



Joint Seal

Two-Component Elastomeric Sealant

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

Joint Seal is a 2-component elastomeric sealing polymer system designed to act as a crack filler primarily in concrete. This material provides exceptional adhesion characteristics and fast cure times. It is highly chemical resistant, insensitive to water, abrasion resistant and remains thermally stable in a range of -20°F (-29 C) to 250°F (125 C). It may be used under traditional floor coatings or any of our top-coating materials. Joint Seal is used in heavy traffic warehouse floors, refrigeration floors, chemical spill prone floors, pothole road repair or under ceramic tile floors. It meets FDA regulations for indirect food contact (CFR 21, Sec. 175-300).

Joint Seal Polyurea PHYSICAL PROPERTIES

		SEMI RIGID	SUPER FLEX
Tensile Strength	ASTM D412	2950 psi	1500 psi
Elongation	ASTM D412	350%	800%
Modulus	ASTM D412	1620	1400
Pensky-Marten Taber Abrasion	ASTM D4060	25	20.5
Hardness (Shore A)	ASTM D2240	95	85
Tear Strength (PLI)	ASTM D412	400	450
Salt Water Spray	ASTM B117	Pass 500 hours	Pass 500 hours
Seawater Immersion	ASTM D870	Pass 300 hours	Pass 300 hours
Flexibility	ASTM D1737	Pass 1/8" mandrel	Pass 1/8" mandrel
Gel Time	Minutes	<2	<5
Tack Free Time	Minutes	<5	<10
Open to Industrial Traffic	Minutes	<15	<30

Coverage Calculations:

Coverage Range = feet/gallon *Does not include overfilling

Depth (inches)	Joint Width (Inches)				
	1/8	1/4	1/2	3/4	1
1/8	1230	615	308	205	154
1/4	615	308	154	102	77
1/2	308	154	77	51	38
3/4	205	103	51	34	25
1	154	77	38	25	19
1 ½	205	51	25	17	12
2	77	38	19	12	9
3	52	25	12	8	6

ADHESION RESULTS

Typical Substrates per ASTM D-4541 Elcometer		
Concrete – No Primer	>400 psi	Cohesive failure; excellent bonding
Steel – Clean	>1000 psi	Cohesive failure; excellent bonding
Wood – Dry, Dust Free	>350 psi	Wood failure; excellent bonding

HEALTH AND SAFETY

Read the Safety Data Sheet (SDS) and container labels for detailed health and safety information. This product is intended for industrial use by properly trained professional applicators only.

TECHNICAL APPLICATION DATA

See Attachment.

WARRANTY

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TECHNICAL APPLICATION DATA

PREPARATION of substrate surface prior to the application of Joint Seal is important as durability is only as good as its adhesion. The surface temperature must be 5° above dew point and no condensation is present on the surface. Joint Seal requires the concretely surface be clean/dry and free from contamination. Normally, chipping or blasting is sufficient to obtain proper bonding. Mild detergent may be used to remove oils and dirt. Rinse thoroughly and blow dry. Surface application temperature may range from 20°F (-29 C) to 150°F (65 C). This product may be applied with cartridge gun, hand mixed or plural component liquid pumping equipment. Gel time range at 75°F (24 C) is 4 min. Apply Joint Seal in a heavy over-filling quantity, let cure for 30 minutes prior to shaving level with floor. Heated material is not required if ambient temperature is above 70°F (21 C). Store materials in dry environment. For long storage, displace air in drums with nitrogen. Always wear safety gear when applying isocyanate/polyol resin based systems.

RANDOM FRACTURES Remove all existing joint sealer and joint backer. Any moisture present in the joint should be eliminated prior to installation. Using a diamond blade saw, saw the joint vertically to 90° angles to a minimum depth of 1 inch. The joint should be widened slightly to ensure adhesion to freshly opened concrete. Care should be taken not to adversely affect adhesion by “burnishing” the sides of the joint with a grinder. After sawing or grinding, care should be taken that minimal amounts of dust and debris are left over in the joint. The joint should be vacuumed using a common “shop-vac” to remove as much dust and debris as possible. In some cases, closed cell joint backer can be used to prevent “sinkers” or continuously running material. It should be noted that the use of joint backer does not provide optimum joint protection. It may be necessary to stop “sinkers” by making several passes over the joint and allowing the material to cure in between passes. Joint Seal and Joint Seal Vertical should be placed in the joint full depth, overfilled, and allowed to cure for a minimum of ten minutes before shaving level with the concrete.

