

Sonneborn®**Sealant
Systems****SONOLASTIC®****SL 2™**

Self-leveling and slope-grade elastomeric polyurethane sealant for horizontal joints

**Where to Use SL 2™**

- Concrete expansion joints
- Metal expansion joints
- Interior or exterior
- Sidewalks
- Pavements
- Decks
- Parking ramps
- Precast double T's
- Cantilever decks
- Warehouses
- Balconies
- Industrial applications

Features

- Movement capability $\pm 25\%$...
- Abrasion resistant...
- Resists penetration...
- Resilient ...
- Service range from -40°F to 180°F (-40°C to 82°C)...
- Resistant to weathering and aging...
- Available in custom colors...
- Self-leveling and slope grade...

Benefits

- Expands and contracts with joint movement
- Handles pedestrian and vehicular traffic
- Withstands pressure from pointed objects
- Resists permanent deformation
- Suitable for all climates
- Long performance
- Can be color matched to any substrate
- Versatility in applications

How to Apply SL 2™

Joint Preparation

- 1 The number of joints and the joint width should be designed for a maximum of ±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).
- 3 In deep joints, the sealant depth must be controlled by Closed Cell Backer-Rod or Soft Backer-Rod. (Refer to Form Nos. SJ-403 and SJ-405.) 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. Backer-Rod becomes an integral part of the joint. The sealant does not adhere to it, and no separate bondbreaker is required. Do not prime or puncture the backer-rod.

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.

2 **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.

3 **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 or 766 (see Form No. SJ-431) before sealing. If the surfaces are other than masonry or concrete, test first to determine adhesion. Technical assistance is available from Sonneborn.

2 Apply primer in a thin, uniform film. Avoid buildup of film.

3 Allow approximately 15-120 minutes drying time before applying sealant. (Primer should be tack free.) Sealant must be applied same day as primer.

4 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 two-component system and must be thoroughly mixed before use. The oversize base container allows for the addition and mixing of Part B and color pigment into Part A.

2 **1-1/2 gallon (5.67 L) unit:** (1) Transfer Part B to Part A container using a spatula or knife. 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 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 **3 gallon (11.37 L) unit:** Use 2 Part B and 2 pigment containers for each Part A container. Mix as instructed under 1-1/2 gallon (5.7 L) unit.

4 Pot life of the sealant is dependent upon temperature. See Table 1 for specific data.

Application

1 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.

2 Ideally, the temperature at the time of application should be the median of temperature extremes when the joint width opening is at its midpoint.

3 Fill joints from the bottom; avoid bridging of the joint, which may form air voids.

4 For large joints, the self-leveling grade may be poured directly from the can.

5 For smaller joints and for all slope-grade applications, fill the joint by flowing the sealant from a bulk-loading gun.

6 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

1 Immediately after use and before sealant has cured, clean equipment with Reducer 990 or xylene.

2 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.

Protect joint from dirt and traffic until cured.

Table 1

	Working Times	
	Standard Conditions 73°F (23°C)	Colder Temperatures 40°F (4°C)
No accelerator	1-1/2 to 2 hours	4-1/2 to 5-1/2 hours
1 accelerator	30 minutes to 45 minutes	1-1/2 to 2 hours
2 accelerator	30 minutes to 45 minutes	1-1/2 to 2 hours
3 accelerator	—	45 minutes to 1 hour

For Best Performance

- SL 2™ is not intended for immersion or for use in areas of high chlorine concentration such as swimming pools.
- 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 non-impregnated 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).
- Surfaces in contact with sealant should be fully cured.
- Units of SL 2™ are premeasured; do not use partial units.
- SL 2™ (slope grade) has been successfully tested on grades up to 12% at 120°F (49°C) without any significant run down; for slopes greater than 12%, use NP 2™ sealant (see Form No. SJ-411).
- Make certain the most current version of this data guide is 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 Sonneborn personnel are for the purpose of making technical recommendations only, and are not to supervise or provide quality control on the job site.
- Do not allow uncured sealants to come into contact with alcohol-based materials or solvents.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants.

