



PRO-MS 50™

SILYL-MODIFIED POLYETHER SEALANT & ADHESIVE

TECHNICAL DATA SHEET 08/24/2023

SMART ADVANTAGES

- Asphalt compatible
- Tenacious bond to difficult substrates
- Non-yellowing formula

DESCRIPTION

Bostik PRO-MS 50™ is a one component, low modulus, solvent-free Silyl Modified Polyether Sealant. It is a hybrid sealant that demonstrates properties as color stability and long lasting elastomeric qualities for building envelope architectural grade applications. Primary applications include vinyl window perimeter sealing, fiber cement board, engineered trim board, flexible flashing materials, metals such as Kynar®-coated metals, Bondarized, Galvalume®, and siding applications.

APPLICABLE STANDARDS

- ASTM C920, TYPE S, GRADE NS, CLASS 50, USE NT, A, O
- CARB and SCAQMD Compliant
- Meets VOC Requirements for OTC Regulation
- AAMA Compliant 713-10, 808.3-10
- US Federal Specification TT-S-00230C, CAN/CGSB 19.13-M87

BASIC USES

- Seals joints between most vinyl siding, fiber cement board (FCB), aluminum, most metals, and other common building materials.
- Interior and exterior bonds—transitional seal between building materials.
- Perimeter seals for windows, doors, and other wall penetrations on vinyl, fiber cement board (FCB), and other siding materials.
- Metals such as Kynar®-coated metals, Bondarized, Galvalume®, and metal building construction and synthetic materials.
- Flexible Flashing Materials

INSTALLATION PROTOCOL

Joint Design: In general, more joint movement can be accommodated in a thin bead of sealant than a thick bead. Bostik PRO-MS 50™ should be no thicker than 1/2" (12.7mm) and no thinner than 1/4" (6.4mm). In joints between 1/2" and 1", the ratio of



sealant width to depth should be approximately 2:1. Sealant depth in joints between 1/4" and 1/2" should be 1/4" deep. Joints with dynamic movement should not be designed in widths less than 1/4".

Surface Preparation: See limitations about surface preparation. Surfaces must be structurally clean, dry (no frost), and structurally sound, free of contaminants including, but not limited to, dust, dirt, loose particles, tar, asphalt, rust, mill oil, etc. If substrate is painted or coated, scrape away all loose and weakly bonded paint or coating. Any paint or coating that cannot be removed must be tested to verify adhesion of the sealant or to determine the appropriate surface preparation if needed. (See ASP section on next page for details.)

To remove laitance and any other loose material, clean concrete, stone, or other masonry materials with nonalcoholic-based solvent by washing, grinding, sandblasting, or wire brushing as necessary. Do not use water to clean substrates. Dust must be thoroughly removed after cleaning.

This supersedes and replaces in its entirety all previously published versions of this document. B56346

Backer Rods and Bond Breaker Tapes: Bond breakers including, but not limited to, closed-cell polyethylene backer rods are used to control depth of the sealant bead, provide a firm tooling surface, and avoid three-sided adhesion. Where the depth of joint prevents use of backer rods, a polyethylene strip or tape must be used as a bond breaker to prevent 3-sided adhesion. Do not prime or damage the surface of the bond breaker. Refer to instructions given by rod and tape manufacturers for the correct backer rod and tape size related to joint size.

Priming: In general, application of Bostik PRO-MS 50™ does not require priming the substrates. However, some substrates may require a Bostik primer. It is the user's responsibility to check adhesion of the cured sealant on typical test joints at the project site before and also during application as weather conditions may affect the adhesion results. (See Application Limitations section on next page.) Refer to Bostik Primer product data sheet or call Technical Service for proper selection and application of Bostik primers.

Tooling: Bostik PRO-MS 50™ comes ready to use. Cut spout or tip to desired bead size. Apply moderate pressure to break seal inside the nozzle. Apply by using a professional caulking gun. Use opened cartridges and sausages the same day they are opened. Apply Bostik PRO-MS 50™ in a continuous operation using positive pressure to the bottom of the joint to properly fill and seal the joint. When applying, avoid air entrapment and overlapping. Before the skin forms, tool the sealant with adequate pressure to spread the sealant against the backup material at the bottom and sides of the joint. A dry tool with a concave profile is recommended for that operation. Do not use water or soapy water for this operation. Avoid smearing and feathering of the sealant to allow full performance of the cured seam. Excess sealant should be dry-wiped or joints should be properly taped.

