°C on air and substrate and components during application and curing.

At temperatures below 4°C, the application becomes more difficult and curing is retarded. At temperatures above 30°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. Reinforcement

When casting with Metz 10VE reinforcement similar to that which would be used in a Portland cement concrete casting the same size and shape should be used.

3. Surface Preparation

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

Concrete on grade should utilise a waterproof barrier beneath the slab.

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.

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. All prepared surfaces must be allowed to dry prior to coating application. All surfaces must be vacuumed to remove any loose deposits and contamination.

4. Mixing

i) *Mixing Equipment*

Use a standard concrete mixer. Ensure mixer is clean and dry.

ii) *Mixing Proportions*

Metz 10VE	By Weight	By Volume
Liquid	1	1
Powder	4	2.75

Note: The powder proportion can be adjusted slightly to suit conditions ($\pm 5\%$ only)

iii) *Mixing Procedure*

Add powder to liquid gradually with constant stirring. Mix for 3 to 5 minutes. At 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) <i>Pot Life</i>	
at 20°C	35 minutes
at 30°C	25 minutes
at 40°C	15 minutes

Note: Increase in temperature will decrease pot life, as will leaving mixed material in a large mass.

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.

5. Installation

Material should be placed immediately after mixing. Do not let mixed material remain in mixing vessel. Place Metz 10VE to desired thickness (minimum 15 mm). Finishing must be completed within 25 minutes of mixing at 20°C.

6. Setting/Curing

Initial set:	20°C	1 hour
	30°-40°C	30 minutes
Final set:	20°C	24 hours
	30°-40°C	12 hours
Full cure:	20°C	72 hours
	30°C	48 hours
	40°C	24 hours

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.

7. Safety Precautions

Liquid

Inflammable - avoid sparks

Use chemical goggles, PVC gloves and barrier cream. Avoid contact with skin and eyes. Ensure adequate ventilation.

Powder

Avoid breathing dust. Ensure adequate ventilation.

For full safety precautions refer to Material Safety Data Sheets for all components.

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