



Document Library
TS Data Sheet 08693
08695
08564

WARNING: This document is not effective yet.

Public

Rev:6

Effective: 07/18/2007

Status: Pending

3M™ Auto Glass Urethane Windshield Adhesive
(Medium Viscosity)

Data Sheet

3M Part No.(s)	3M Part Descriptor(s)
08693	310 ml Cartridge
08695	450 ml Flexible Package
08564	600 ml Flexible Package

3M Fax on Demand Identification Number : 08693

Description

3M™ Auto Glass Urethane Windshield Adhesive (Medium Viscosity) is a black, medium viscosity, one-part moisture cure urethane adhesive which provides a high strength material designed to bond and seal vehicle windshields, backlites, and sidelites.



Features, Advantages, Benefits

Features

- Fast Cure
- 10-15 Minute Work Time
- Non-Sag
- Cartridge and Flexible Packages
- High Bonding Strength
- Easy Gunning

Advantages	● Fast bond strength ● Easy to use ● Less mess ● Job Size Flexible Packages ● Meets or exceeds OEM Specifications ● Manual guns can be used
Benefits	● Easy to use system ● Sufficient work time ● Less time to do the job ● Economical flexible packages ● Customer satisfaction ● Less cost

Typical Physical Properties

Container	310 ml (10.5 fl/oz) Cartridge 450 ml (15.2 fl/oz) Flex Pack 600 ml (20.3 fl/oz) Flex Pack
Base	Urethane
Density lbs/Gallon (Appx.)	9.8 - 10.0
Color	Black
Solids Content (Appx.)	>95%
Work Time (75°F / 50% R.H.)	10 - 15 Minutes
Shelf life (Store between 40° - 75°F)	12 Months

Product Uses

3M™ Auto Glass Windshield Urethane (Medium Viscosity) is designed for the reinstallation of vehicle windshields, backlites, and sidelites.

Performance Properties

Tensile:	1200 PSI
Elongation:	750%
Hardness (Shore A):	50-55
Cure Through:	24 Hours @ 50%RH, 75°F
Overlap Shear Strength: (SAE J1529) (50% RH, 75°F)	
6 Hours	60 PSI
72 Hours	550 PSI

Cure Time Chart

Cure Time for one-component adhesives depends on temperature and relative humidity. The following tables illustrate the conditions at which the adhesive listed meets specific overlap shear strengths.

Listed below are approximate times to achieve stated overlap shear strengths. Overlap shear strength to meet OEM requirements varies depending on the make of the car.

Please note that bonding is not recommended below 40°F.

50 psi	40°F	50°F	60°F	70°F	80°F	90°F
Time (hr)						

75% RH	20	7	4	3	1	0.5
50% RH	24	7	4	3	2	1.5
25% RH	24	7	6	4	3	2
100 psi	40°F	50°F	60°F	70°F	80°F	90°F
Time (hr)						
75% RH	24	13	8	6	2	1
50% RH	48	15	8	6	4	2.5
25% RH	100	15	9	8	6	5
150 psi	40°F	50°F	60°F	70°F	80°F	90°F
Time (hr)						
75% RH	48	17	11	8	3	2
50% RH	65	24	14	8	5	4
25% RH	168	24	16	9	8	8
250 psi	40°F	50°F	60°F	70°F	80°F	90°F
Time (hr)						
75% RH	80	30	17	13	6	3
50% RH	100	48	20	13	8	6
25% RH	225	48	24	15	12	12

Handling and Application Information

Directions for Use

Full Cutout Method With a Dam Materials Using 3M™ Auto Glass Urethane Windshield Adhesive Medium Viscosity -- Part Numbers 08693, 08695, or 08564

These instructions describe the proper use of 3M™ Auto Glass Urethanes and related 3M glass shop products and are intended for use as a supplement to detailed service manuals and instructions provided by automotive manufacturers. Automobile manufacturer instructions should be followed when removing automotive trim and moldings as well as other special requirements pertaining to specific car models.

Note: The products and procedures presented here may be applicable to quarter glass and backlite replacements. However, for detailed instructions by car model, you should refer to information available from the automobile manufacturer.

The following instructions cover the replacement procedure for urethane bonded automotive windshields using the full cut out procedure with dam material. The dam material provides the proper setting height.

