



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.
- **Application to Metallic Surfaces**
Exhibits good adhesion to stainless steel and lead.
- **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).

PHYSICAL PROPERTIES:

(Typical Values)

Temperature Limit:	1250°C
Density:	1.9 - 2.0 g/cm ³
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.





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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 lowspeed 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	7
Hardener	1	1
Powder	30	22

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	7.0
Hardener	1.25	1.2

Minimum Hardener Content* (hot weather)

	By Weight	By Volume
Liquid	10.0	7.0
Hardener	0.75	0.6

*** 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.

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 3 to 4.5mm. 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

a) Liquid

Protect from freezing temperatures.

If stored for long periods, remix thoroughly before use.

b) Hardener

Flammable liquid. Store per relevant regulations.

c) Powder

Keep dry.

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.

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