APPLICATION NOTES It is very important to maintain constant pressures while installing Joint Seal or Joint Seal Vertical with a plural component pump. A variation in pressures can result in loss of properties, poor color retention and bubbling. Hose heat is not required at ambient temperatures. Low temperatures may require the use of hose heat to improve flow ability.

REPAIRS AND MAINTENANCE Repairs to divots caused by unforeseeable abuse can be repaired very easily. The damaged area should be removed down to sound Joint Seal or Joint Seal Vertical and concrete. It may be necessary to remove Joint Seal and Joint Seal Vertical with a pocketknife or pneumatic saw and should include removal of all damaged materials to the fresh concrete. The damaged area should be squared to 90° and solvent wiped with acetone. Joint Seal or Joint Seal Vertical should be placed in the damaged area.

CLEAN-UP/DISPOSAL The uncured isocyanate and resin portions should be mixed with each other prior to disposal. This creates a non-hazardous cured product that may be disposed of without restriction. “Drip-free” containers should be disposed of in accordance with local, state/provincial, and federal laws.

LIMITATIONS Joint Seal and Joint Seal Vertical are aromatic polyureas. While the physical properties may not be affected, the elastomer could yellow and chalk with exposure to UV or Hg vapor light. It is highly recommended to use a dark color for any application requiring color stability. If color stability is mandatory, contact the manufacturer for recommendations. The chemical resistance chart should be consulted prior to any application. Joint Seal and Joint Seal Vertical were designed to protect the edges of concrete control and expansion joints. Joint Seal and Joint Seal Vertical will pull away from the joint edges if too much slab movement is encountered. This characteristic allows for easy replacement and to alert the property owners that movement is present.

ADDITIONAL RESULTS In certain cases, it may be recommended by the manufacturer to utilize a different formulation speed or hardness depending upon the specific needs of the application. The Joint Seal and Joint Seal Vertical series offers several different



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hardness readings from 85 (Shore A) to 95 (Shore A). The physical properties, gel times, and reaction times vary with the formulation.

SHELF LIFE AND STORAGE Six months in factory delivered unopened drums. Keep away from extreme heat, cold, and moisture. Maintain at a proper storage temperature of 60°F - 80°F. The components used in the Joint Seal and Joint Seal Vertical have been specially

formulated to withstand low temperature applications. The material can be stored at temperatures as low as 10° F with no gelation of the components. However, it is recommended to warm the material to a minimum of 60° F before application.

APPLICATION EQUIPMENT Joint Seal and Joint Seal Vertical may be applied using a plural component pump (1:1 or 2:1 by Volume), hand mixing, or by plural component cartridges. This proportioning unit must be capable of supplying the correct pressure and heat for the required hose length on a consistent basis. This characteristic is mandatory to apply this elastomer in a consistent, efficient manner. When hand mixing, care must be taken to mix and pour quickly as Joint Seal and Joint Seal Vertical are designed to gel quickly. For small jobs, Joint Seal and Joint Seal Vertical are available in cartridges.

NEW CONCRETE: INTERIOR CONTROL JOINTS/EXPANSION JOINTS – The concrete should be allowed to cure for a minimum of 60 to 90 days. Any moisture present in the joint should be eliminated prior to installation. Using a diamond blade saw, saw the joint vertically to 90 ° angles to a minimum depth of 1 inch. The joint should be widened slightly to ensure adhesion to freshly opened concrete. Care should be taken not to adversely affect adhesion by “burnishing” the sides of the joint with a grinder. After sawing or grinding, the joint should be vacuumed using a common “shop-vac” to remove as much dust and debris as possible. In some cases, closed cell joint backer can be used to prevent “sinkers” or continuously running material. It should be noted that the use of joint backer does not provide optimum joint protection. It may be necessary to stop “sinkers” by making several passes over the joint and allowing the material to cure in between passes. Joint Seal should be placed in the joint full depth, overfilled, and allowed to cure for a minimum of ten minutes before shaving level with the concrete.

