

Sonneborn®**Sealant
Systems****SONOLASTIC®****NP 1™****One-component elastomeric gun-grade
polyurethane sealant****Where to Use NP 1™**

- Concrete
- Masonry
- Aluminum
- Wood
- Expansion wall joints
- Curtain wall construction
- Panel walls
- Precast units
- Aluminum and wood window frames
- Fascia
- Parapets
- Structural components
- Vinyl siding
- Interior and exterior

Features

- Joint movement capability \pm 25%...
- Available in cartridges, 20 ounce ProPaks, and bulk...
- Easy to gun and tool...
- Ten standard colors...
- Bonds to most construction materials without a primer...
- One component...
- Weather resistant...
- Wide temperature application range...
- Compatible with nonrigid paints...
- UL listed...

Benefits

- Excellent flexibility for keeping moving joints tight
- Reduces jobsite waste, lowers disposal costs
- Speeds application and makes neater joints
- Matches common substrates
- Lowers installation costs
- No mixing, less labor
- Long-lasting weathertight seals
- Suitable for all climates
- Paintable
- Passes 4 hour 4 inch fire and hose stream test when used with Ultra Block®

How to Apply NP 1™

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). Refer to Table 1.
- 3 In deep joints, the sealant depth must be controlled by Closed Cell Backer-Rod or Soft Backer-Rod. (Refer to Form Nos. 1017927 and 1017923.) Where the joint depth does not permit the use of backer-rod, a bond-breaker (polyethylene strip) must be used to prevent three sided adhesion.
- 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.

Surface Preparation

Surfaces must be structurally sound, fully cured, dry, clean, free of dirt, moisture, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofings, curing and parting compounds, and membrane materials.

Table 1

Joint Width and Sealant Depth			
Joint width (inches)	Joint width (mm)	Sealant depth at midpoint	Sealant depth at midpoint
		(inches)	(mm)
1/4 to 1/2	6 - 13	1/4	6
1/2 to 3/4	13 - 19	1/4 to 3/8	6 - 10
3/4 to 1	19 - 25	3/8 to 1/2	10 - 13
1 to 2	25 - 51	1/2	13

Concrete, stone, and other masonry

Clean by grinding, sandblasting, or wire brushing to expose a sound surface free of contamination and laitance.

Wood

New and weathered wood must be clean and sound. Scrape away paint to bare wood. Any coating that cannot be removed must be tested to verify adhesion of sealant or determine an appropriate primer.

Metal

Remove scale, rust, and coatings from metal to expose a bright white surface. Remove protective coatings as well as any chemical residue or film. Aluminum window frames are frequently coated with a clear lacquer that must be removed before the application of NP 1™. Any coating that cannot be removed must be tested to verify adhesion of sealant or determine an appropriate primer. Remove any other protective coatings or finishes that could interfere with adhesion.

Application

- 1 NP 1™ comes ready to use. Apply by professional caulking gun. Do not open cartridges, sausages, or pails until preparatory work has been completed.
- 2 Fill joints from the deepest point to the surface by holding a properly sized nozzle against the back of the joint.
- 3 Dry tooling is recommended. DO NOT use soapy water when tooling. Tooling results in the correct bead shape, a neat joint, and maximum adhesion.

Clean Up

- 1 Immediately after use, clean equipment with Reducer 990 or solvent. Use proper precautions when handling solvents.
- 2 Remove cured sealant by cutting with a sharp-edged tool.
- 3 Remove thin films by abrading.

Curing Time

The cure of NP 1™ varies with temperature and humidity. The following times assume 75°F (24°C), 50% relative humidity, and a joint 1/2" width by 1/4" depth (13 mm by 6 mm).

- Skins overnight or within 24 hours
- Functional within 3 days
- Full cure in approximately 1 week

For Best Performance

- Do not allow uncured NP 1™ to come into contact with alcohol-based materials or solvents.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants.
- Protect unopened containers from heat and direct sunshine.
- In cool or cold weather, store container at room temperature for at least 24 hours before using.
- NP 1™ should not be used for continuous immersion in water. Call Technical Services for recommendations.
- Do not apply over freshly treated wood; treated wood must have weathered for at least 6 months.
- Substrates such as copper, stainless, and galvanized typically require the use of a primer; Primers 733 or 766 are acceptable. For Kynar coating use Primer 733 only. An adhesion test is recommended for any other questionable substrate.
- Do not use as a cap, heel, or toe bead for exterior glazing. Refer to Sonolastic® 150 technical data guide (see Form No. 1017910).
- U.V. exposure may cause white NP 1™ to discolor; where maintaining a true white appearance is critical, use Ultra sealant (see Form No. 1017894) or Sonolastic® 150 (see Form No. 1017910).
- NP 1™ can be applied below freezing temperatures only if substrates are completely dry, free of moisture, and clean. Contact Technical Service for more information.
- Lower temperatures and humidity will extend curing times.
- NP 1™ should not come in contact with oil-base caulking, uncured silicone sealants, polysulfides, or fillers impregnated with oil, asphalt, or tar.
- NP 1™ can be painted over provided it is fully cured and clean. When painting over any elastomeric sealant, use a paint that is also elastomeric. (If movement occurs, the paint will also move.)
- Make certain the most current version of this data guide and MSDS 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 ChemRex® personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