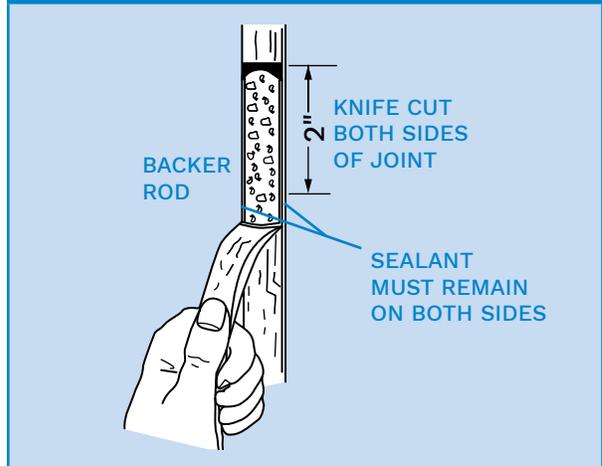
Cleaning: After dry-wiping uncured sealant from substrates and tools, remaining uncured sealant can be removed by using Xylene, Toluene, or similar aromatic solvents. Please refer to the MSDSs provided for these solvents before use. Bostik Hand Towel and Specialty Sealant Remover™ can also remove uncured sealant. Cured sealant is usually very difficult to remove without altering or damaging the surface to which the sealant has been misapplied. Cured sealant can be removed by abrasion or other mechanical means (scrapers, putty knives).

Curing Time: Bostik PRO-MS 50™ is a moisture cure sealant. On wood, with ambient air at 50% relative humidity and at 73°F, Silyl Modified Polyether sealants will generally skin in less than one hour and cure 1/16 of an inch per day. Lower temperature and lower relative humidity will significantly increase the skin time and cure time of a Silyl-Modified Polyether sealant.

Painting and Coating: Bostik PRO-MS 50™ is not RTV silicone and therefore is suitable for painting with latex-based paints. Paint chemistries and flexibility characteristics of the paint films over the sealant may affect wetting, adhesion, and integrity of the paint layer; and it is therefore mandatory to pretest the paint or other coating over the Bostik PRO-MS 50™ to ensure the successful compatibility between the sealant and the paint/coating after a sufficient amount of time. See your paint manufacturer for specifications and limitations, and call our Technical Service department for more information. In general, oil-based paints are not recommended because of their poor elastic properties and because of their potential interaction with the sealant chemistry, which may create non-curing conditions for the sealant. Do not paint over the polyurethane sealant until it has fully cured.

Maintenance: If the sealant becomes damaged, replace the damaged portion by removing the old sealant completely, cleaning the surfaces, and reapplying a fresh and appropriate amount of new sealant in accordance with the directions and information contained in this data sheet.

MANDATORY ADHESION TO SUBSTRATE (ASP) FIELD TEST



MANDATORY ADHESION TO SUBSTRATES PRETEST - (ASP)

A hand pull test must be run before the job starts and at regular intervals during the job. It must be run on the jobsite after the sealant is fully cured, usually within 7 to 21 days. (Adhesion may develop fully after at least 14 days.) The hand pull test procedure is as follows:

1. Make a knife cut horizontally from one side of the joint to the other.
2. Make two vertical cuts approximately two inches long, at the sides of the joint, meeting the horizontal cut at the top of the two-inch cuts.
3. Grasp the two-inch piece of sealant firmly between the fingers and pull down at a 90° angle or more, and try to pull the uncured sealant out of the joint.
4. If adhesion is sufficient, the sealant should tear cohesively in itself.
5. Sealant may be replaced by applying more sealant in the same manner as it was originally applied. Care should be taken to ensure that the new sealant is in contact with the original, and that the original sealant surfaces are clean, so that a proper bond between the new and old sealant will be obtained.