Technical Data

Compliances

- Federal Specification TT-S-00227E, Type I, Class A
- Corps of Engineers CRD-C-506, Type I, Class A
- ASTM C 920, Type M, Grade P, Class 25, Use T and M
- 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 approval for use in areas that handle meat and poultry

Typical Properties of Cured Sealant

Table 2

Property	SL 2 Value	SL 2 Slope Grade Value	Test Method
Tensile strength, psi	125	145	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 (no visible stain)	None	None	ASTM C 510
Extrusion rate and application life	Passes	Passes	ASTM C 603
Rheological (flow) at 120°F (49°C)	Self-leveling	Non-sag	ASTM C 639
Hardness at standard conditions	30	30	ASTM C 661
Hardness after heat aging (Maximum shore A 50)	40	20	ASTM C 661
Tack-free time, hours, (Maximum 72 hours)	<24	<24	ASTM C 679
Movement capability, %	± 25	± 25	ASTM C 719
Bond durability on concrete	Passes	Passes	ASTM C 719
Weight loss after heat aging, %	5	5	ASTM C 792
Cracking & chalking after heat aging	None	None	ASTM C 792
Accelerated weathering (250 hours)	Passes	Passes	ASTM C 793
Artificial weathering Xenon arc, 2,000 hours	No surface cracking	No surface cracking	Xenon arc
Adhesion in peel, on concrete	Passes	Passes	ASTM C 794

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

Order Information

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
- For slope grade SL 2™ Fast-Cure see Form No. SN-330.

Primer 733 and Primer 766

- 1 pint cans, 12 pints per carton

Coverage rate of primers is approximately 450 linear feet per pint for a 1/2" (13 mm) deep joint.

Shelf life of both products is 12 months when stored in unopened containers under normal conditions.

Colors

40 standard, stocked colors are available. Refer to the Rainbow of Colors® popular palette, Form No. SP-041.

455 standard (non-stocked) colors are also available, and custom matching can be done upon request. Refer to the Rainbow of Colors® book.

Coverage

Table 3

Joint Depth (inches)	Linear Feet per Gallon						
	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

Joint Depth (mm)	Linear Meters per Liter						
	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

Warning

SL 2™ Part A contains calcium carbonate, high flash naphtha, 1,2,4-trimethyl benzene, toluene diisocyanate, silicon dioxide, titanium dioxide

Risks

Combustible liquid and vapor. May cause skin and eye irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Inhalation of vapors may cause irritation and intoxication with headaches, dizziness and nausea. Ingestion may cause irritation. Reports associated repeated or prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage. 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. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Avoid breathing vapors. DO NOT take internally. 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

When mixed, product contains less than 64.6 g/L less water and exempt solvents.

Warning

SL 2™ Part B contains toluene diisocyanate

Risks

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

Precautions

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. 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. 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, SEEK IMMEDIATE MEDICAL ATTENTION. 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

8.09 g/L or 0.07 lbs/gal less water and exempt solvents.

Warning

SL 2™ Accelerator contains toluene diisocyanate mix

Risks

May cause skin, eye or respiratory irritation. May be absorbed through skin. May cause dermatitis and allergic reactions. Ingestion may cause irritation. Repeated or prolonged absorption may affect kidneys.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT take internally. Ingestion may cause irritation. 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 contains materials which are known to the state of California to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 g/L or 0 lbs per gallon less water and exempt solvents.

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

Customer Service: 1/800/433-9517

Technical Services: 1/800/ChemRex (1/800/243-6739)

Web Site: www.chemrex.com

Limited Warranty Notice

Every reasonable effort is made to apply ChemRex Inc. exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, CHEMREX INC. MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and CHEMREX INC. shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the ChemRex Inc. Technical Manager.



Sonneborn®

ChemRex Inc.

889 Valley Park Drive; Shakopee, MN 55379

Manufacturing Plants: Minneapolis, MN; Fort Wayne, IN; Mattawan, MI; Brighton, CO.

Regional Warehouses: DeKalb, IL; Atlanta, GA; Hayward, CA; Fairfield, NJ; Dallas, TX; Ontario, CA; Brighton, CO; Brampton, ONT (Canada).