



Polyurethane Window Bonder Adhesive Sealant 595

Technical Data

March 2018

Product Description 3M™ Polyurethane Window Bonder Adhesive Sealant 595 is a one component, fast curing adhesive which can be used to bond windshields and side windows of vehicles with a primer and forms a rigid yet elastic permanent bond. 3M 595 bonds to a wide variety of materials including glass, acrylic/PMMA, polycarbonate, and many other materials. Use of a primer will depend upon the quality of the substrates.

Features/Advantages

| Feature | 3M™ Polyurethane Window Bonder Adhesive Sealant 595 | Advantage |
|--|---|---|
| One component/moisture curing | X | <ul style="list-style-type: none">• No mixing• Simplifies production |
| Bonds dissimilar materials | X | <ul style="list-style-type: none">• Gives design flexibility |
| Adheres to materials commonly used in vehicle window bonding | X | <ul style="list-style-type: none">• Multiple uses and design flexibility |
| High strength | X | <ul style="list-style-type: none">• Provides long lasting bonds |
| Fast curing | X | <ul style="list-style-type: none">• Speeds production |
| Higher modulus / High Shore A Hardness | X | <ul style="list-style-type: none">• Ideal for bonding• Gives high strength bonds |

Application Ideas

| Market | 3M™ Polyurethane Window Bonder Adhesive Sealant 595 |
|-------------------|--|
| Marine | X |
| Specialty Vehicle | X |
| | Bonds glass and plastics commonly used as windows and windshields. |

3M™ Polyurethane Window Bonder Adhesive Sealant 595

Technical Data

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

| Properties | 3M™ Polyurethane Window Bonder Adhesive Sealant 595 |
|---|---|
| Tack-Free Time @ 73F and 50% RH | 20 - 30 minutes |
| Rate of Cure @ 73F and 50% RH | >1/8" (3.5 mm) per 24 hour |
| Shore A Hardness (ASTM C661) | 60 - 65 |
| Tensile Strength (ASTM D412) | 1250 psi (8.6 MPa) |
| Elongation at Break (ASTM D412) | 400% |
| 100% Modulus (ASTM D412) | 470 psi (3.2 MPa) |
| Consistency | Thixotropic paste |
| Application Temperature | 40°F - 95°F (5°C - 35°C) |
| Water and salt spray resistance | Excellent |
| Shearing resistance at 5 hours/23°C/50%RH (Ford SAE J 1529) | >130 psi |
| Shearing resistance at 7 days/23°C/50%RH (Ford SAE J 1529) | >500 psi |
| Crash test (standard FMVSS 212): resists after 1 hours/23°C/50%RH | Pass |
| Approximate Coverage (10.5 oz. [310 mm Cartridge]) | 1/8" (3 mm) bead = 126 lineal feet (38 lineal meters) |

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Performance Data

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

Heat 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).

Product Certifications and Listings

| | 3M™ Polyurethane Window Bonder Adhesive Sealant 595 |
|--|---|
| Federal Motor Vehicle Safety Standard Crash Test FMVSS 212* | X |

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 or methyl ethyl ketone (MEK).*

*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 recommended for window bonding using 3M™ Polyurethane Window Bonder Adhesive Sealant 595. Surface prep consists of the appropriate

3M Primer to both bonding surfaces. In areas with VOC restrictions, it is imperative that bonding surfaces are clean of contaminants. It may be acceptable to bond fritted glass without primer if the frit area is abraded with 3M™ Scotch-Brite™ abrasive to improve adhesion. Contact 3M for technical support.

Do not apply 3M 595 on frozen nor wet surfaces. Do not apply over silicone nor in the presence of curing silicone.

