

CE-253
12/13 Supersedes 10/99

PENNCHEM[®] FN MORTAR

DESCRIPTION

PENNCHEM FN Mortar is a two component, chemical-resistant, resin-based mortar. The resin utilized in PENNCHEM FN is a unique and proprietary blend. It was developed by Corrosion Engineering to specifically address bleach plant corrosion needs of the pulp and paper industry. Supplied as a powder and resin, the components are field mixed to obtain a trowelable consistency for setting acid brick and glazed tile units, or for pointing of existing masonry construction. PENNCHEM FN Mortar is white in color. **Consult Corrosion Engineering specification [CES-358](#) for complete installation details.**

AREAS OF USE

The implementation of recent “cluster rule” regulations has required many pulp and paper mills to convert to a more oxidizing chemistry from the conventional chlorine historically utilized in the bleaching process. Additionally, many mills are now required to operate at higher temperatures in order to maintain throughput. The combination of a stronger oxidizer and higher operating conditions has created a more corrosive environment that is at or beyond the acceptable exposures for polyester, bisphenol vinyl ester, and novolac vinyl ester resin based mortars. PENNCHEM FN Mortar will provide better chemical resistance and longer life than existing mortars. PENNCHEM FN Mortar is ideally suited for applications that process, store, or contain strong oxidizers such as: chlorine dioxide generators, storage tanks, bleach towers, bleach stage washers, and spent acid collection tanks. PENNCHEM FN Mortar has excellent resistance to oxidizing bleach solutions, mineral acids, organic acids, alkaline solutions and some organic solvents.

OUTSTANDING FEATURES

- Excellent physical properties.
- Resistant to strong oxidizing agents at elevated temperatures.
- Resistant to chlorine dioxide and hydrogen peroxide.
- Easy to field mix and apply. Excellent handling and buttering properties.
- Rapid development of physical properties after installation.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	PENNCHEM FN Mortar
Color	White
Density (ASTM C138)	115 lbs per cubic foot
Working Time/ Initial Set Time:	50°F (10°C) 75-85 minutes / 80-90 minutes 70°F (21°C) 30-40 minutes / 35-45 minutes 90°F (23°C) 10-20 minutes / 15-25 minutes
Compressive strength (ASTM C579)	24 hours - >9,000 psi (62 MPa) 7 days - >11,000 psi (76 MPa) 21 days - >17,000 psi (117 MPa)
Tensile strength (ASTM C307)	>2,000 psi (13.8 MPa)
Bond strength to brick (ASTM C321)	>275 psi (1.9 MPa)
Water absorption (ASTM C413)	0.2%
Service temperature	203° F (95°C) in continuous 7gm/l ClO ₂ service with solution being refreshed daily. Note: Service temperatures may be as high as 250° F (121° C) in certain chemical services, and higher in dry gas conditions. Consult Corrosion Engineering for specific applications.

ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE

PRODUCT	CODE	PACKAGING	MIX RATIO*
PENNCHEM FN Resin	23793	45 lb pail	4.0 :1.0 (Powder:Resin) by weight.*
PENNCHEM Powder White	19523	60 lb bag	
PENNCHEM Mortar Initiator (for cold weather)	19524	32 fl. oz. btl	1 x 32 oz bottle is sufficient to add to 15 pails of PENNCHEM FN Resin

*NOTE: Mix ratios vary due to ambient air temperatures and the handling preferences of individual bricklayers. The above information is provided as a general guide only, and reflects a consistency for laying glazed ceramic tile units. For usage rates for specific masonry units, consult Corrosion Engineering estimating guide CES-145.

SAFETY PRECAUTIONS / DISCLAIMER

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and [material safety data sheets](#) before using. While all statements, technical information, and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user.



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