Polyurea Joint Fill

Technical Data Sheet

686 S. Adams St. | Kansas City, KS 66105 | (913) 321-9000 | www.versaflex.com

Selection and Specification

Description

VersaFlex **SL/75** is a self-leveling, 100% solids, flexible, two component, rapid curing modified polyurea control joint filler. Designed for 10-15% movement of an installed joint width.

Features

- Remains flexible in cold temperatures
- Cures from -40°F to 130°F+ conditions
- USDA/FSIS approved
- CFIA approved
- Resists jet fuel
- Return to project service in 60 minutes

Typical Uses

Fill interior control joints and random cracks on horizontal concrete surfaces. Designed specifically for industrial floor applications receiving heavy vehicle traffic, such as forklift or steel wheeled carts. Flexible and accommodating to small slab movement; yet strong enough to protect the vertical edges of concrete from spalling under heavy loading. Can be used in exterior applications where little joint or crack movement from thermal cycling will occur. Recommended for repair of cracks and damaged control joints in cold storage facilities, freezers, and food processing plants where time and temperature are serious considerations.

Colors and Limitations

Standard colors are Light Gray (VF1221), Concrete Gray (VF1376), Ryno Gray (VF1174), Dark Gray (VF1220), Signal Grey (VF1365) Black (VF1280), and Tile Red (VF1287). Custom colors are available upon request. Note: Custom colors are not returnable; ColorFlex color charts can be viewed at www.versaflex.com.

SL/75 should not be used to fill exterior cracks, control joints, or construction joints if deck or slab movement from thermal cycling is expected. See VersaFlex specification: Cold/Freezer Applications. Not recommended for use under non-breathing, resilient, or polymer flooring systems. Refer to Technical Bulletin for details.

Important: Concrete should be cured a minimum of 28 days prior to installing joint filler. **SL/75** is an aromatic based polyurea. Discoloration from exposure to ultraviolet light may occur, however the physical properties are unaffected.
Note: VersaFlex SL Series Joint Fillers are self-leveling; do not attempt to apply to vertical surfaces.

Joint Design

Compressible backer rod is prohibited in saw-cut joints unless 2" depth is exceeded. Interior saw cut joints should be filled full depth with a polyurea joint filler such as **SL/75**.

For through-slab construction and expansion joints (non-sawcut), an elastomeric joint sealant such as SL/45 or SL/60 should be used.

Physical Properties (Typical) (Post cured at 225°F for 24 hours)

Description	Test Method	Results
Mix Ratio		**1A: 1B**
Solids, %		**100%**
VOC, %		**0**
Gel Time	ASTM D1640	**~ 1 minute**
Tack Free Time	ASTM D1640	**10 minutes**
Open to Foot Traffic	ASTM D1640	**60 minutes**
Tensile Strength, psi	ASTM D638	**1,295 psi**
Tensile Elongation, %	ASTM D638	**406%**
Modulus of Elasticity, psi	ASTM D638	**526 psi**
Tear Strength, Lb./in.	ASTM D624	**252 lb./in.**
Hardness, Shore A	ASTM D2240	**> 75**

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and/or field application conditions may produce variances in the final system values.

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Substrate and Surface Preparation

General

Prior to joint filling, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified filler or sealant. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits, as specified in ICRI 310.2R and SSPC SP-13 standards. In general, performance is proportional to the degree of surface preparation.

Preparation shall be performed using a vacuum-equipped saw that will reach the base of the saw-cut joint or to a depth of 2" in the case of through slab construction joints, and shall be used in a manner that takes both joint walls back to bare concrete, removing all saw laitance, curing compounds, sealers, debris, etc. Joints should be ground to remove dirt and surface laitance using a grinder with a diamond or carbide blade.

Joint cleaning may be performed using two cleaning passes, one along each side of the joint. Or, if only one cleaning pass is performed, the diamond blade width must be slightly wider than the joint to be cleaned. Where joints have minor edge chips or spalls, areas may be squared off or filled along with the joint itself, or repaired with VersaFlex **QuickMender®**. Keep prepared joints free of dust, moisture, and debris prior to filling.

Compressible backer rod is prohibited in saw-cut joints unless 2" depth is exceeded. Saw cut joints should be filled full-depth.

For through-slab construction/expansion joints (non-sawcut), an elastomeric joint sealant such as SL/45 or SL/60 should be used.

Application Equipment

Plural Component Pumps

AST GMP-025

AST GMP-050

AST GMP-075

Static Mixer: 1/2 or 3/8-inch, 30 element

Trowel : N/A

Airless Spray: N/A

Albion 300/300ML Dispensing Guns For Cartridge Sets

B26T600 Manual Gun

AT600 Pneumatic Gun

E18T600 18-Volt Battery Gun

Static Mix Wand

Nordson 7701028, 14 x 1/2-inch, 30 element

Application

When to Install: The joint filler installation should be deferred as long as possible after slab placement and should not be installed prior to 28 days to allow for best adhesion. Ambient areas should be stabilized at final operating temperature prior to installation. Refrigerated and freezer areas should be held at operating temperatures for 7-14 days if possible prior to installation of joint filler. Substrate must be 5ºF above the dew point and rising. **JOINTS MUST BE COMPLETELY DRY. If there is moisture in the joint, it can cause bubbles to form in the SL/75, and adhesion may be reduced. Maximum allowable concrete moisture content is 5 % as per ASTM 2659.**

Mixing: For best results, material should be a minimum of 70°F prior to use. **SL/75** provided in pails should be thoroughly mixed to redistribute any settlement that may have occurred. Cartridge sets should be shaken vigorously for several minutes.

