



The Chemical Company

PRODUCT DATA

7 07 92 00 **Joint Sealants**

SONOLASTIC® SL 2™

Multi-component self-leveling polyurethane sealant

Description

SL 2™ is a multi-component, self-leveling, elastomeric polyurethane sealant that is mixed and poured in place. When cured, it forms a tough, resilient joint seal that resists penetration, abrasion, and remains flexible when exposed to weather and aging.

Yield

See page 3 for chart.

PRIMER 733

450 linear ft (137 m) per pint for a 1/2" (13 mm) deep joint.

Packaging

SL 2™

1.5 gallon units (5.67 L) containing Part A and Part B

3 gallon units (11.34 L) containing Part A and Part B

PRIMER 733

1 pint (473 ml) cans, 12 pints per carton

Color

40 standard, stocked colors are available. Refer to the Popular Palette for Sealants and Waterproofing.

463 standard (nonstocked) colors are also available, and custom matching can be done upon request. Refer to the Sonneborn® Color Portfolio.

Available in pretinted colors: precast gray and limestone

1.5 gallon (5.7 L) units

4.5 gallon (17 L) units

Minimum order is 100 pails in 4.5 gallon units.

Features

- Movement capability $\pm 25\%$
- Abrasion resistant
- Penetration resistant
- Resilient
- Resistant to weathering and aging
- Service range from -40 to 180° F (-40 to 82° C)
- Available in custom colors
- Self-leveling and slope grades
- Suitable for water immersion

Benefits

- Expands and contracts with joint movement
- Handles pedestrian and vehicular traffic
- Withstands pressure from pointed objects
- Resists permanent deformation
- Provides long-lasting durability
- Suitable for all climates
- Can be color matched to any substrate
- Provides application versatility
- Documented performance in wet areas

Shelf Life

1 year when properly stored.

Storage

Store in unopened containers in cool, clean, dry area out of direct sunlight. Elevated temperatures will shorten shelf life.

Where to Use

APPLICATION

- Expansion joints
- Sidewalks
- Pavements
- Decks
- Parking ramps
- Precast double T's
- Cantilever decks
- Warehouses
- Balconies
- Industrial applications
- Wastewater treatment plants
- Dams
- Spillways and storm drains
- Wetwells and manholes

LOCATION

- Horizontal or sloped
- Interior or exterior
- Immersed in water

SUBSTRATE

- Concrete
- Metal



Technical Data

Composition

SL 2™ is a multi-component polyurethane that cures by chemical reaction after proper mixing.

Compliances

- ASTM C 920, Type M, Grade P, Class 25, Use T, NT, M, A and I
- Federal Specification TT-S-00227E, Type I, Class A
- Corps of Engineers CRD-C-506, Type I, Class A
- Canadian Specification CAN/CGSB 19.24-M90, Classification MCG-1-40-B-L, No. 81031
- Canadian approval for use in establishments that handle food
- USDA compliant for use in areas that handle meat and poultry

Test Data

PROPERTY	RESULTS SL 2™	RESULTS SL 2™ SLOPE GRADE	TEST METHODS
Movement capability, %	±25	±25	ASTM C 719
Tensile strength, psi (MPa)	125 (0.9)	145 (1.0)	ASTM D 412
Elongation, %	240	225	ASTM D 412
Shrinkage	Nil	Nil	
Low-temperature flexibility, -15° F (-26° C)	Passes	Passes	ASTM C 793
Service temperature range, -40 to 180° F (-40 to 82° C)	Passes	Passes	
Stain and color change	None (no visible stain)	None (no visible stain)	ASTM C 510
Extrusion rate and application life	Passes	Passes	ASTM C 603
Rheological (flow), at 40° F (4° C)	Self-leveling	—	ASTM C 639
Hardness, Shore A			ASTM C 661
At standard conditions	30	30	
After heat aging (max Shore A: 50)	40	20	
Tack-free time, hrs, (Maximum 72 hrs)	< 24	< 24	ASTM C 799
Bond durability, on concrete, ±25% movement	Passes*	Passes*	ASTM C 719
Weight loss, after heat aging, %	5	5	ASTM C 792
Cracking and chalking, after heat aging	None	None	ASTM C 792
Artificial weathering, Xenon arc, 250 hours	Passes*	Passes*	ASTM C 793
Artificial weathering, Xenon arc, 2,000 hours	No surface cracking	No surface cracking	ASTM G 26
Adhesion in peel, on concrete	Passes*	Passes*	ASTM C 794
Water immersion, 122° F (50° C)	Passes 10 weeks with movement cycling	Passes 10 weeks with movement cycling	ASTM C 1247

*Primed for water immersion dictated by ASTM C 920.

