



## 3004 PenJoint Polyurea

### Description

3004 PenJoint is a “Slow Set Aromatic Polyurea” designed for use in interior Control Joints and minor concrete repair. 3004 is a 5 to 8 minute quick set, flexible 1:1 by volume polyurea system. This two part polyurea is 100% solids and designed to be self-leveling, “hand mixed” or machine dispensed. 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 45 minutes after installation.

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 is used for installation areas that require a fast set, high strength flexible joint filler that provides “load transfer” across a standard saw cut control joint.

### 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:

Black, Medium Gray, Non-pigmented  
Note: Aromatic systems will shift color from exposure to UV. Dark color resists color change more than light colors. Aliphatic top coats are often used to provide stable color.

### Advantages

- MEETS USDA REQUIREMENTS
- RAPID APPLICATIONS & SET TIMES
- COLD APPLICATIONS -20°F
- "DRIVE-OVER" IN 30 TO 45 MINUTES
- NOT SENSITIVE TO MOISTURE
- NON-FLAMMABLE
- 5-8 MINUTE GEL TIME @ 77°F
- SELF-LEVELING
- 100% SOLIDS, NO VOC, NO ODOR
- EXCELLENT ABRASION RESISTANCE
- HIGH IMPACT RESISTANCE
- CHEMICAL RESISTANT

### Use Areas

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

### General Physical Characteristics

Solids		100%
Gel Time		3-5 min.
Shelf Life		1 year
Hardness	ASTM D2240 Shore A	85-90
Mix Ratio		1:1
Tack Free	ASTM D2471	>15 min.
Tensile	ASTM D412	1750
Tear Strength, pli	ASTM 624-C	180 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.

Wash-down is suggested for concrete surface that will be constantly surface-washed as part of the operation of the facility. An acetone joint side wall wash-down is suggested for best bonding after vacuuming. No Backer rod is used in control joints, only in construction joints to control depth. \*Areas of high moisture vapor may be pre-treated with CMW (see data sheet) to reduce moisture vapor pressure in the joint area.

#### **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:**

ASTC provides a copper tip for putting on the end of the static mixer. The end of the static mixer can be cut to open the end for more flow.

Use tape to attach the tip to the end of the mixer. The copper helps filling the joint from the bottom up reducing entrapped air into the product.



Make the application with a slight over-pour. Trim the over-pour from the joint area about 45 minutes after installation. Use a very sharp razor cutter to make the cut.

#### **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.



#### **Concrete Cure & 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 60 days and 90 days. Although a 60 day and 90 day cure waiting period may not be available to the applicator or owner, the longer the concrete cures the less shrinkage will occur. 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. A shore hardness of Shore A 85 to 90 with an elongation of greater than 200% is the excepted standard.

**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 via additional dehydration by the air conditioner and the cool of the slab. This effect is dramatic for cold storage facilities. The 3004 is used in cold storage and is applied at the facility's working temperature.

**Limitations:**

Do not use on wet surfaces or expose part A to moisture. Keep out of direct sunlight and store at room temperature on wood pallets. 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. (2-13) Product data sheets subject to change without notice. © 2010 ASTC Polymers, Inc .