

PERMATHANE®

SM7120 PU POLYURETHANE SEALANT

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION:

Permathane® SM7120 PU is a one-component, gun-grade, non-sag, moisture-cure polyurethane sealant designed to skin and cure rapidly. This high-performance product is designed with outstanding UV resistance and long-term durability. Excellent adhesion is obtained on a wide variety of materials.

ADVANTAGE:

- Excellent adhesion to a variety of substrates
- Dependable performance and durability
- Easy to gun, tool, and clean
- Accommodates ± 35% joint movement
- Permanently flexible, excellent weatherability
- Excellent cut and tear resistance
- Paintable – non-sticky after cure
- VOC Compliant to SCAQMD, CARB, and OTC
- Primer-less adhesion to substrates including galvanized steel, aluminum, concrete, glass, Galvalume®, Kynar 500®, wood, vinyl, and fiberglass.

TYPICAL USES:

Permathane® SM7120 PU is designed to seal construction joint details

- Metal Buildings
- Perimeter joints around windows and doors*
- Sealing door hinges, skylights, and portholes
- Masonry Expansion joints
- Air conditioning equipment, flashing and gutters
- Waterproof rivet seams and roof rails
- Commercial Roofing
- Bonding sidewalls in RV's and trucks
- Sealing vehicle bodies, cab construction, underbody compartments, and roofing
- Sealing corner moldings, fabricated roof-lap seams, bumper assemblies, and body-to-cab joints in motor homes
- Between construction materials of dissimilar expansion coefficients

**Use SM7713 MS for Asphalt-Flashing compatibility*

SPECIFICATION CONFORMANCE:

- US Federal Specification TT-S-00230 C (Type II) Class A, Non-sag, One-Component
- ASTM C 920 Type S, Grade NS, Class (35), Use-NT, A, M, G and O
- AAMA 808.3-10 (Exterior Sealing Compound)
- USDA Acceptable for use in meat and poultry areas

TYPICAL PROPERTIES:

Property	Typical Value	Test Method
Peel Adhesion [^] :	35 pli	ASTM C794
Tensile Strength:	133 psi (0.92 N/mm ²)	ASTM D412
Elongation:	685%	ASTM D412
Sag:	None	ASTM C639
Hardness (Shore A):	40 ± 5 A	ASTM D 2240
Service Temperature Range:	-40°F to 180°F, (-40°C to 85.2°C)	
Water Resistance:	Passes	AAMA 800
Flash Point:	>166°F (>74.4°C)	ASTM D56
Shelf Life:	12 months when stored at or below 80°F.	
Skin Time:	2-4 hours	
Cure Time:	2-7 days	
VOC:	17.4 g/L	EPA Method 24
* Skin and cure times are dependent on temperature, humidity, and porosity of the substrates. The above times are based on a ¼" bead at 75°F and 50% relative humidity. Low humidity, cooler temperature, and non-porous substrates will lengthen these times. [^] Peel Adhesion: Glass - 38 pli, Aluminum - 41 pli, Vinyl – 24 pli, Concrete - 38 pli		

FOR ADHESION:

Due to the number and types of substrates available, pretesting for adhesion is recommended. Testing on samples of materials to which it will be applied is intended to eliminate potential field problems and help determine proper surface preparation. We recommend using SM7713 MS when requiring Asphalt-Flashing compatibility.

APPLICATION:

Surface Preparation:

- Surfaces must be clean, dry, and free of oil or grease. Concrete and masonry surfaces must be free of foreign material, contaminants, water repellents, form oils, and laitance.
- Stone surfaces must be cohesively sound and free of contaminants. Granite, limestone, marble, and sandstone must be pre-tested for adhesion prior to sealant installation.
- Mill finish aluminum may contain an invisible oil film or oxide. Clean with a good degreasing solvent such as xylene or toluene.
- Many high-performance coatings or unusual surface treatments may require abrasion of the surface with steel wool or fine emery paper during preparation. In cases where doubt exists, contact ITW Polymers Sealants North America, Inc. technical service for recommendations.

Joint Design:

- Sealant depth should not exceed joint width. Sealant depth should not be greater than ½ inch or less than ¼ inch.
- Use of closed cell polyethylene backer-rod approximately 25% larger than the width of the joint is recommended for deep joints. A bond-breaker film must be used in shallow joints to prevent three-sided adhesion.
- Do not puncture or prime the backer-rod.