AGED CONCRETE: INTERIOR CONTROL JOINTS/EXPANSION JOINTS – Remove all existing joint sealer and joint backer. Any moisture present in the joint should be eliminated prior to installation. Using a diamond blade saw, saw the joint vertically to 90 ° angles to a minimum depth of 1 inch. The joint should be widened slightly to ensure adhesion to freshly opened concrete. Care should be taken not to adversely affect adhesion by “burnishing” the sides of the joint with a grinder. After sawing or grinding, care should be taken that minimal amounts of dust and debris are left over in the joint. The joint should be vacuumed using a common “shop-vac” to remove as much dust and debris as possible. In some cases, closed cell joint backer can be used to prevent “sinkers” or continuously running material. It should be noted that the use of joint backer does not provide optimum joint protection. It may be necessary to stop “sinkers” by making several passes over the joint and allowing the material to cure in between passes. Joint Seal should be placed in the joint full depth, overfilled, and allowed to cure for a minimum of ten minutes before shaving level with the concrete.

SPALLS/BLOWOUTS Remove all existing materials from the spall or blowout. Any moisture present in the spall should be eliminated prior to installation. Using a diamond blade saw, saw the joint vertically to 90° angles to a minimum depth of 1 inch. The spall should be widened slightly to ensure adhesion to freshly opened concrete. Care should be taken not to adversely affect adhesion by “burnishing” the sides of the joint with a grinder. After sawing or grinding, remove residual dust and debris. Fill the spall/blowout with dry rock filler (i.e. dry pea gravel if required) to one inch of the surface. Fill the remaining void to surface level with Joint Seal or Joint Seal Vertical.



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CHEMICAL RESISTANCE CHART

21 Day Immersion Test ASTM D3912

Chemical Name	Results @ 25°C
Acetic Acid	R
Acetone	R
Ammonium Hydroxide (14%)	R
Brake Fluid	R
Brine-Saturated Water (310g/l)	R
Clorox (10%) Water	R
Diesel Fuel	R
Gasoline	R
Gasoline 5% MTBE	R
Gasoline 5% Methanol	R
Hydrochloric Acid (25%)	R
Hydrochloric Acid (10%)	R
Hydraulic Fluid	R
Isopropyl Alcohol	R
Lactic Acid	R
MEK	R
Methanol	R
Methylene Chloride	C
Mineral Spirits	R
Motor Oil	R
MTBE	C
Muriatic Acid (10%)	R
NaCl Water (10%)	R
Nitric Acid (20%)	RC
Phosphoric Acid (10%)	R
Phosphoric Acid (50%)	R
Potassium Hydroxide (10%)	R
Potassium Hydroxide (20%)	R. Dis
Skydrol	R
Sodium Hydroxide (25%)	R. Dis
Sodium Hypochlorite (10%)	R
Sodium Bicarbonate	R
Stearic Acid	R
Sugar Water	R
Sulfuric Acid (10%)	RC
Sulfuric Acid (30%)	NR
Toluene	R
Trisodium Phosphate	R
Vinegar Water (5%)	R
Water	R
Water (14 days @ 82°C)	R
Xylene	RC

72 Hour Spot Test Chemical Resistance Data

ChemSkin Silicone Polyurea (CSP)

Chemical	Rating
NHO ₃ 50%	8
HCL 37.5%	9
NaOH 50%	8
H ₂ SO ₄ 50%	8
HI 57%	8
H ₃ PO ₄ 50%	8
Brake Fluid	10
Anti-Freeze	10
Motor Oil	10

Rating Guidelines

0-1	75-100% Film Dissolved
1-2	50-75% Film Dissolved
2-3	25-50% Film Dissolved
3-4	1-25% Film Dissolved
4-5	Film damage severe, cracking, pinholes
5-6	Film moderate to heavy damage, swollen, dulled
6-7	Film moderately damaged, haze, residue
7-8	Film with slight or no damage, slight haze, residue
8-9	Film in very good condition
10	Film unchanged, excellent condition

*NOTES:

- All samples using 57% HI had purple iodine discoloration due to the nature of the acid in the air
- Samples were placed at room temperature for 72 hours after application of 1 ml of solvent on 16 mil film of product

CHART KEY

- R – Recommended (little or no visible damage)
- RC – Recommended Condition (swelling or discoloration)
- C- Conditional (cracking – wash down within 1 hour)
- NR – Not Recommended
- Dis. – Discoloration

