



Technical Data Sheet

3M™ Adhesive Sealant 740 UV



Product Details



Regulatory Info/SDS

Product Description

3M™ 700-Series Silane Modified Polymer (SMP) Adhesive Sealant products are one component, moisture curing products which form permanent elastic bonds. They are similar in function as a typical one component polyurethane sealant but are isocyanate-free. 3M SMP Adhesive Sealants bond to a wide variety of materials including plastics, metals, fiberglass, and wood. Differentiated from other high performance sealants as they are very low VOC, have better UV resistance, and have broad substrate adhesion for a wide range of productivity enhancement applications.

Product Features

- One component, moisture-curing avoids mixing and simplifies production
- Bonds dissimilar materials giving design flexibility
- Adheres to a wide variety of materials
- Permanently elastic providing long lasting bonds
- Fast-skinning for increased production speed
- Paintable when wet* for appearance improvement
- Low modulus, low shore-A hardness good for sealing and bonding materials with differing thermal expansion

*All paints should first be tested for compatibility in application

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Uncured Physical Properties

Attribute Name	Value
Consistency	Medium Paste

Typical Mixed Physical Properties

Temperature: 23 °C (73 °F)

Attribute Name	Value
Rate of Cure	>3.5 mm/24 h (>1/8 in/24 h)

Temperature: 23 °C (73 °F)

Attribute Name	Value
Tack Free Time	40 — 60 min

Typical Physical Properties

Attribute Name	Value
Color	White
	Gray
	Black
Approximate Coverage	38 lineal m (126 LF) ¹

Attribute Name	Value
Compatibility with paints	Water based: yes Solvent based: test beforehand ²
Resistance to dilute acids and bases	Good
Water and salt spray resistance	Excellent
VOC	22 g/L (0.18 lb/gal)
Specific Gravity	1.65

¹ 10.5 oz. [310 mm Cartridge]; 1/8 in (3 mm) bead

² Can be painted when wet

Attribute Name	Test Method	Value
Stress at 100% Strain	ASTM D412	1.07 MPa (155 lb/in ²)

Typical Cured Characteristics

Attribute Name	Test Method	Temperature	Value
Modulus at 100% Elongation	ASTM D412	23 °C (73 °F)	>0.5 MPa (>70 lb/in ²)
Shore A Hardness	ASTM C661		30

Typical Performance Characteristics

Attribute Name	Value
Application Temperature	5 — 35 °C (40 — 95 °F)
Long Term Temperature Resistance	90 °C (194 °F) ¹
Minimum Long Term Temperature Resistance	-40 °C (-40 °F) ¹

¹ Long Term (day, weeks)

Test Method: ASTM D412

Attribute Name	Value
Elongation at Break	125 %
Tensile Strength	1.12 MPa (165 lb/in ²)

Typical Environmental Performance

Attribute Name	Value
UV Resistance	Excellent

Typical Environmental Characteristics

Temperature Resistance

Long term exposure to temperatures greater than 212°F (100°C) will decrease tensile strength over time. Do not use these products in applications where the temperatures will continuously exceed 212°F (100°C).

Handling/Application Information

Directions for Use

Surface Preparation:

Surfaces to be sealed or bonded should be clean and dry. Surfaces should be free from grease, mold release, oil, water/condensation, and other contaminants that may affect the adhesion of the sealant. Abrading with 180 to 220 grit abrasive followed by a solvent wipe will improve the bond strength. Suitable solvents include 3M™ Adhesive Remover, methyl ethyl ketone (MEK), isopropyl alcohol (IPA), or acetone.*

*When using solvents, use in a well ventilated area. Extinguish all sources of ignition in the work area and observe product directions for use and precautionary measures.

Refer to product label and MSDS for further precautions. Always pre-test solvent to ensure it is compatible with substrates.

Local and federal air quality regulations may regulate or prohibit the use of these products or surface preparation and cleanup materials. Consult local and federal air quality regulations before using these products.

Primer:

Use of a primer is an extra step and cost and will depend on substrates and the final end use. Using primer can improve the corrosion resistance of certain metals as well as improve the durability of the bond when exposed to high humidity conditions.

For most applications, high strength bonds on metal can be achieved without the use of a primer. Pre-testing for adhesion is suggested to determine if a primer is needed. Contact your 3M Technical Service representative for primer recommendation and application advice.

Application:

Loading the applicator gun: make sure the applicator is set up with correct plunger attachment for cartridge or sausage pack.

Metal Cartridge: Puncture seal in nozzle and remove the pull-tab seal at the bottom of the cartridge. Load into applicator and fix retaining ring (if applicable). Assemble the nozzle (if applicable) and cut to desired size and shape.

Plastic Cartridge: Cut off the top of the cartridge with a sharp blade, just above the area where the threads stop. Attach the nozzle and cut to desired size and shape.

Sausage Pack: Make a 1" slit close to the crimp on one end of the sausage pack. Load the sausage pack into the applicator barrel (slit side out). Place the rounded end of the supplied sausage nozzle onto the slit end of the sausage pack and fix with retaining ring. Cut nozzle to desired size and shape.

Product should be used within 24 hours after seal is punctured. Dispense product with the nozzle tip in contact with the substrate to insure good gap filling and substrate wetting. Bonding must occur within the first 50% of published skin time

Do not apply SMP sealants and adhesive sealants on frozen nor wet surfaces.

Do not apply over silicone nor in the presence of curing silicone or curing polyurethane. Avoid contact with uncured polyurethane during curing. Sealant can be tooled immediately after applying to give desired appearance.

Cleanup:

While sealant is still soft, cleaning can be done with the same solvents used for surface preparation. If sealant is already cured, removal is done mechanically with razor knife, piano wire, sanding or 3M™ Scotch-Brite™ Molding Adhesive and Stripe Removal Disc. This disc is available from 3M Automotive Aftermarket Division.

Application Examples

General Industrial, Construction, Specialty Vehicle: Seals lap seams on trucks, trains, trailers, etc. and construction panels. Seals/bonds well to most common substrates.

Application Equipment

Cartridge and Sausage Pack:

A variety of applicators are available. Please contact your sales rep for assistance in selecting an applicator.

Bulk Dispensing:

A 46:1 ratio dual action piston pump with a ram is suggested. Actual equipment should be designed for your application based on the volume required. Please contact your sales rep or the technical service group to suggest equipment manufacturers (Graco: 1-877-844-7226 or www.graco.com).

Product Certifications and Listings

NSF R2: Coating for Use on Structural Surfaces (White and Gray only)

Leadership In Energy and Environmental Design (LEED): Contributes to LEED credit

Industry Specifications

[NFPA 130 test report for details \(ASTM E662\)](#)

[NFPA 130 test report for details \(ASTM E1354\)](#)

[NFPA 130 test report for details \(BSS 7239\)](#)

[NFPA 130 test report for details \(ASTM E162\)](#)

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) in the original, unopened packaging, out of direct sunlight. For best performance, use this product within 12 months from date of manufacture.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577

Automotive Disclaimer

Select Automotive Applications:

This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

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