

**SELECTION & SPECIFICATION DATA**

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| Type | Vinyl ester tile grout |
| Description | Pennchem Tile Grout is a 2-component vinyl ester tile and paver floor grout. |
| Uses | Brick and tile flooring in: <ul style="list-style-type: none">• CIP areas in food processing facilities• Breweries and distilleries• Bottling plants• Meat and poultry processing plants• Pharmaceutical plants• Chemical process facilities |
| Features | <ul style="list-style-type: none">• Resists oxidizing chemicals, mineral and organic acids, some organic solvents• 2 component – resin and reactive powder• Easy to mix and apply• Rapid strength development• Cure accelerator available for low temperature installation conditions |
| Limitations | <ul style="list-style-type: none">• Not suitable for vertical wall tile applications.• Not water washable.• Use care in operating food plants to protect product from grout odor until it has fully cured.• Not for use beyond its chemical resistance or thermal capabilities. Consult Armor with specific questions. |

INSTALLATION GUIDANCE

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| Reference Specifications | CES-309 Installation of direct bond tile floors |
| Installation Conditions | Pennchem Tile Grout is formulated for ideal handling at 70°F (21°C). Materials and substrate should be acclimated to the air temperature prior to installation, and the air temperature should be between 50°F (10°C) and 90°F (32°C) during installation and cure. Add Pennchem Initiator for temperatures between 35°F (2°C) and 50°F (10°C). Bricks or tiles must be clean, dry and neutral pH. |
| Ratio | 1.0 resin: 2.4 powder by weight. Mix ratio may be varied slightly by adjusting filler loading to suit individual tile setter preferences. |
| Mixing | Pour measured quantity of resin into clean, dry mixing vessel. Add Pennchem Initiator to resin if using. Slowly add measured quantity of powder to resin and mix thoroughly. Mix until powder is thoroughly wetted and grout is creamy, free of lumps and trowelable. |
| Work Life | 55 minutes at 70°F (21°C) Work life is shorter at higher temperatures. A larger volume of mixed material will have a shorter work life than a smaller volume. |
| Cleanup | Methyl Ethyl Ketone (MEK) |

CURE TIME

| Brick or Tile Temperature | Initial Set | Remove Grout Residue | Full Cure |
|----------------------------------|--------------------|-----------------------------|------------------|
| 70°F (21°C) | 1 hour | 8 hours | 36 hours |

SAFETY

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| Safety | 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 safety data sheets before using. |
| Ventilation | Provide thorough air circulation during and after application until the material has cured when used in enclosed areas. |

**PACKAGING & ESTIMATING**

| Product | Code | Packaging |
|--------------------|-------|----------------------|
| Pennchem Resin | 26824 | 40 lb (18.1 kg) pail |
| Pennchem Powder | 26823 | 50 lb (22.7 kg) bag |
| Pennchem Initiator | 19524 | 32 oz bottle |

A 140 lb (1.35 ft³) unit of Pennchem Tile Grout consists of 1 x 40 lb (18.1 kg) pail of resin and 2 x 50 lb (22.7 kg) bags of powder.

For low temperature use or faster work life and set time, add 2.0 to 3.0 fl oz of Pennchem Initiator to a pail of Pennchem Resin before adding powder.

Theoretical Coverage

Consumption will vary based on tile size and joint width. Consult estimating guide CES-145 or Armor for assistance.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life of resin and powder is 6 months when stored in a dry area at 70°F (21°C). Warmer resin storage conditions will dramatically reduce shelf life. Store resin between 55°F (13°C) and 65°F (18°C) for maximum shelf life. Actual shelf life may vary with storage conditions.

If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance consult with Armor.

TYPICAL PHYSICAL PROPERTIES

| Property | Typical Value |
|----------------------------------|---|
| Color | White |
| Density, ASTM C138 | 104 lb/ft ³ (1,666 kg/m ³) |
| Compressive strength, ASTM C579 | >10,000 psi (69 MPa) |
| Modulus of elasticity, ASTM C580 | 0.96 x 10 ⁶ psi (6,620 MPa) |
| Linear shrinkage, ASTM C531 | 0.2% |
| Bond strength, ASTM C321 | Exceeds strength of concrete Exceeds strength of brick |
| Tensile strength, ASTM C307 | >1,500 psi (10.3 MPa) |
| Flexural strength, ASTM C453 | >3,000 psi (20.7 MPa) |
| Maximum service temperature | 225°F (107°C) |

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