Test results are typical values obtained under laboratory conditions. Reasonable variations can be expected.

Yield

LINEAR FEET PER GALLON

JOINT DEPTH (INCHES)	JOINT WIDTH (INCHES)						
	1/4	3/8	1/2	5/8	3/4	7/8	1
1/4	308	205	154	122	—	—	—
3/8	—	—	82	68	58	51	—
1/2	—	—	—	—	51	44	38

METERS PER LITER

JOINT DEPTH (MM)	JOINT WIDTH (MM)						
	6	10	13	16	19	22	25
6	24.8	16.5	12.4	9.8	—	—	—
10	—	—	—	6.6	5.5	4.7	4.1
13	—	—	—	—	4.1	3.5	3.0

How to Apply

Joint Preparation

1. The number of joints and the joint width should be designed for a maximum of $\pm 25\%$ movement.
2. The depth of the sealant should be 1/2 the width of the joint. The maximum depth is 1/2" (13 mm) and the minimum is 1/4" (6 mm) Maximum recommended joint width is 2-1/2" (64 mm). Refer to Table 1.
3. In deep joints, the sealant depth must be controlled by Closed-Cell Backer-Rod or Soft Backer-Rod (see Form No. 1026342). Where the joint depth does not permit the use of backer-rod, a bondbreaker (polyethylene strip) must be used to prevent three-point bonding.
4. To maintain the recommended sealant depth, install backer-rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed-Cell Backer-Rod should be about 1/8" (3 mm) larger in diameter than the width of the joint to allow for compression. Soft Backer-Rod should be approximately 25% larger in diameter than the joint width. The sealant does not adhere to it, and no separate bondbreaker is required. Do not prime or puncture the backer-rod.

TABLE 1

Joint Width and Sealant Depth

JOINT WIDTH, IN (MM)	SEALANT DEPTH AT MIDPOINT, IN (MM)
1/4 – 1/2 (6 – 13)	1/4 (6)
1/2 – 3/4 (13 – 19)	1/4 – 3/8 (6 – 10)
3/4 – 1 (19 – 25)	3/8 – 1/2 (10 – 13)
1 – 2-1/2 (25 – 64)	1/2 (13)

Surface Preparation

1. It is essential that joints be clean and dry. Joint surfaces must be structurally sound, fully cured, and free of all loose aggregate, paint, oil, grease, asphalt, wax, mastic compounds, waterproofing compounds, form-release materials, curing compounds or any other contaminants.

NEW CONCRETE

Remove all loose material from joints by wire brushing. Sandblast surfaces in contact with form-release agents. Fresh concrete must be fully cured. Laitance must be removed by abrading.

OLD CONCRETE

For previously sealed joints, remove all old material by mechanical means. If joint surfaces have absorbed oils, remove sufficient concrete to ensure a clean surface.

Priming

1. Joint surfaces must be primed with Primer 733 (see Form No. 1017962) before sealing. If the surfaces are other than masonry or concrete, test first to determine adhesion. Technical assistance is available from BASF.
2. For immersion applications, Primer 733 must be used.
3. Apply primer in a thin, uniform film. Avoid buildup of film.
4. Allow approximately 15 – 30 minutes drying time before applying sealant. (Primer should be tack free.) Sealant must be applied same day as primer.
5. To minimize contamination of adjacent surfaces, apply masking tape and remove before sealant has begun to thicken and set.

Mixing

1. SL 2™ is a three-component system and must be thoroughly mixed before use. The oversize base container allows for the addition and mixing of Part B and Sonolastic® color pigment into Part A.

NOTE: Sonolastic® color paks are not added to pretinted SL 2™.

- 1-1/2 gallon (5.67 L) unit: (1) Transfer Part B to Part A container by cutting open Part B pouch and squeezing out contents. It is imperative that the entire contents of Part B be combined with Part A. (2) With a slow-speed drill and a sealant mixing paddle, thoroughly mix 2 – 3 minutes. The paddle blade must be kept below the surface of the sealant to avoid whipping in air. (3) Transfer the contents of the Sonolastic® pigment can into the mixed Part A and B. Use a spatula or knife, removing the entire contents to ensure consistent color. (4) Continue mixing with a slow-speed drill and sealant paddle until color is uniform. During the process, scrape the sides and bottom of the Part A container can and the paddle itself several times.
- 3 gallon (11.37 L) unit: Use 2 Part B and 2 Sonolastic® pigment containers for each Part A container. Mix as instructed under 1-1/2 gallon (5.7 L) unit.
- Pot life of the sealant is dependent upon temperature. See Table 2 for specific data.