Priming:

- It is expected that SM7120 PU will adhere and perform in uncontaminated joints with most common substrates, without the use of a primer.
- Joints subjected to intermittent immersion or vertical joints subjected to rain should perform without the need of a primer.
- Priming of masonry or other porous joints is recommended only if the joints will be subjected to prolonged or continuous immersion.
- CONSULT TECHNICAL SERVICE HELP IN CASE PRIMER IS REQUIRED

APPLICATION LIMITATIONS:

- SM7120 PU must not be applied to frost-bearing surfaces or if the temperature will be below freezing within 24 hours.
- Tooling techniques using solvents or soapy solutions are not recommended.
- All surfaces must be evaluated for adhesion prior to product acceptance.
- The suitability of this product, for each intended use, must be determined by the purchaser prior to acceptance.

Not recommended for:

- a) Unprimed masonry joints that will be subjected to continuous water immersion.
- b) Joints that are contaminated with grease, wax, corrosion, bitumen, or cement laitance.
- c) Horizontal joints in floors or decks where physical abuse is encountered.
- d) Special architectural finishes without proper testing.
- e) Contact of SM7120 PU with asphalts (i.e., back coating of window flashing, etc.) and other filler compounds impregnated with oil, asphalt, tar, etc., may deteriorate the cohesive strength of the substrate and ultimately compromise the seal. Please refer to SM7713 MS for asphalt applications.

TOOLING:

Tooling of freshly applied sealant should be done in one continuous stroke. Tool the sealant with adequate pressure to spread the sealant against the back-up material and onto the joint surfaces. Excess sealant should be dry-wiped from all surfaces while still uncured. If joint surfaces have been masked, remove masking tape immediately after tooling. Cured sealant is very difficult to remove.

CLEAN UP:

Immediately remove all excess sealant smears adjacent to the joint with xylene, toluene, methyl ethyl ketone, or locally exempt solvents. Tools and application equipment may also be cleaned with the same solvents.

Note: The use of these solvents (or other solvents) may be hazardous to your health. Use only in well-ventilated areas. KEEP AWAY FROM OPEN FLAME. Read all labeling before use. Follow solvent manufacturer’s recommendations and instructions for safe handling.

PRECAUTIONS:

If this product is used in direct contact or in close proximity with any other sealant or elastomer, a compatibility test must be conducted by the purchaser or user prior to use. When applied in close proximity, neutral cure silicones will prevent SM7120 PU from curing. There will be no problem if either sealant is applied and allowed to cure prior to the application of the other. Use caution if applying the silicone first since SM7120 PU will not adhere to silicone or its residue.

Avoid skin and eye contact. On contact, uncured sealant could cause irritation to the skin and eyes. In case of eye contact, flush eyes with warm water for 15 minutes, call a physician. For skin contact remove sealant with a paper towel. If swallowed, do not induce vomiting, call a physician. KEEP OUT OF REACH OF CHILDREN. **This product is manufactured for industrial use only.**

FIRST AID:

KEEP OUT OF REACH OF CHILDREN.

Avoid skin and eye contact. Avoid breathing of direct concentrated vapors. Use with adequate ventilation. In the case of eye contact flush eyes with warm water for 15 minutes, call a physician. For skin contact, remove sealant with a paper towel. If swallowed do not induce vomiting, call a physician. This product is manufactured for professional and industrial use only. Refer to the Safety Data Sheet (SDS) for further information. For medical emergency only call ChemTrec 1-800-424-9300.

EXCLUSION OF WARRANTIES:
 AS TO THE HEREIN DESCRIBED MATERIALS, ITW POLYMERS SEALANTS NORTH AMERICA, INC. MAKES NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SINCE THE USE OF THE HEREIN DESCRIBED MATERIALS INVOLVES MANY VARIABLES IN METHODS OF APPLICATION, HANDLING AND/OR USE, THE USER IN ACCEPTING AND USING THESE MATERIALS ASSUMES ALL RESPONSIBILITY FOR THE END RESULT. THE PURCHASE OF THIS ITW POLYMERS SEALANTS NORTH AMERICA, INC. PRODUCT IS SUBJECT TO THE TERMS AND CONDITIONS OF AN “AS IS” SALE, AND IF THE PRODUCT IS PROVED TO BE DEFECTIVE, THE EXCLUSIVE REMEDY, AT ITW POLYMERS SEALANTS NORTH AMERICA, INC.’S. OPTION SHALL BE TO REPLACE THE DEFECTIVE ITW POLYMERS SEALANTS NORTH AMERICA, INC. PRODUCT. ITW POLYMERS SEALANTS NORTH AMERICA, INC. SHALL NOT OTHERWISE BE LIABLE FOR LOSS OF DAMAGES, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL, REGARDLESS OF THE LEGAL THEORY ASSERTED, INCLUDING NEGLIGENCE, WARRANTY OR STRICT LIABILITY.

Complete technical information is available from
 ITW Polymers Sealants North America, Inc.