



4034 PenMend

Description: Rapid Concrete Repair – Rapid Restore Cracks & Spalls

4034 PenMend is a very rapid set, high strength ultra-low viscosity concrete repair polymer. This two part polymer system is designed for rapidly rebuilding deeply spalled or damaged concrete surfaces, broken control joint walls and repairing cracks and spalls in concrete rapidly even in cold conditions. 4034 is an aromatic polymer but can also be supplied in an aliphatic version (*4038).

Heavy Loads In 10 to 15 Minutes:

4034 PenMend repairs are put back in service in minutes after the installation is made. The 4034 is intended for use in damaged concrete, from parking decks to warehouse/cold storage floor spalls. This product is especially useful in these areas where "Down- time" is limited and a facility must operate around the clock.

Unique Characteristics:

4034 is very low in viscosity allowing the product to deeply penetrate and "nano-lock" into the concrete better than epoxy. 4034 does not become brittle as epoxies do over time and 4034 sets very quickly allowing use in just minutes.

Below Zero:

The product is unique in that it can repair spalls of most any size at below zero temperatures.

Man Hours:

The 4034 is intended to be extremely fast setting, reducing working time, man hours and down-time. 4034 is ideal for damage repair to concrete surfaces that will be coated. The product can be ground smooth and become almost invisible when properly prepared and coated.

Theoretical yield #30 grit sand mixed with two parts sand to one mixed part product liquid.

Part A	Part B	Sand	Yield of sand/product	Cubic Inches
4 OZ	4 OZ	16 OZ	17.5 OZ	32
8 OZ	8 OZ	32 OZ	35 OZ	64
16 OZ	16 OZ	64 OZ	70 OZ	128
1/2 GAL	1/2 GAL	2 GAL	2.2 GAL	508
GAL 1	1 GAL	4 GAL	4.4 GAL	1016

One mixed gallon (A&B) of 4038 PenMend yields approximately 2.2 gallons of grout repair blended with 2 parts sand

Advantages

- SATISFIES OSHA FLOOR FACILITY SAFETY AND SURFACE CONDITIONS FOR FORK LIFT PERATORS.
- RAPID FLOOR REPAIRS REDUCE DROPPED FORK TRUCK LOADS
- SAVES BEARINGS AND WHEELS ON ELECTRIC PALLET JACKS AND COLD STORAGE ELECTRIC LIFTS.
- INCREASE PRODUCTIVITY BY PROVIDING SMOOTH OPERATING SURFACES AT ANY TEMPERATURE
- REDUCES FACILITY "DOWN-TIME" & MAINTENANCE MAN HOURS
- MEETS USDA REQUIREMENTS
- FUEL RESISTANT
- BACK-IN-SERVICE TIME 10-15 MINUTES
- NANO-LOCKS INTO CONCRETE, VERY LOW VISCOSITY
- PENETRATES FINE FRACTURES IN PAVEMENT
- HIGH STRENGTH & FAST SET

Use Areas

- ALL CONCRETE SPALL/DAMAGE REPAIR
- REBUILDING CONTROL JOINT WALLS, FLOOR REPAIR
- KNITTING CRACKED CONCRETE WITH REBAR
- SHALLOW SPALLS ON WAREHOUSE FLOORS & BRIDGE DECKS
- GRADE MATCHIN
- COLD STORAGE THRESHOLDS
- DECKS
- LOADING DOCKS

General Physical Characteristics

Solids	70%
Gel Time	2-5 min. @ 75F
Shelf Life	1 year
Hardness ASTM D2240	Shore D 70
Mix Ratio	1:1
Tack Free ASTM D2471	5-10 minutes
Tensile ASTM D412	4500 filled
Tear Strength ASTM 624-C	200 psi
Elongation ASTM D124	8%
Processing Temperature	70°F
Viscosity @ 25°C mixed	18-20 cps
VOC Content g/l	A, 2.5, B,4.5

Preparation:

Concrete must have a minimum 28 day cure prior to application. **Concrete Must Be Dry. Clean the concrete repair area surface and remove all unsound concrete, dust and debris. Prepare surface using a dry diamond blade or a twisted wire wheel for spalls. Cut perimeter of damage with dry diamond blade to form a key-way. Chase and open cracks to provide some depth to the crack to allow for quick traveling of the product deep into the crack.

Application Bulk:

Mix 4034 at a 1:1 ratio. Use a jiffy mixer or other multi blade mechanical mixer only. No paddle mixers. Mix part A and B mechanically at high speed for approximately 30 seconds. Use mixed product as a primer for the bottom of the repair.

Grout Repair: One part of mixed (A&B) product to two parts select sand, i.e., 1 pint of A + 1 pint of B added to 2 quarts of sand. Blend mixed product into sand quickly. Mix product and sand for another 30 seconds and immediately pour into the prepared and primed application area. Work into the repair area quickly. Screed to finished grade and allow to set, top surface with product as needed, broadcast additional sand as needed. Allow product to set and grind using a grinder fitted with a fine grit Zec wheel. Work in circular motion to grind/smooth to finished grade. Seal the surface using mixed product neat with no sand.

Preplace Method:

Use #30 Grit Sand placed into repair area. Add Mixed product into the placed sand. If the repair is deep work in lifts. As the product saturates the sand add more sand and product until finished grade is reached. Finish with a broadcast of sand slightly above grade. Grind as needed.

Injection:

Set ports over the crack to be injected. Seal over the ports and over the crack using ASTC's 830 vertical cap seal. Allow the Cap Seal 830 to set for about 30 to 40 minutes before injection. Use only ports that fit the static mixers as supplied with the duplex cartridges. Do not change static mixers or ports as the two items are designed to fit together. Place the end of the static mixer into the preplaced port. Slowly and evenly dispense the product using the duplex cartridge gun. Watch the product flow as the mixed product exits the static mixer and flows/travels into the repair area. Monitor the progress of the product as it moves up to the next port. When the product reaches the next port above the one being injected, remove the static mixer from the port, seal the port with the provided plug and move up to the next port and begin the operation again.

Set time is predicated on the temperature of the substrate. Typically the product will gel in 4 to 5 minutes at about 70 degrees F. The product will harden in 10 to 15 minutes and the ports can be removed.

Seal the blemish left by the port using the 830. Sand, sack or finish as needed prior to coating the surface. Exterior applications should be ground and allowed to set for one to 2 days prior to being coated.

Limitations:

Do not use on wet surfaces or expose part A to moisture. This product is moisture sensitive and should not be applied to wet surfaces. This product is not intended as a joint filler. If used as a joint filler thermal cycles may cause a crack along the sides of the joint. Reflective cracking may occur if such a fill is coated over showing a crack through a top coat. Product may bond damaged slabs together and may stop movement. Not intended for use where substrate movement is required. Store the duplex cartridge cases out of direct sunlight in a cool location, protect from heat and high environmental temperatures. The product will be considerably faster in warm or hot conditions and slower in cold conditions. Do not use product that is hot.

This product is for use by professional applicators only. Wear Protective Clothing and gloves as the product bonds very well to fabrics. Read MSDS before using this product. DOT/Flash Point – Non-flammable Liquid Classification, not regulated. Warranty: See ASTC Polymers, Inc. Warranty data sheet. (2-13) Product data sheets subject to change without notice. © 2010 ASTC Polymers, Inc.

