



SPECIALIZED INDUSTRIAL MATERIALS

Joint Fill

TDS

Joint Fill 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, UV stable, 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. JointSeal 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 Fill is formulated to use as a vertical paste compound to trowel in gaps and cracks in vertical concrete structures or as a horizontal self-leveling filler for floor cracks. All cracks and gaps should be blown out to eliminate water and loose concrete chips and dirt. JointSeal horizontal may be applied by our cartridge gun 1A:1B or 1A:2B ratio. Refer to the SDS for material and safety standard procedures.

JOINTSEAL PHYSICAL PROPERTIES

Dispensing Ratio		1A:2B	1A:1B
Tensile Strength	ASTM D412	2950 psi	1500 psi
Elongation	ASTM D412	350 %	800 %
Modulus	ASTM D412	1620	1400
Pensky-Martin Taber Abrasion (mg loss)	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
FlashPoint	Penski-Martin	>200 F	>200 F
Viscosity A Side CPS	Zahn #2 Cup	>200 F	>200 F
Viscosity B Side CPS	Zahn #2 Cup	>1200 F	>1200 F
Gel Time	Minutes	<2	<5
Tack Free Time	Minutes	<5	<10
Open to Industrial Traffic	Minutes	<15	<30

COVERAGE CALCULATIONS: Coverage Rate = Feet/gallon: Does not include overfilling

Joint Width (Inches) Inches

Depth (In)	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 1/2	205	51	25	17	12
2	77	38	19	12	9
3	52	25	12	8	6

TECHNICAL APPLICATION DATA

PREPARATION of substrate surface prior to the application of Joint Fill 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 Fill requires the concrete 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. Surface application temperature may range from 20°F (-29 C) to 150°F (65 C). This product may be applied with our cartridge gun, hand mixed or plural component liquid pumping equipment. Gel time range at 75°F (24 C) is 4min. Apply JointSeal 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. JS 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 Fill or Joint Fill 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 JF or Joint Seal Vertical and concrete. It may be necessary to remove JF and Joint Fill Vertical with a pocket knife 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. JF or Joint Fill Vertical should be placed in the damaged area. **CLEAN-UP/DISPOSAL** The uncured isocyanate and resin portions should be mixed together. 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 and federal laws.

LIMITATIONS JF and Joint Fill 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. JF and Joint Fill Vertical were designed to protect the edges of concrete control and expansion joints. JF 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 JF and Joint Fill Vertical series offers several different 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 JF and Joint Fill Vertical have been specially formulated to withstand low temperature applications. The material can be stored at temperatures as low as 10° F with no gelatin of the components. However, it is recommended to warm the material to a minimum of 60° F before application.

APPLICATION EQUIPMENT JF and Joint Fill 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 JF and Joint Fill Vertical are designed to gel quickly. For small jobs, JF and Joint Fill 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. JF 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. JF 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 JF or Joint Fill Vertical.

Adhesion Results of Typical Substrates per ASTM D-4541 Elcometer

Concrete- no primer	>400 psi	Cohesive failure; excellent substrate bonding
Steel- clean	>1000 psi	Cohesive failure; excellent substrate bonding
Wood- dry/dust free	>350 psi	Wood failure; excellent substrate bonding

Preparation of substrate surface prior to the application of a Specialized Industrial Materials is extremely important to achieve proper system bonding.

Concrete must be fully cured and should be prepared with a sandblasting, diamond grinding or machine sanding depending on the severity of the concrete surface condition. Similar proper preparation must be performed for metals. Primers also require this proper preparation. Always power clean using mild detergent prior to sanding, etc. Call TechSupport Group for assistance with selecting SIM application system. If patching concrete, use mineral filled fast-set Acrylic Modified Epoxy applied by trowel. For expansion joints, use Joint Fill applied by hand cartridge dispensing gun. It is always best to perform a test within a small section of the application area prior to full scale engagement.

This technical data information is accurate to the best of our knowledge. SIM makes no warranty, expressed or implied within the materials on this website, its use or with its any application. SIM™ shall not be liable for material or application related injuries, material non-conformance, application failures or any consequential damage by the use of this product.

22820 Interstate 45 North Bldg. 2N, Spring, TX 77373 Ph. 866-944-4495 Fax: 866-308-0009

www.simaterials.com