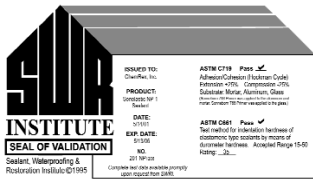
Technical Data

Compliances

- Federal Specification TT-S-00230C, Type II, Class A
- ASTM C 920, Type S, Grade NS, Class 25, Use NT, M, A, G, and O
- Corps of Engineers CRD-C-541, Type II, Class A
- Canadian Specification CAN/CGSB-19.13-M87, Classification MCG-2-25-A-N, No. 81026
- USDA compliant for use in meat and poultry areas
- Underwriters Laboratories Inc.® classified (fire resistance only) *
- Canadian approval for use in establishments that handle food
- SWRI validated **
- ISO 11600-F-25LM

* Where UL compliance for fire resistance is required in California, it is necessary to utilize NP 1™ ProPaks.

** Where SWRI validation is required in California, it is necessary to utilize NP 1@ ProPaks.



Typical Properties

Property	Result
Service temperature range, °F (°C)	-40 to 180 (-40 to 82)
Expected life	Up to 15 years
Shrinkage	None

Test Data

Property	Typical Values	Test Method
Movement capability, %	± 25	ASTM C 719
Tensile strength, psi (MPa)	350 (2.4)	ASTM D 412
Tear strength, pit	50	ASTM D 1004
Ultimate elongation at break, %	800	ASTM D 412
Rheological (sag in vertical displacement)	No sag	ASTM C 639
Extrudability, 3 seconds	Passes	ASTM C 603
Hardness at std. conditions, Shore A	25 - 30	ASTM C 661
Weight loss, after heat aging, %	<10	ASTM C 792
Cracking and chalking after heat aging	None	ASTM C 792
Tack-free time, hrs., (maximum 72 hrs.)	Passes	ASTM C 679
Stain and color change (no visible stain)	Passes	ASTM C 510
Hardness, after heat aging, max. Shore A: 50	25	ASTM C 661
Bond durability on glass, aluminum, and concrete, ± 25% movement	Passes	ASTM C 719
Adhesion* in peel, pli (min, 5 pli)	30	ASTM C 794
Adhesion* in peel after UV radiation through glass (min. 5 pli)	Passes	ASTM C 794
Artificial weathering	Passes	ASTM C 793
Xenon arc, 250 hours		
Artificial weathering	No surface cracking	ASTM C 26
Xenon arc, 3,000 hours		

*Primed for water immersion dictated by ASTM C 920. Concrete and aluminum primed with 733; glass primed with 766.

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

Order Information

Packaging

- NP 1™
- 300 mL cartridges, 30 cartridges per carton
- 20 U.S. fl. oz. (590 mL) ProPak sausage cartridges, 20 ProPaks per carton
- 4.5 gallons (17.0 L) in 5 gallon pails (18.93 L) available in special orders only

For color availability in bulk packaging, call Customer Service.

Shelf life is 1 year for cartridges and Propaks and 4 months for pails when stored in unopened containers under normal conditions. Storing at elevated temperatures will reduce shelf life.

Colors

- White, off-white, limestone, stone, tan, aluminum gray, medium bronze, special bronze, redwood tan, hunter green and black.

Coverage

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

*One gallon equals approximately 12 cartridges or 6 Propaks

Joint depth (mm)	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

NP 1™ (all colors) contains stoddard solvent, crystalline (quartz) silica

Risks

May cause skin, eye and respiratory irritation. 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. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Use only with adequate ventilation. Keep container closed. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT take internally. 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. 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 have been listed by the state of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

NP 1™ contains 93 g/L or 0.77 lbs. per gallon, less water and exempt solvents.

43 g/L or 0.36 lbs. per gallon, less water and exempt solvents for CARB compliant product.

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

Limited Warranty Notice

Every reasonable effort is made to apply ChemRex® 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® MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and CHEMREX® 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® Technical Manager.



Sonneborn®

ChemRex®

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