

PRO-TEC-T-KOTE THERMAL-1-KOTE CEMENTS

TECHNICAL DATA SHEET

Finishing One Coats 1-MWP, 1-GP, SC-10
Super-1-Kote and Quick-1-Kote
Fine Finishing One Coats 1-GP/FF, 1-FW, 1-V

DESCRIPTION: Thermal-1-Kote cements are one coat application hydraulic setting refractory type insulating cements. These products are themally efficient and contain **no asbestos**. Each batch is tested to insure quality.

Thermal-1-Kote, one coat cements, dry to smooth, hard, white surfaces and can be painted with water base paint when dry if desired. These cements can be palmed to a smooth finish over valves and fittings. Application over High Temperature Cements improve the surface characteristics and serve as a protective coating over non-absorbing insulations. N.P.I. recommends these products in the repair and sealing of existing insulation and refractory installations that contain asbesos.

APPLICATION: Remove all rust, dirt, grease or paint from application surfaces. For thicknesses greater than 1/2", reinforce with galvanized hex netting, metal lath, etc. Apply only to full desired thickness at time of application. Proper barrier must be used on aluminum surface before applying one coat cements.

TEMPERATURE RANGE: Service to 1200°F. **Do Not** apply on **Hot** surfaces. Thermal-MW-Kote may be applied to hot surfaces.

SPECIFICATION: Conforms to ASTM C449-82 standards and FED SPEC SS-C-160 Type III GRF Finishing as amended. (See over for details of ASTM SPEC)

CORROSION RESISTANCE: Non-corrosive to ferrous metals. Meets acceptable analysis for MIL-I-24244B, Regulatory Guide N.R.C. 1.36 and ASTM C-795-77. Cost add on for testing.

MIXING: Mix with approximately equal weights of water to one coat product for troweling consistency. Let mixture gel for 10-15 minutes before final tempering for fitting or troweling use.

SET TIME: Maximum 2 hours. Batch should be used in less than 1 hour after mixing. Do not add water or cement to a mix after the 15 minutes gel time final tempering. Shelf life is approximately 6 months.

AVAILABILITY: Thermal-1-Kote cements are available in 10 and 12 board feet (dry coverage yield) per bag, bags. Packaged in multi wall poly lined bags, palletized and plastic wrapped.

WARNING: DUST PARTICLES OF THESE CEMENTS IN DRY FORM MAY BE HARMFUL TO YOUR HEALTH. WE RECOMMEND THE USE OF DUST RESPIRATORS.



Standard Specification for MINERAL FIBER HYDRAULIC-SETTING THERMAL INSULATING AND FINISHING CEMENT¹

This Standard is issued under the fixed designation C 449; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

Scope

1.1 This specification covers mineral fiber insulating and finishing cement, shipped in dry-mix form, including hydraulic-setting binder, which when mixed with water and applied in accordance with the manufacturer's directions affords a smooth surface as a final finish for heated surfaces between 100 and 1200°F (about 38 and 649°C). For specific applications, the actual temperature limit shall be agreed upon between the purchaser and the manufacturer.

NOTE 1—Precautionary measures should be taken with this material as with other hydraulic-setting mixtures. This material should be used within the period recommended by the manufacturer.

NOTE 2—The values stated in U.S. customary units are to be regarded as the standard.

Materials and Manufacture

4.1 Mineral fiber insulating and finishing cement shall be composed of mineral fiber and suitable fillers, premixed with a hydraulic-setting binder such that when mixed with clean, fresh water the cement will attain its initial set in approximately 2 to 4 h as usually applied.

4.2 The mineral fiber shall consist of rock, slag, or glass processed from a molten state into fibrous form.

Packaging

8.1 Unless otherwise agreed or specified between the purchaser and the manufacturer or supplier, mineral fiber hydraulic-setting thermal insulating and finishing cement shall be packaged in the manufacturer's standard commercial containers.

Test Methods

7.1 Determine the properties enumerated in this specification in accordance with the following methods:

7.1.1 *Water-Cement Ratio for Proper Trowelling Consistency*—For each lot of cement to be tested, determine the ratio by weight of water to be mixed with cement to obtain satisfactory trowelling consistency. For tests to determine compliance with this specification the water-cement ratio shall be that which gives a measured consistency of 20 to 30 % by Method A when determined 15 min after mixing with water in accordance with Methods C 405.

Physical Requirements

5.1 The cement shall conform to the physical requirements given in Table 1. Conformance shall be based on average results of tests on specimens first mixed with water according to the ratio for proper trowelling consistency, determined in accordance with Section 7.

TABLE 1 Physical Requirements

NOTE—Conformance to these physical requirements shall be based on the average of the results of tests on specimens first mixed with water according to the ratio for proper trowelling consistency, determined in accordance with Section 7.

Dry covering capacity, min, ft ² in. in thickness per 100 lb of dry cement (m ² , 1 cm in thickness per 100 kg of dry cement)	24 (12.5)
Volume change (shrinkage) upon drying, max, %	10.0
Compressive strength at 5 % deformation, min, psi (kN/m ²)	100 (689.5)
Linear shrinkage (length) after heat soaking at 1200° F (649°C), max, %	2.0
Thermal conductivity, max, Btu·in./h·ft ² ·°F (W/m·K):	
At mean temperature of 200°F (95°C)	1.1 (0.159)
At mean temperature of 400°F (200°C)	1.2 (0.173)
At mean temperature of 600°F (300°C)	1.4 (0.202)

The above are important excerpts of C-449-82 updated to 1982.