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Directions
for Use
(continued)

Window Bonding Application Supplies:

- 3M™ Polyurethane Window Bonder Adhesive Sealant 595 in 310 ml cartridges or 600 ml sausage packs
- Solvent or non-greasy cleaner
- Appropriate 3M Primer matched to the substrate:

| | |
|---------------|---|
| Fritted Glass | 3M™ All Purpose Primer P591 |
| Plain Glass | 3M™ All Purpose Primer P591 |
| PMMA | 3M™ All Purpose Primer P591 |
| Fiberglass | 3M™ All Purpose Primer P591 |
| Metal | 3M™ All Purpose Primer P591 or 3M™ Metal Primer P592 |
- Wool dauber(s) for 3M Primer application
- Applicator gun
- Nozzle(s)
- Glass or plastic window/windshield
- Personal protective gear (safety glasses, powder-free gloves, etc)

Alignment: Dry-set glass and align for uniform fit. Adjust setting blocks as required. Apply masking tape to the corners and frame to aid with alignment when bonding. Clean entire surface of main body using a solvent or non-greasy cleaner. Clean entire surface of window using a non-greasy glass cleaner: clean back side first, then flip over and clean front side (bonding side) second.

Apply appropriate 3M Primer to Main Body and Window: Shake appropriate 3M Primer for 30 seconds after you hear the ball moving inside the bottle. Dip a clean wool dauber into the primer. Roll the dauber around the edge of the bottle to squeeze out excess primer. Replace cover on primer bottle. Apply a single continuous layer of primer to the surface. Wait 30 minutes to dry.

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Directions for Use (continued)

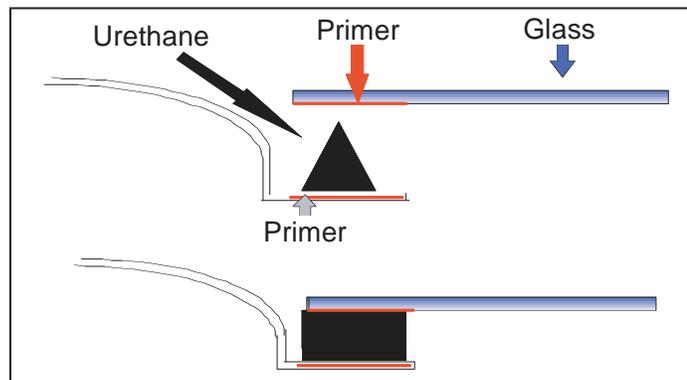
Loading the applicator gun: make sure the applicator is set up with correct plunger attachment for cartridge or sausage pack.

Cartridge: Puncture seal in the center of the nozzle connection on top and remove the pull-tab seal at the bottom of the cartridge. Load into applicator and fix retaining ring (if applicable). 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). Take care to not squeeze the sausage pack when inserting into the applicator. 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.

Suggested nozzle size and shape: Use a nozzle with a triangle cut. A notch clipper for pig ears or a blade can be used to make the cut. The desired size of the triangle cut is 1/2" (10-12 mm) high and 1/4" (5-6 mm) wide.

3M™ Polyurethane Window Bonder Adhesive Sealant 595 should be used within 24 hours after cartridge is opened. Dispense 3M 595 onto the primed main body with the nozzle tip perpendicular to the substrate to insure uniform contact with the substrate. Press window into the frame until the triangle bead is squeezed to half its original height. The cross-section of the bond should be approximately 1/4" x 1/4" (5 mm x 5 mm) square after application:



Apply clamps if necessary. Curing time is dependent upon the temperature and humidity. Please see attached chart for reference.

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Directions for Use (continued)

Cleanup:

While sealant is still soft, cleaning can be done with the same solvents used for surface preparation. Avoid cleaning with alcohol as it will interfere with the curing process.

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 Equipment Suggestions

Cartridge and Sausage Pack:

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

Bulk Dispensing:

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 \(Graco: www.graco.com\)](http://www.graco.com).

Storage

3M™ Polyurethane Window Bonder Adhesive Sealant 595 must be stored in a controlled environment to maximize shelf life. Store the products in the original unopened containers below 77°F (25°C).

Shelf Life

When stored at recommended conditions, the shelf life of cartridges and sausage packs is 12 months from the date of manufacture. For 5 and 55 gallon containers, the shelf life is 9 months from date of manufacture.

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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 or (651) 737-6501.

Technical Information

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ISO 9001

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.



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