

PA-77

THREAD SEALANT, HIGH VISCOSITY, ANAEROBIC ADHESIVE

TECHNICAL DATA SHEET

JUNE 2021



PRODUCT DESCRIPTION

Bostik Born2Bond™ Pipe Sealing anaerobic adhesives are a reliable, adaptable solution, suitable for all types of threaded metal pipes and fittings, and both new installations and preventative maintenance. Filling and sealing all voids, these single component adhesives provide 100% surface-to-surface contact, achieving a cohesive, durable connection that will not fail even when subjected to vibration, extreme temperatures or chemical substances. A convenient, cost-effective alternative to conventional sealing alternatives like hemp or PTFE tapes, these adhesives eliminate the need for additional inventory.

PA-77 is a general purpose anaerobic thread sealant material with high viscosity and medium strength. Once cured the product prevents leakage and/or loosening of parts from vibration and shock.

This product is acceptable as a thread locking compound in and around food processing areas according to NSF S2 (Registration No.163874).

For more information, please consult <https://born2bond.bostik.com>

KEY FEATURES

- Medium Strength
- High Viscosity
- Instant seal 10bar
- High pressure seal - 350bar
- 100% connection – no loosenin
- Vibration resistant
- Corrosion prevention
- Single component
- Suitable for active and passive metals

DIRECTIONS FOR USE

1. For best results, clean all surfaces (internal and external) with Born2Bond™ Pre-Bonding cleaner and wait until fully evaporated.
2. If the cure speed is too slow of on inactive metals, use Born2Bond™ Anaerobic Activator.
3. Apply the product into the threads, leaving the first thread free. Fill all voids thoroughly.
4. Properly tighten fittings with suitable tools. It will seal instantly to moderate pressures.
5. Wait for full cure to get maximum pressure resistance.

METHOD OF USE

Manual: Directly from the bottle with or without dispensing tips for more precise dispensing.

Semi-Automated: Use of pressure-time systems for accurate volume and larger series.

Full-Automated: fully automated robot or application lines.

APPLICATIONS

- Engines and powertrains
- Pumps and compressors
- Liquid and gas storage
- Hydraulic systems
- Metal pipes and fittings

STORAGE/SHELF LIFE

Store product in the unopened container in a dry area out of direct sunlight. Storage below 7°C or greater than 28°C can adversely affect product performance. If stored properly, this product has a shelf life of 12 months.

HEALTH/SAFETY

The Safety Data Sheet is available on the Bostik website and should be consulted for proper handling, cleanup and spill containment before use. Keep containers covered to minimize contamination.

LIMITATIONS

This product is not recommended for use in pure oxygen and/or oxygen-rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials. Material removed from containers may be contaminated during use. Do not return product to the original container. Bostik will not assume responsibility for product that has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or customer service representative.

PRODUCT CHARACTERISTICS

Basis Technology	Acrylic
Components	1K
Appearance / Color	Yellow
Cure	Anaerobic
Temperature use Range	-55°C to 180°C

UNCURED PHYSICAL PROPERTIES

Viscosity
[Brookfield: Sp6 @10rpm @25°C]: 80.000 - 90.000 mPa.s

Specific Gravity
ASTM D1475 - 13(2020) 1.09

CURING PROPERTIES

The table below shows the curing properties of the product on mild steel according to ISO 10964

Fixture time @ 20°C	<60min
Fixture time with Activator* @ 20°C	<10min
Full Cure @20°C	6-12h

*Bostik Born2Bond Anaerobic Activator

BONDING PERFORMANCE

The performance data reported below were measured according to ISO 10964. Product was applied on M10 mild steel bolts and cured for one week at 22°C (71.6°F) before testing. Oil-tolerance is measured on slightly oiled substrates (mild steel) and cured for 24h.

Breakaway torque mild steel unseated	11Nm
Shear strength [ISO 4587 - mild steel]:	5 to 15 N/mm ²
Oil tolerance (Strength)	10Nm

HOT STRENGTH

The data below shows the adhesive performance on M10 mild steel bolts at various temperatures.

The adhesive was cured for one week at 22°C. The breakaway strength was tested according to ISO 10964.

The strength test was performed after the specimen were heated for 30 minutes at the indicated temperatures.

Remaining @ 150°C	62%
Remaining @ 180°C	52%

CONVERSIONS

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{in}$$

$$\mu\text{m} / 25.4 = \text{mil}$$

$$\text{N} \times 0.225 = \text{lb}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{N/mm}^2 \times 145 = \text{psi}$$

$$\text{MPa} \times 145 = \text{psi}$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

PRODUCT DISCLAIMER

Bostik offers this Technical Data Sheet ("TDS") for descriptive and informational use only. It is not a warranty, a contract or a substitute for expert or professional advice. Please also see the local product Safety Data Sheet for health and safety considerations.

The statements, technical information, data, and recommendations contained in this TDS are provided 'AS IS' and are not warranted or guaranteed in any way. They represent typical results for the products and are based on Bostik's research only. Since the conditions and methods of use of the products are beyond our control, Bostik expressly disclaims any and all liability and damages of whatever kind or nature that may arise from any use of the products, the results therefrom, or reliance on the information contain herein.

This TDS is one of several tools that may be used to help you find the product best suited for your needs. It is used at your own risk, and by using it, you are knowingly accepting and assuming any and all risks associated with its use and recommendations. BUYERS AND USERS ASSUME ALL RESPONSIBILITY AND LIABILITY FOR ANY AND ALL LOSS OR DAMAGE OF WHATEVER KIND OR NATURE ARISING FROM OR RELATED TO THE HANDLING OR USE OF BOSTIK'S PRODUCTS. The performance of the product, its shelf life, and application characteristics will depend on many variables, including but not limited to the kind of materials to which the product will be applied, the environment in which the product is stored and/or applied,

and the equipment used for application, among other things. Any change in any of these variables can affect the product's performance. You are responsible to test the suitability of any product in advance for any intended use or application. Bostik does not guarantee the reliability, completeness, use, or function of the statements, technical information, data, and recommendations contained in this TDS. Nothing contained herein constitutes a license to practice under any patent, and it should not be construed as an inducement to infringe any patent. You are advised to take appropriate steps to be sure that any proposed use of the products will not result in patent infringement.

The information provided herein relates only to the specific products designated and may not be applicable when such products are used in combination with other materials or in any process. The product is sold pursuant to a supply agreement and/or Bostik's Terms and Conditions of Sale, which set forth the sole warranty, if any, that applies to the product. **NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR WARRANTY OF MERCHANTABILITY, IS MADE CONCERNING THE PRODUCTS DESCRIBED OR THE INFORMATION PROVIDED HEREIN, AND TO THE MAXIMUM EXTENT ALLOWED BY LAW, SUCH WARRANTIES ARE HEREBY DISCLAIMED. BOSTIK DISCLAIMS ANY LIABILITY FOR DIRECT, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES TO THE MAXIMUM EXTENT ALLOWED BY LAW.**