TABLE 2

Working Times

	STANDARD CONDITIONS 73° F (23° C)	COLDER TEMPERATURES 40° F (4° C)
No accelerator	1-1/2 – 2 hrs	4-1/2 – 5-1/2 hrs
1 accelerator	30 – 45 min	1-1/2 – 2 hrs
2 accelerators	30 – 45 min	1-1/2 – 2 hrs
3 accelerators	—	45 min – 1 hr

Application

- All caulking and sealing should be performed when temperatures are above 40° F (4° C); any moisture or frost on surfaces will adversely affect adhesion.
- Fill joints from the bottom; avoid bridging of the joint, which may form air voids.
- For large joints, the self-leveling grade may be poured directly from the can.
- For smaller joints and for all slope-grade applications, fill the joint by flowing the sealant from a bulk-loading gun.
- Light tooling of the slope-grade sealant is recommended to smooth out ripples. On sloped surfaces, tool from the lowest point to the highest. Do not use soap or solvent.

Clean Up

- Immediately after use and before sealant has cured, clean equipment with Reducer 990 or xylene.
- The cured sealant may be removed by cutting with a sharp-edged tool, thin films by abrading.

Curing

Cure time will vary with humidity and temperature. Initial cure is within 24 hours and complete cure takes approximately 7 days. Allow 14 day cure at 70° F (23° C) prior to water immersion. Cure rates are dependent on temperature and humidity. Protect joint from dirt and traffic until cured.

For Best Performance

- Do not allow SL 2™ sealants to come into contact with alcohol-based materials or solvents.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants or uncured Sonolastic® 150 with VLM Technology or 150 Tint Base.
- When SL 2™ is to be used in areas subject to continuous water immersion, cure for 14 days at 70° F (23° C). Allow longer cure time at lower temperatures. Always use Primer 733.
- Do not use in swimming pools, or other submerged conditions where the sealant will be exposed to strong oxidizers. Avoid submerged conditions where water temperatures will exceed 120° F (58° C).
- For slopes up to 12% use SL 2™ Slope Grade. For slopes over 12% use NP 2™ sealant (see Form No. 1017911).
- Backer-rods, joint fillers, or bondbreakers must be tight to the sides of the joint to prevent loss of sealant through the bottom.
- For joints subject to puncture by high heels or umbrella points, a stiffer or higher density backup material is required. Cork or rigid nonimpregnated cane-fiber joint fillers are suitable. Separate materials from the sealant by a nonadhering bondbreaker (polyethylene tape).
- Do not use other caulks or sand as a bottom bed in a joint.
- Do not install when rain is expected before the sealant reaches initial cure (about 12 hours).
- Units of SL 2™ are premeasured; do not use partial units.
- SL 2™ may yellow in the presence of unvented artificial heat; this is a surface phenomenon that does not affect sealant performance.

- Use only Sonolastic® color packs intended for use with SL 2™.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

SL 2™ PART A

Warning

SL 2™ Part A contains toluene, diisocyanate; silica, crystalline quartz; mineral spirits (Stoddard type).

Risks

Combustible liquid and vapor. May cause skin and eye irritation. Inhalation of vapors may cause irritation and intoxication with headaches, dizziness and nausea. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation. Reports associate repeated or prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage. Contains crystalline silica. NTP and IARC recognize crystalline silica as a human carcinogen. The exposure to crystalline silica during the normal use of this product will be little or none. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. KEEP AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. Keep container closed when not in use. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or product is used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations. Empty container may contain explosive vapors or hazardous residues. All label warnings must be observed until container is commercially cleaned or reconditioned.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

Less than 64.4 g/L or 0.54 lbs/gal, less water and exempt solvents, when products are mixed.

SL 2™ PART B

Warning

SL 2™ Part B contains toluene diisocyanate mix.

Risks

May cause eye, skin or respiratory irritation. May cause dermatitis and allergic reactions. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes or clothing. Wash thoroughly after handling. DO NOT take internally. Ingestion may cause irritation. Use only with adequate ventilation. Keep container closed. Inhalation may cause irritation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains materials listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

When mixed, product contains less than 64.4 g/L or 0.54 lbs/gal, less water and exempt solvents.

SL 2™ ACCELERATOR

Caution

SL 2™ Accelerator contains 2-ethylhexanoic acid.

Risks

May cause skin, eye or respiratory irritation. May cause dermatitis and allergic reactions. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT take internally. Use only with adequate ventilation. Inhalation may cause irritation. Keep container closed. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product does not knowingly contain materials which are known to the state of California to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents.

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

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