Joint Filling and Shaving: Joints less than 1-inch in depth can be filled in one pass. Joints with depth over 1-inch can be filled using two pass method, filling bottom half then top half of joint.

Slightly overfill joint and allow material to cure.

After material has cured, use a razor to shave joint fill material level with the slab. For best results, razor off material using a slicing method, pushing from one side of blade to other.

If low spots exist or if the finish profile is not flush, abrade the filler surface and apply an additional cap bead of **SL/75**. Allow to cure and razor flush to the floor surface.

Prevent surface etching & staining using a thin film of Ivory bar soap or other stain preventive product. Apply 3 to 4 inches on each side of joint.

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Cartridge Assembly and Application: After shaking cartridge for 2-3 minutes, remove the black plug caps from the cartridge assembly. **Save and clean these caps** - They can be re-used to seal the cartridge head if there is material left in the cartridge after your work is complete. Place the static mixing wand over the plug cap openings. Slide the cartridge lock nut over the mixing wand and screw on to the dual cartridge. (Do not over-tighten). Next insert the cartridge set into the dual component cartridge gun. **The cartridge set must be held vertically with the wand facing up to make sure material does not leak out.**

With the cartridge gun held in an upright position, slowly trigger material allowing it to fill the static mix wand. Then change positions, holding the wand pointed downward and discharge a small amount of material into a small container. This will ensure the cartridge gun plungers are applying even pressure, and the material is being properly mixed.

Begin triggering material into the joint / crack using consistent and continuous pressure, allowing the material to slightly overfill the crack. Avoid sporadic pressure, as this may cause uneven dispensing and mixing of the material. Continue triggering the material into the joint, slowly walking backwards, until the cartridge is completely dispensed.

Clogging: If you have to stop dispensing the material, it will begin to gel inside the mixing wand very quickly and will make it more difficult to squeeze material through the wand. If this occurs, quickly remove the mix wand and replace it with a new one. Follow the cartridge assembly procedure to refill the new wand and continue dispensing .

If there is leftover material in the cartridges, remove the mixing wand and discard it, then replace the black plugs into the cartridge head and save for future use. **THE MIXING WAND CAN BE USED ONLY ONCE, BUT SAVE THE THREADED LOCK NUT—IT CAN BE RE-USED WITH A NEW MIX WAND.**

Joint Fill—Linear Feet Per Gallon

Inches	1/8	3/16	1/4	3/8	1/2	3/4	1
1/4	554	370	277	185	139	92	69
1/2	277	185	139	92	69	46	35
3/4	185	123	92	62	46	31	23
1	139	92	69	46	35	23	17
1 1/4	111	74	55	37	28	18	14
1 1/2	92	62	46	31	23	15	12
1 3/4	79	53	40	26	20	13	10
2	69	46	35	23	17	12	9
2 1/2	55	37	28	18	14	9	7

Linear Feet Per 600ML Cartridge Set

Inches	1/8	3/16	1/4	3/8	1/2	3/4	1
1/4	87	58	44	29	22	15	11
1/2	43	29	22	14	11	7	6
3/4	29	18	14	10	7	5	4
1	22	14	11	7	6	4	3
1 1/4	17	12	9	6	4	2	2
1 1/2	14	9	7	5	4	2	2
1 3/4	12	8	6	4	3	2	2
2	11	7	5	4	3	2	1
2 1/2	8	5	4	3	2	1	1

*** Note:** These material usage estimates include a 10% deduction pre-calculated for waste and overfilling of the joints.

Curing Schedule & Re-Coat Window

Gel Time: ` 1 minute

Tack Free: 10 minutes

Open to Foot Traffic: 60 minutes

** At low temperatures, cure times will be slower.

SL/75 will cure at sub-freezing temperatures however, the effects from these conditions may impact the application. It is recommended that material and equipment be maintained at 60°F or above. Frozen concrete substrates with high moisture content will affect material adhesion and long term performance.

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Packaging, Handling, & Storage

Packaging

Ten Gallon Kit: 5 gallons of 'A' side & 5 gallons of 'B' side.

600ML Cartridges: 300ml of 'A' side and 300ml of 'B' side packaged as a duplex cartridge. Ten cartridges per case.

Shelf Life One year from shipment date, in original, unopened factory containers.

Storage Temperature & Humidity

Under normal storage conditions of 70°F to 95°F (21° - 35°C). Cartridges should be stored in an upright position. Keep dry. Keep from freezing. Store in covered temperature controlled environment if possible. 'A' Side, use dry air desiccant for intake vent on drum. 'B' Side, mix well with mixer to re-disperse any settled pigment.

Cleanup & Safety

Cleanup Cured product may be disposed of without restriction. Excess liquid 'A' & 'B' material should be mixed together and allowed to cure, then disposed of in the normal manner. Product containers that are "drip free" may be disposed of according to local, state, and federal laws.

Use disposable plastic tools and buckets wherever possible. Disposable tools may be thrown away after use. Cured material may be stripped or peeled from plastic tools and containers. Steel mixers or other metal tools are more difficult to clean. They may need to be soaked in a solvent such as MEK to soften and peel cured material.

Safety

Review complete SDS data at www.versaflex.com.

Basic safety recommendations for personal protection are:

- Rubber gloves
- Splash shield or safety glasses with splash guards
- Rubber or leather boots
- Do not use near high heat or open flame
- Do not take internally
- Keep out of reach of children

Warranty

Limited Warranty. Company warrants its goods to be free of manufacturing defects. Goods manufactured by Company will comply with all applicable federal, state and local laws and regulations. Company makes no warranty as to any parts or equipment manufactured by others. Customer shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. Company hereby assigns to Customer the original manufacturer's warranties to all such equipment and parts, to the full extent permitted. THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY, THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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