

# METZ 7KE

## HALOGEN FREE SILICATE CEMENT



### DESCRIPTION:

Metz 7KE is a 3-part halogen-free, potassium silicate based, acid resisting cement used in the laying of acid proof ceramic bricks or tiles for acid proof structures and linings.

### FEATURES AND BENEFITS:

- Excellent Acid Resistance  
Resistant to all acids in all concentrations except hydrofluoric, as well as most solvents, oils and greases. Unaffected by 98% sulphuric acid. Refer Metz Chemical Resistance Chart.
- Halogen Free  
No hydrofluoric acid formed on exposure to acid.
- High Service Temperature  
May be used for temperatures up to 1250°C.
- Controlled Setting Rate  
Setting rates can be adjusted to suit ambient temperatures during installation.

### RECOMMENDED:

As a bonding cement for acid brick and tile installations.

- Acid Tanks
- Pickling Lines
- Power Station Chimneys
- Waste Acid Collection Sumps
- Absorption and drying towers in sulphuric acid and nitric acid manufacturing plants.
- Sewage Treatment
- Industrial Chimneys
- Fertilizer Industry
- Floors and Drains in Acid Storage Areas

### NOT RECOMMENDED:

- Exposure to hydrofluoric acid or fluoride salts.
- Exposure to alkaline solutions of any kind (i.e. any solution in pH range of 7-14).
- Exposure to water (without prior acid treatment).

<b>PHYSICAL PROPERTIES:</b>	(Typical Values)
Temperature Limit:	1250°C
Density:	1.9 - 2.0 g/cm <sup>3</sup>
Compressive Strength (28 days):	30 MPa

### COVERAGE:

 Theoretical quantities (allow for wastage)

For fully bedding and jointing (nominal 3mm joint) Nori acid brick 220 x 105 x 75mm	0.3 kg per brick
For bonding bricks in independent brick wall	0.2 kg per brick
For fully bedding and jointing tiles 240 x 115 x 30mm (6mm joint)	15 kgs per sq. metre

### APPLICATION TEMPERATURE:

The recommended temperature range for application of Metz 7KE is 10°C to 30°C.  
At temperatures below 10°C, curing may be inhibited and final technical properties may be affected.  
At temperatures above 30°C consistency and setting rates may be affected.  
If necessary consult Metz.



Acid Proofing & Industrial Flooring • Specialty Ceramic Tiles



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### INSTRUCTIONS FOR USE

#### 1. Temperature of Working Area

Maintain a temperature of between 10°C and 30°C on the Metz 7KE components, brick and substrate during mixing and application. Air temperature in the area where the Metz 7KE is to be applied should also be between 10°C and 30°C. At temperatures below 10°C, Metz 7KE will not cure properly. Consult Metz if temperature cannot be maintained above 10°C.

At temperatures above 30°C initial set will take place too rapidly. This difficulty can be overcome by mixing in a cooler area, or by cooling the mixing equipment with ice water, and by cooling the Metz 7KE components.

#### 2. Surface Preparation

All surfaces to be clean and dry. Metz 7KE will not adhere adequately to concrete surfaces. These surfaces should first be coated with a membrane. The type of membrane will depend on physical and chemical conditions. Please consult Metz for recommendations.

Bricks and tiles should be dry.

#### 3. Mixing

##### a) Mixing Equipment

Mechanical mixing is recommended. A low speed mixer or a heavy duty drill with a suitable mixing paddle can be used. Small quantities can be mixed by hand, using a trowel or spatula.

##### b) Mixing Proportions

	By Weight	By Volume
Liquid	10.0	5.0
Hardener	1.0	0.75
Powder	30.0	1x20kg bag

Note:

(i) The powder proportion may be varied to suit requirements.

(ii) The hardener proportion may be adjusted to provide a convenient setting rate, within the following limits -

Maximum Hardener Content (cold weather)

	By Weight	By Volume
Liquid	10.0	5.0
Hardener	1.25	0.85

Minimum Hardener Content\* (hot weather)

	By Weight	By Volume
Liquid	10.0	5.0
Hardener	0.75	0.55

\* Under no circumstances can hardener content be less than this minimum

##### c) Mixing Procedure

Mix liquid and hardener together first. Add powder gradually with constant stirring.

##### d) Pot Life

30 minutes at 20°C with normal hardener proportion.

##### e) Clean Up

Use water to clean up uncured material.

To ensure you have the latest mixing instructions refer [www.metz.net.au](http://www.metz.net.au) for current data sheet version.

#### 4. Installation

Bricks or tiles should be buttered with Metz 7KE using a trowel and well beaten down. Joints should be kept to minimum width possible, usually 2 to 3mm. Ensure there are no voids.

Initial set at 20°C	2 hours
Final set at 20°C	24 hours
Full cure at 20°C	4 to 5 days

Times will vary dependent on average ambient temperature.

#### 5. Acidification of Set Joints

Protect joints from water, steam, chemicals and temperatures below 10°C until cement has achieved final set. After final set treat the joint surface with a solution of:

- 2 volumes water
- 1 volume commercial strength hydrochloric acid.

Acidification of the joint is intended to provide protection to the joint surface only, until the lining is placed into service. The joints must not be immersed in neutral or alkaline solutions.

#### 6. Storage

Store in original, sealed containers in a cool, dry place. Protect liquid from freezing.

Under these conditions, minimum shelf life is 6 months. Note: Hardener is flammable. Store as per relevant regulations.

#### 7. Safety Precautions

##### a) Liquid and Hardener:

Use chemical goggles, PVC gloves and barrier cream.

##### b) Powder:

Use dust respirator and chemical goggles.

For full safety precautions refer to the Material Safety Data Sheet for each component.

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 or 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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