

3004 PenJoint Polyurea

Description

3004 PenJoint is a Fast Set Aromatic Polyurea formulated for use in interior Saw Cut Control Joints and minor concrete repair. The PenJoint 3004 is formulated to be UV resistant with very low color shift. 3004 gels in approximately 1.5 minutes.

This is a 1:1 ratio mix by volume polyurea system. This two part polyurea is 100% solids and designed to be self-leveling and machine dispensed. This product is not normally used for hand mix applications due to its set speed. (For a slower set system see PenJoint 3003)

3004 is used for rapid installations in control joints and other concrete structures where short down-time is important and the environmental temperatures limit the use of other polymer products. The product can be driven over in approximately 25 minutes after the product has been cut to finished grade.

Cold Temperature Applications: 3004 may be used in cold temperature applications below zero °F. Set times do slow some in cool temperatures but flexibility is maintained. 3004 exhibits excellent resistance to moisture, chemicals and abrasive conditions. 3004 provides “load transfer” across a standard saw cut control joint and helps reduce damage to the side wall joints.

Moisture Vapor Reduction:

The product is compatible with CMW used in joints to reduce moisture vapor pressure on joint products.

Cold Applications:

When using this product in below zero applications, keep the product and equipment warm, warm the product to 80°F TO 90°F before using.

Color:

Medium Gray, Portland Gray, Non-pigmented

Advantages

DOES NOT SHRINK
 VERY LOW COLOR CHANGE
 NOT SENSITIVE TO MOISTURE
 CUT OR SHEARED FLUSH IN ABOUT 25 MINUTES
 NON-FLAMMABLE
 1.5 MINUTE GEL TIME @ 77°F
 SELF-LEVELING, 100% SOLIDS, NO VOC, NO ODOR
 EXCELLENT ABRASION RESISTANCE
 HIGH IMPACT RESISTANCE, CHEMICAL RESISTANT
 MEETS USDA REQUIREMENTS
 COLD APPLICATIONS -20°F
 "DRIVE-OVER" IN 25 TO 30 MINUTES



Use Areas

CONTROL JOINTS – INTERIOR SLABS
 COLD STORAGE - FREEZER THRESHOLDS
 CRACKS & SPALLS, UTILITY CUTS
 CABLE RUNS & INDUCTIVE LOOPS

General Physical Characteristics

Solids		100%
Gel Time		1.5-+/- .5 min.
Shelf Life		1 year
Hardness	ASTM D2240 Shore A	85-92
Mix Ratio		1:1
Tack Free	ASTM D2471	2-3 min.
Tensile	ASTM D412	1850
Tear Strength, pli	ASTM 624-C	215 psi
Elongation	ASTM D124	300%
Movement	% Capability	12%+
Processing Temperature		70°F
Viscosity @ 25°C cps,		A 350, B 400
VOC Content		0gms/1 or 0.0 lbs/gal

Preparation:

Concrete must have a minimum 28 day cure prior to application. Use a dry diamond saw, saw/abrade both sides of the joint walls. Assure that the joint is properly abraded and cleaned to full depth, approximately 1.25 inches as a standard depth of fill. Remove any curing agent, form release materials, oils, wax, moisture or any material that may affect bonding. Clean, vacuum and wash to remove dust from the walls of the joint.

1:1 Ratio Machine Application:

Use an ASTC recommended 1:1 application machine or equal. Make sure the product is over 72°F before beginning the machine application. Warm the product in the containers as needed to pre-condition as required.

Cold Conditions:

Pre-condition the product to the 80F or above the day before it is to be used. Put the dispensing machine, generator and product on a cart. Cover the above units with a large box to allow the heat from the exhaust to keep the machine and product warm. For the machine: insulate the application hoses from the machine to the gun. Change static mixers about every 20 gallons or as needed if build-up occurs in the static mixer.

Static Mixer & Tip:

For best mixing results use the static mixer provided by ASTC or use ½" x 36 element static mixer only. Change static mixers every 20 gallons to avoid product build-up on mixing elements inside the static mixer.

****Do not use short static mixers.** Actual product mixing does not occur in the first few inches of all static mixers – it is important to note that the best mixing results are with a proper length static mixing unit.

Filling the joint from the bottom up reduces the potential for trapping air as the product as it is applied into the joint. Upon request ASTC can provides a copper tip for putting on the end of the static mixer. The end of the static mixer can be cut to a larger opening for more flow when using the coper tip. The copper tip can be opened wider to allow for greater product flow into the joint. Use tape to attach the copper tip to the end of the mixer.

Trim the over-pour from the joint area about 25 minutes after installation using a razor cutter. Filling from the bottom up (with the copper tip) will help reduce bubbles in the final product by allowing them to rise into the over-pour.

**For Cold Condition Application Cutting:**

There is no standard set time for the product in cold temperatures. Cold conditions/temperatures vary. Once the product is installed in the joint it must be monitored to determine the best time for surface shearing/cutting. Cutting too soon will leave a poor surface finish as the product may be gummy, while cutting too late could produce a chattered appearance over the surface of the cut product. Monitor the in-place product and do several test cuts then cut when it is ready. For extreme cold conditions a heat gun can be used to warm product prior to cutting.

Note on cutting: When the 3004 has set and is cut at the suggest time it should cut with less effort than if it is cut after an hour or more. Take care when cutting the product in joints that are wider than standard saw cut control joints, that is, when cutting a wide joint use a slicing action on the cutting rather than a straight on push. ** If a lot of down-ward pressure is exerted on the cutting tool on large joints the razor blade can flex down into the joint and produce a joint surface that is slightly below grade. This is why a slicing action can be helpful, cutting at the right time is suggested and if possible use a non-flexing blade.



Concrete Cure & Concrete Shrinkage:

Although standard engineering practices call for a minimum 28 day cure on concrete, a longer cure is advisable. Concrete will continue to shrink after the 28 day time frame. Less shrinkage begins to occur after 30 days but can continue depending on the environmental conditions. Filling joints at or before a 28 day cure can produce some evidence of concrete shrinkage that may be visible in the joint fill area. If possible, waiting past 30 days is preferable.

A shore hardness of Shore A 85 to 90 with an elongation of greater than 200% is the expected standard for control joints.

Temperature & Dehydration:

It is important to note that for the best allowable joint performance the temperature of the slab should be considered during the application. It is always important to have the building area, office, warehouse, industrial area or cold storage at its working temperature before filling the control joints. Filling the control joints in warm conditions then reducing the temperature via air condition will produce additional shrinkage to the slab and the joint area. This effect is dramatic for cold storage facilities.

- Always fill prepared joints in Cold Storage facilities when the slab is at the cold working temperature.

Limitations:

Although 3004 is not sensitive to moisture, however, bonding is best without water molecules in the way. Do not use on visibly wet surfaces or in joints where water is standing. Dry area before applying the product.

Do not expose part A to moisture. Store product containers out of direct sunlight and at room temperature on wood pallets. Do not store the product kits directly on the concrete. Protect from cold when using in the cold.

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. Product data sheets subject to change without notice. © 2016 ASTC Polymers, Inc .