



# PUR 2 NS

Two-part, Non-Sag  
Polyurethane Sealant



## Technical Data Sheet

### DESCRIPTION

**BONDAFLEX PUR 2 NS** is a two-part, high-performance, non-sag, multi-purpose elastomeric, TDI free, polyurethane sealant. Meets the requirements of ASTM C-920, Type M, Grade NS, Class 25, Use NT, T, M, G, A, O; TT-S-00227E, Type II, Class A; Corp of Engineers CRD-C-506; CAN/CGSB-19.13-M87 and California Air Resources Board 2003 requirements for Volatile Organic Compound content.

### WHERE TO USE

#### Construction Application

- Perimeter sealing of windows, doors and skylights
- Expansion joints
- Parapets/flashing
- Precast/tilt-up
- Fascia
- Siding
- Curtain wall internal joints
- Sealing waterproofing membranes

#### Industrial Application

- Lap seams
- Subfloor to metal
- Sealing rivets/fastener heads
- Bonding rubber gaskets and profiles

#### Structure

- Buildings
- Schools
- Parking
- Plazas
- Store fronts
- Stadiums
- Prisons

#### Location

- Horizontal and vertical
- Interior and exterior
- Above and below grade

#### Substrate

- Concrete, masonry, brick, aluminum, wood, steel, painted metals and natural stones

### FEATURES

- Multi-component, field pigmentable
- Joint movement  $\pm 25\%$  in a 1:1 width to depth ratio, up to  $\pm 50\%$  in a 2:1 ratio
- TDI free, MDI based technology, lower vapor pressure isocyanate
- Excellent adhesion
- Paintable and sandable
- Non-staining, tack free surface
- Superior mixing, gunning and tooling at material temperatures from 20°F to 100°F. All weather sealant.
- High abrasion and tear strength
- 51 Bondaflex standard Ucolors
- Available in custom colors
- 12 month shelf life

### BENEFITS

- Lowers inventory costs and speeds project completion
- Excellent flexibility for dynamic joint movement
- Less exposure for enhanced worker safety and fewer tenant complaints on renovation projects
- Bonds to most substrates without priming
- Provides application options for architects and trades people
- Low dirt pick-up for improved aesthetics
- Speed, ease of application and improved labor productivity. No need for accelerator or hot boxes.
- Wide range of vertical and horizontal applications
- Matches most substrates and other Bondaflex products for color uniformity on your project
- Unlimited color match potential
- A minimum of 6 months longer than competition

### TYPICAL PROPERTIES

#### Cured

Property	Value	TEST METHOD
Movement Capability, %	$\pm 25$	ASTM C-719
100% Modulus, psi (MPa)	80 (0.55)	ASTM D-412
Hardness, Shore A	25 $\pm$ 5	ASTM C-661
Tensile Strength, psi (MPa)	125 (0.86)	ASTM D-412
Elongation at Break, %	225	ASTM D-412
Peel Strength, pli	20	ASTM C-794
Bond Durability on glass, aluminum and concrete	$\pm 25\%$	ASTM C-719
Accelerated Weathering	passes	ASTM C-793
Staining	passes	ASTM C-510

#### Uncured

Tack-Free @ 73°F, 50% RH	<24 hrs.	ASTM C-679
Cure Through @ 73°F, 50% RH	within 24 hrs.	MNA CTM
Pot Life @ 20°F to 100°F, 50% RH	3-4 hrs.	MNA CTM
Slump of Sealant	nil	ASTM D-2202
Service Temperature	-40° to 180°F -40° to 82.2°C	

*Test results are accelerated full cured averages, which were obtained under laboratory conditions.*

## PACKAGING

- 1.5 gal (5.7 L) unit containing Part A and Part B
- 3 gal (11.4 L) unit containing Part A and Part B

Color pak is purchased separately. Pretinted Limestone color is available.

## STORAGE/SHELF LIFE

When stored in the original, unopened containers at or below 75°F (24°C), shelf life is 1 year.

