



# PUR 50 FC

**Fast Cure, High Strength  
One-part Polyurethane  
Adhesive/Sealant**

## Technical Data Sheet

### DESCRIPTION

**BONDAFLEX PUR 50 FC** is a one-part, fast cure, high strength, high-performance, non-sag, multi-purpose elastomeric, polyurethane adhesive and sealant. Meets the requirements of California Air Resources Board 2003 requirements for Volatile Organic Compound content.

### WHERE TO USE

#### Industrial Application

- Lap seams
- Subfloor to metal
- Sealing rivets/fastener heads
- Bonding door gaskets
- Body to cab joints

#### Construction Application

- Metal buildings
- Parapets/flashing/fascia
- Air ducts/vacuum systems
- Roof tiles

#### OEM

- Auto/truck/trailer/bus/train
- RV
- HVAC

#### Structures

- Metal buildings
- Prison security sealant
- Tanks/silos

#### Locations

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

#### Substrates

- Aluminum, wood, steel, extruded PVC, FRP, SMC, RIM, galvanized, aluminized steel, many plastics and composites, painted metals, glass, concrete, masonry, brick and natural stones.

### FEATURES

- One-part
- Fast tack free time
- Excellent adhesion
- High abrasion and tear strength
- Paintable and sandable
- Provides shock resistance
- Non-staining
- Tack free surface
- Superior gunning and tooling
- Primerless for most substrates
- Resistant to road salts
- 12 month shelf life

### BENEFITS

- Ready to use, labor cost reduction
- Fast curing, same day painting
- Bonds to most substrates without priming
- Wide range of applications
- Easier to match contour of parts
- Vibration damping
- Improved aesthetics
- Low dirt pick-up
- Speed and ease of application
- Save application steps
- Ideal for vehicular applications
- A minimum of 6 months longer than competition

### TYPICAL PROPERTIES

Cured 28 days @ 77°F (25°C) and 50% RH

PROPERTY	VALUE	TEST METHOD
Movement Capability, %	± 12.5	ASTM C-719
100% Modulus, psi (MPa)	150 (1.03)	ASTM D-412
Hardness, Shore A	50± 5	ASTM C-661
Tensile Strength, psi (MPa)	380 (2.6)	ASTM D-412
Tear Strength, lbf/in (kN/m)	90 (15.75)	ASTM D-624
Lap Shear Strength, psi (MPa) 2 inches/min, Luan to Aluminum	120 (0.83)	ASTM D-1002
Elongation at Break, %	800	ASTM D-412
Peel Strength, pli	35	ASTM C-794
Bond Durability on glass, aluminum and concrete	+ 12.5	ASTM C-719
Accelerated Weathering	Passes	ASTM C-793
Staining	Passes	ASTM C-510

### Uncured

Skin-Over Time	50 mins.	MNA Method
Tack-Free Time	2 hrs.	ASTM C-679
Cure Rate	3/16 inch/24 hrs.	MNA Method
Extrusion Rate g/min 1/8" orifice @ 90 psi	250	ASTM C-1183 modified
Slump of Sealants	nil	ASTM D-2202
Rheological, Vertical @ 120°F (49°C)	non-sag	ASTM C-639
Volatile Organic Content	4.73 % by wt.	
Service Temperature	-40° to 180°F -40° to 82.2°C	

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

## PACKAGING

- 10.1 fl. oz (300 ml) disposable cartridges
- 600 ml sausage packs
- 4.5 gal (17 L) in a 5 gal pail
- 52 gal (197 L) in 55 gal drum

Special packaging available upon request – ask your local Representative for more information.

## STORAGE/SHELF LIFE

When stored in the original, unopened containers at or below 75°F (24°C), shelf life is one year. A product skin may form in pails and drums, remove prior to use. Protect from freezing.

## COLOR

White, Gray and Black. Custom colors are available upon request – ask your local Representative for more information.

## EXPANSION JOINT DESIGN

1. The number of joints and the joint width should be designed for a maximum of + 12.5% of joint width at time of installation.
2. The depth of the caulk 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. 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 by mechanical methods to expose a sound surface free of contamination and laitance.

**NON-POROUS SUBSTRATES** – for cleaning non-porous substrates, use two rag wipe method using either xylene or an approved commercial solvent. Allow solvent to evaporate prior to caulk application.

## PRIMING

**BONDAFLEX PUR 50 FC** is designed to obtain adhesion without the use of a primer, however, certain substrates may require a primer. Test by applying the sealant and/or primer sealant combination to confirm results and proposed application methods. Refer to Technical Data Sheet for primers **BONDAFLEX PUR 1000** or **BONDAFLEX PUR 1500** and contact Technical Service for additional information.

## APPLICATION

### Adhesive Joint

1. Apply by caulking gun, dispensing equipment or trowel.
2. Use sufficient quantity of adhesive to one or both substrates to provide designed contact area.
3. Surfaces may be moved up to 1 hour after application without loss of adhesive strength.
4. If needed, use fastener to hold substrates until adhesive has cured.
5. Cure times vary with temperature, humidity and porosity of joined substrates.
6. For cold or hot weather application, condition material to 65-75°F (18.3-24°C) prior to use.

### Expansion Joint

1. Ready to use, apply using a professional caulking gun. Do not open product container until preparation work has been completed.
2. Apply sealant using consistent, positive pressure to force sealant into the joint.
3. 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.
4. For cold or hot weather application, condition material to 65-75°F (18.3-24°C) prior to use.

## CLEAN UP

Remove excess caulk from substrate while uncured using soap and water. Cured caulk may be removed by mechanical measures.

## LIMITATIONS

- Do not allow sealant to come in contact with alcohol or solvent during cure.
- Do not allow sealant to come in contact with neutral curing silicones during cure.

- Immersed joint should be primed and cured (one week) before exposure.
- 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 expansion joint sealant must not exceed 1/2 inch (13mm); minimum depth 1/4 inch (6mm).
- Minimum thickness of adhesive joint must not be less than 0.010 inches.
- 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 temperatures and humidity 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 material is 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. All label warnings must be observed until container is commercially cleaned or reconditioned.

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