PACKAGING

10.1 fl. oz. Cartridges, 24 Cartridges/Case
20 fl. oz. Sausages, 12 Sausages/Case

STORAGE/SHELF LIFE

Shelf life of PRO-MS 50™ must be checked prior to using the product; do not use past its shelf life. Caulk past its shelf life may not perform or adhere as described by this data sheet. High temperature and high relative humidity may reduce significantly the shelf life of polyurethane sealants. If you are unsure of the expiration date of your Bostik product, please call customer service at 1-800-7/BOSTIK (1-800-726-7845) to check if the product is still within its shelf life.

COLORS

White, Bronze, Light Gray, Medium Bronze, Desert Tan, Aluminum Gray, Stone, Limestone, Black, Terra Cotta, Antique White, and Capitol Tan

APPLICATION LIMITATIONS

- Construction substrates have become complex and diverse by nature and origin. Substrate chemistries and structures can interfere with adhesive performances of the sealant. Adhesion to Substrate Pretest (ASP) is therefore **MANDATORY** to assess any adhesion and sealing characteristics — see Adhesion to Substrates Pretest section and see Installation Protocol section. This must be done preinstallation to avoid potential failures. Call Technical Service for more information about surface preparation and possible priming.
 - Do not apply over damp, contaminated, loose surfaces (see Installation Protocol and Surface Preparation), old sealants, or other foreign substances that may impair the adhesion bond. Avoid air entrapment.
 - Dampness and substrates with high moisture will trigger extensive curing of the sealant within a very short period of time.
 - Porous substrates such as, but not limited to, marble, limestone, and granite might absorb components of the Bostik PRO-MS 50™ leading to staining of the substrate. ASP with sufficient aging is mandatory to assess this potential issue.
 - Compatibility to copper-based substrates (i.e., flashing) can vary due to, but not limited to, age and joint size. Please consult technical services for details.
 - The ultimate performance of Bostik PRO-MS 50™ depends on proper joint design and proper application with joint surfaces properly prepared. (See Installation Protocol.) Bostik PRO-MS 50™ is not recommended for joints with dimension less than or greater than what is recommended below. (See Installation Protocol — Joint Design section.)
 - Bostik PRO-MS 50™ must not be used to seal narrow joints, fillet joints, and nail face holes.
 - Smearing and feathering Bostik PRO-MS 50™ over joints is not recommended.
 - Bostik PRO-MS 50™ is not recommended for horizontal joints or traffic-bearing joints where abrasion resistance is required (walkways, driveways, runways, etc.).
 - Bostik PRO-MS 50™ is not recommended for continuous immersion in water or any other fluid. When fully cured, avoid exposure, even incidental, to fuels, chlorinated acid, and alkaline solutions. Bostik PRO-MS 50™ is not recommended for exterior or interior sealing below the waterline; please refer to Bostik 940™ Fast Set for marine applications.
 - During the curing of Bostik PRO-MS 50™, do not expose to alcohol, acids, or solvent-based materials.
 - Lower relative humidity and temperature will significantly extend the curing time. Confined areas, deep joints, and moisture-barrier substrates may also affect the full cure time and extend it by many days. Apply sealant in ambient air temperature of 40°F and rising.
 - Until the sealant is fully cured, do not expose the sealant to any mechanical stress. Uncured sealant will not respond properly to cyclic expansion and contraction of the joint specified for the cured sealant only.
 - The surface of a Bostik PRO-MS 50™ seal when exposed to UV rays and sunlight will not yellow, but over time its gloss may change. Bostik PRO-MS 50™ may remain tacky for a few hours and attract dust and dirt from the jobsite, which may affect the appearance of the sealant. Check tack-free time to prevent dirt pickup.
 - Bostik PRO-MS 50™ is not recommended for glazing applications. Bond line strength can be affected by UV rays through the clear material (glass, acrylic glass, polycarbonate, etc.).
- Bostik PRO-MS 50™ is not RTV silicone and therefore is suitable for painting with latex-based paints. Paint chemistries and flexibility characteristics of the paint films over the sealant may affect wetting, adhesion, and integrity of the paint layer; and it is therefore mandatory to pretest the paint or other coating over the Bostik PRO-MS 50™ to ensure the successful compatibility between the sealant and the paint/coating after a sufficient amount of time. See your paint manufacturer for specifications and limitations and call our Technical Service department for more information. In general, oil-based paints are not recommended because of their poor elastic properties and because of their potential interaction with the sealant chemistry, which may create non-curing conditions for the paint.