## COLORS

Fifty-one standard colors in convenient to use Ucolor Paks including the Bondaflex standard construction colors: Adobe Tan, Almond, Aluminum, Beige, Black, Bronze, Colonial White, Dusty Rose, Gray, Hartford Green, Ivy Green, Limestone, Medium Bronze, Sandstone, Quarry Red and White. Custom colors are available upon request.

## EXPANSION JOINT DESIGN

1. The number of joints and the width of the joint should be designed for a maximum of  $\pm 25\%$  movement at the time of installation.
2. The depth of the sealant should be 1/2 the width of the joint. The maximum depth is 1/2 inch (13mm) and the minimum is 1/4 inch (6mm).
3. To control joint depth, use closed cell polyethylene or non-gassing polyolefin backer rod. Open cell polyurethane rod can be used in vertical joints only, never with EIFS. If joint depth does not allow for backer rod, use polyethylene bond breaker tape to prevent three-sided adhesion.
4. Closed cell backer rod should be 25% larger than joint width; do not compress more than 40%.

## SURFACE PREPARATION

The substrate must be clean, dry, frost free, sound and free of any oils, greases or incompatible sealers, paints or coatings that may interfere with adhesion.

**POROUS SUBSTRATES** – Clean dry, by mechanical methods to expose a sound surface free of contamination and laitance.

**NON-POROUS SUBSTRATES** – for cleaning non-porous substrates, use a two rag wipe method with xylene or an approved commercial grade solvent. Allow solvent to evaporate prior to sealant application. Never use alcohols.

## PRIMING

**BONDAFLEX PUR 2 NS** is designed to obtain adhesion without the use of a primer; however, certain substrates may require a primer, especially if sealant will be subjected to water immersion after cure. Field test by applying the sealant and/or primer sealant combination to confirm any laboratory results and proposed application methods. Refer to Technical Data Sheet for Primer **BONDAFLEX PUR 1000** or **BONDAFLEX PUR 1500**. Contact Technical Service for additional information.

## MIXING

1. Pour entire contents of Part B, the smaller curing agent container into pail of Part A, the base after removing plastic separator.
2. Add 1 Ucolor Pak. When mixing 3-gallon units, add 2 Ucolor Paks. Ucolor Paks do not need to be added to the pretinted Limestone base.
3. Using a timer, mix with a low speed heavy duty drill at 400-600 rpm for 5 minutes.
4. Scrape down sides as much as possible during mixing and avoid lifting mixing blade out of material to minimize entrapment of air.
5. Do not thin material with solvent.

## APPLICATION

### Expansion Joint

1. Apply sealant using a professional caulking gun with consistent, positive pressure to force sealant into the joint.
2. Tool sealant to create a concave joint shape and maximum adhesion. Dry tooling is recommended. DO NOT use soapy water or other liquids when tooling.
3. PUR 2 NS is uniquely formulated to mix and apply when sealant temperature is between 20° - 100°F. For optimum performance, condition material to 65°-75°F (18°-24°C) prior to use and install above 40°F, and below 120°F.
4. Fill material into a bulk-caulking gun and install before pot life expires. If cold and heating is required, do not heat above 120°F.

### CLEAN UP

Remove excess sealant from substrate while still uncured with commercial solvent, such as xylene. Never use alcohols. Cured sealant may be removed by mechanical means.

## LIMITATIONS

- Do not allow sealant to come in contact with alcohol or solvent during cure.
- Do not allow sealant during cure to come in contact with neutral cure silicone and STP sealants.
- Immersed joint should be primed and cured (3-days) before exposure.
- Sealant joint movement should not exceed  $\pm 50\%$  of joint width when installed in a 2:1 width to depth ratio.
- Sealant may be applied below freezing temperatures if substrates are completely dry, frost free and clean. Contact Technical Service for more information.
- Maximum depth of sealant must not exceed 1/2 inch (13mm); minimum depth 1/4 inch (6mm)
- White sealant may discolor when exposed to UV light, this does not affect performance.
- Maximum application temperature 120°F (49°C).
- Do not apply to damp or wet substrates.
- Do not apply when vapor-transmission may cause sealant bubbling.
- Lower temperature will extend tack free and cure rates.
- Allow treated wood to age 6 months before application.

## 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.

## 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.

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