1. Organize all tools, product and equipment needed. Wear appropriate safety equipment, such as Nitrile rubber, Butyl rubber, chemical resistant gloves, safety glasses, apron or other protective equipment required by safety or company regulations.
2. Remove windshield wiper arms and trim as necessary to expose the entire perimeter of glass.
3. Clean dirt and debris from around the pinchweld area before cutting out the glass. Clean again after the glass is cut out to minimize contamination.
4. Cut into existing urethane around entire perimeter of glass with a utility knife cutting as close to edge of the glass as possible.
5. Cut out glass with appropriate removal tools keeping as close to the glass as possible. Remove windshield and repeat Step 3.
6. Dry set the glass. Align for uniform fit and adjust setting blocks as needed for best fit. To allow for sufficient bonding of urethane, make sure there is a MINIMUM of ¼-inch of glass, in addition to the space that will be taken up by any dam material, around the entire perimeter of the glass. Mark location by applying masking tape to windshield and car body. Slit tape at edge of glass. Remove windshield.
7. Remove major portion of old urethane adhesive from the pinchweld. Use a razor blade knife or utility knife to prevent scraping paint off the pinchweld and exposing bare metal. **NOTE:** On urethane installations, it is recommended that a thin film (1-2 mm) of the old urethane be left on the pinchweld and fresh urethane is bonded to remaining film. **When removing butyl tape or unknown material, remove all old material from pinchweld.**
8. Prime any bare metal scratches with 3M™ Single Step Primer (P/N 08681 or 08682). **NOTE:** When excessive abrasive cleaning is required, prime pinchweld metal with a 2 part epoxy automotive paint primer and allow to cure properly. Apply 3M™ Single Step Primer to repaired area and allow to dry for at least 5 minutes.
9. Preparing the glass.
 - a. Clean inside surface of glass with 3M™ Glass Cleaner, P/N 08888 and a lint-free paper towel to

clean the surface where the urethane bond will be made.

- b. Verify the primer and urethane are within use by dates. Record the lot numbers for future reference if needed.
 - c. Shake 3M™ Single Step Primer (P/N 08681 or 08682) for at least 30 seconds (after hearing the ball move) before application.
 - d. Apply 3M™ Single Step Primer to the outer edge of the glass where the urethane bond will be made and allow to dry for at least 10 minutes.
10. Apply a foam dam as used in the OEM application.
 11. Cut tip to desired shape and size to provide a bead height sufficient to give good contact with the windshield around the entire perimeter. A triangular shaped notch will provide the optimal bead shape and height. A height of ½ to 9/16-inch and a ¼ - 5/16-inch base is suggested. NOTE: Where installing encapsulated glass, apply a bead high enough to assure glass contact before encapsulation contacts the car body and prevents further setting. Back paddling material after setting will not be possible.
 12. Apply 3M™ Auto Glass Urethane Windshield Adhesive - Medium Viscosity, directly onto the OEM urethane film on the pinchweld or directly to the glass.
 13. Position the glass by aligning the masking tape on glass and car body. Press glass in place to assure complete contact with the urethane adhesive.
 14. Paddle squeeze out around edge of glass if possible. If necessary, paddle additional adhesive between glass and car body to fill voids.
 15. Remove masking tape alignment strips.
 16. Replace moldings, windshield wipers and other trim removed in Step 1.
 17. Clean any excess urethane with an adhesive cleaner.

PLEASE NOTE: Discard empty primer and urethane containers in a manner that meets the regulations in your area. Recommendations are provided in the Material Safety Data Sheet for the products you are using.

Applications

- Recommended for installation of windshields, backlites and sidelite using the full cutout or partial cutout installation methods. Full cutout installations will require the use of a dam or spacer block materials. A triangular bead of urethane is recommended.
- Manual caulking guns can be used to dispense product. 3M offers applicator guns with an 18:1 ratio, including the 3M™ Professional Caulking Gun (P/N 08993) and the 3M™ Flex Pack Heavy Duty Applicator Gun (P/N 08991).
- Electric or air operated caulking guns can be used for easier dispensing. Battery operated caulking guns are also available. Please see your local 3M AAD Sales Representative for details.

Storage and Handling

Store between 40° - 75°F. Rotate stock on a "first-in, first-out" basis. When stored at the recommended conditions in original, unopened containers, this product has a shelf life of 12 months.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product.

Country

US

This document is public. It may be distributed.

Warranty and Limited Remedy

This product will be free from defects in material and workmanship at the time of shipment. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. If this product is defective, your exclusive remedy and 3M's and seller's sole obligation shall be, at 3M's option, to replace the product or refund the purchase price.

LIMITATION OF LIABILITY : 3M and seller will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential , regardless of the legal theory asserted , including warranty, contract, negligence or strict liability .

For Additional Health and Safety Information

3M Automotive Aftermarket Division 3M Center, Building 223-6N-01 Saint Paul, MN 55144-1000 1-877-666-2277
(1-877-MMM-CARS) Material Safety Data Sheets and Technical Data Sheets are also available by calling Fax on Demand
1-800-305-0419. Help Line 1-800-621-5455 (US) 1-650-596-4407 (International).

3M Fax on Demand/MSDS Identification Number 08693

Author: Philip R. Larson/US-Corporate/3M/US

Modifiers: Ken E. Kosel/US-Corporate/3M/US

This is the last page