CAUTION

IRRITANT. MAY IRRITATE EYES, SKIN AND RESPIRATORY TRACT. Methanol may form during curing. Do not breathe fumes. Do not get in eyes, on skin or on clothing. Use with adequate ventilation or wear mask. Wash thoroughly after handling. Store container in a cool, dry area with lid tightly sealed. Do not reuse container.

KEEP OUT OF REACH OF CHILDREN

FLASH POINT

284°F (140°C)

FIRST AID TREATMENT

Contains petroleum resins, diisodecyl phthalate (DIDP), methylene diphenyl isocyanate (MDI), quartz silica. Methanol may form during curing. If in eyes or on skin, rinse with water for at least 15 minutes. If on clothes, remove clothes. If breathed in, move person to fresh air. If swallowed, call a Poison Control Center or doctor immediately. Do not induce vomiting.

SEE SAFETY DATA SHEET

CHEMICAL EMERGENCY: 800-424-9300 (USA), 703-527-3887 (International)

MEDICAL EMERGENCY: 866-767-5089

COVERAGE FOR 10.1 FL. OZ. (298 ML) CARTRIDGE

Width								
Depth	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/8"	99	49	33	24	20	16	14	12
1/4"		24	20	12	10	8	7	6
3/8"			11	8	6	5	5	4
1/2"				6	5	4	3	3

Linear Feet Per 10.1 fl. oz. Cartridge

COVERAGE FOR 20 FL. OZ. (600 ML) SAUSAGE

Width								
Depth	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/8"	288	145	95	71	58	48	40	36
1/4"		71	58	36	29	23	20	17
3/8"			32	23	17	16	13	11
1/2"				17	14	11	10	8

Linear Feet Per 20 fl. oz. Sausage

COVERAGE FOR 5 GALLON (18.9 L) PAIL

Width								
Depth	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/8"	6150	3100	2050	1540	1230	1025	870	770
1/4"		1540	1240	770	615	510	440	370
3/8"			680	510	410	310	290	245
1/2"				370	305	245	220	185

Linear Feet Per 5 Gallon Pail

PRIMER COVERAGE RECOMMENDATIONS*

For one quart of primer, coverage is as follows	
1 unit	5 gallon pail
5 units	1.5 gallon unit
7 gallons	1 gallon unit

* All values are approximations and can vary due to joint dimension variations, porosity, and texture of substrates. Yield per cartridge is approximate due to variables beyond control, such as irregular joint configuration and installation technique.

TABLE 1: TYPICAL UNCURED PROPERTIES*

Property	Value	Test Method/Note
Tool/Work Time	<30 min.	Bostik Test Method
Skin Time	30-45 min.	Bostik Test Method
Curing Time @77°F (25°C)	3-4 days	Varies w/relative humidity
Flow, Sag, or Slump	0.3 inch	Bostik Test Method

* Values given above are not intended to be used in specification preparation purposes.

TABLE 2: TYPICAL CURED PROPERTIES* (AFTER 14 DAYS CURE AT 77°F AND 50% RH)

Property	Value	Test Method/Note
Hardness (Shore A)	38	ASTM D 2240
Modulus @ 100% Elongation	70 psi	ASTM D 412
Tensile Strength @ Break	180 psi	ASTM D 412
Elongation @ Break	950%	ASTM D 412
Adhesion Peel	>35 piw	TT-S-00230C / ASTM C 794
Joint Movement Capability	+/- 50%	TT-S-00230C / ASTM C 719
UV Resistance	Pass	ASTM C 793

* Values given above are not intended to be used in specification preparation purposes.



SEALANT · WATERPROOFING & RESTORATION INSTITUTE

Issued to: Bostik, Inc.
Product: Bostik Pro-MS 50

C719: Pass Ext:+50% Comp:-50%

Substrate: Unprimed Glass, and Unprimed Anodized Aluminum.

Validation Date: 06/06/22 - 06/05/27

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