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Technical Data Sheet 08690
08689
08566

Public

Rev:3

Effective: 06/26/2007

Status: Active

3M™ Fast Cure Auto Glass Urethane (High Viscosity)

Data Sheet

3M Part No.(s)	3M Part Descriptor(s)
08690	310 ml (10.5 fl/oz) Cartridge
08689	450 ml (15.2 fl/oz) Flexible Package
08566	600 ml (20.3 fl/oz) Flexible Package

3M Fax on Demand Identification Number : 08690

Description

3M™ Fast Cure Auto Glass Urethane (High Viscosity) is a one-part moisture curing urethane providing rapid strength build-up. 3M™ Fast Cure Auto Glass Urethane (High Viscosity) is a high strength adhesive designed for use in full cut-out installations without damming materials. 3M™ Fast Cure Auto Glass Urethane (High Viscosity) provides the bonding strengths required for the reinstallation of vehicle windshields, backlites and sidelites in the AGR Market, and when fully cured meets the OEM strength requirements.



Features, Advantages, Benefits

Features	<ul style="list-style-type: none"> ● Rapid Strength Build-up. ● High bond strength. ● Passed FMVSS212 @ 4 hr. @ 72F/ 55% RH, dual airbags. ● Officially Licensed by NASCAR™ . ● High Viscosity / Glass Supporting. ● Job Size Flexible Packages. ● High Bonding Strength.
Advantages	<ul style="list-style-type: none"> ● Fast bond strength build-up for faster drive away time. ● Meets OEM strength requirements. ● Fast curing. ● NASCAR™ endorsement. ● Windshield Supporting. ● Can do large or small jobs. ● Job Size Flexible Packages. ● Meets or exceeds OEM Specifications.
Benefits	<ul style="list-style-type: none"> ● Early release time for customer. ● Meets customer requirements. ● Meets industry needs. ● Brand recognition. ● Spacer blocks are not needed.

Typical Physical Properties

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

Product Uses

3M™ Fast Cure Auto Glass Urethane (High Viscosity) is designed for the reinstallation of vehicle windshields, backlites and sidelites and when fully cured meets the OEM strength requirements.

Performance Properties

Tensile:	1000 PSI
Elongation:	700 %
Hardness (Shore A):	55 – 60
Overlap Shear Strength: (SAE J1529) (50% RH, 70°F)	55 PSI

2 Hours	100 PSI
4 Hours	150 PSI
5 Hours	250 PSI
9 Hours	500 PSI
24 Hours	>500 PSI
48 Hours	

Cure Time Charts

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.**

Time (hr) to reach 100 psi	40°F	50°F	60°F	70°F	80°F	90°F
>80% RH	21	8.5	4	2.5	1	1
75% RH	24	10	5	3.0	1.5	1.5
50% RH	47	16.5	9	4	2.5	1.5

Time (hr) to reach 150 psi	40°F	50°F	60°F	70°F	80°F	90°F
>80% RH	40	13	6.5	3	1.5	1
75% RH	43	14.5	7.5	4	2	1.5
50% RH	72	26	13	5	3.5	2.5

Time (hr) to reach 250 psi	40°F	50°F	60°F	70°F	80°F	90°F
>80% RH	75	22	10	5.5	2.5	2
75% RH	77	24	12	6.5	3	2.5
50% RH	120	47	21.5	9	5.5	3.5

Handling and Application Information

Directions for Use

Directions for Use

Full Cut Method Without Dam Materials Using :

3M™ Fast Cure Auto Glass Urethane (High Viscosity)

Part Numbers 08689, 08690, 08566

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 without the use of a dam material. High viscosity urethane products provide windshield support while the cure is attained to provide structural strength.

Please Note: Nitrile rubber gloves provide the best resistance to the chemicals used for auto glass installations and help prevent contaminating the bonding surface when handling, cleaning and prepping the glass and bonding surfaces. When wearing rubber gloves, "powder free" gloves should be used so as not to contaminate the cleaned bonding surfaces with the powder when handling the parts.

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 necessary to expose the entire perimeter of glass.
3. Clean dirt and debris from around the pinchweld area before cutting out the glass and 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.
 1. 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.
 2. Verify the primer and urethane are within use by dates. Record the lot numbers for future reference if needed.
 3. Shake 3M™ Single Step Primer (P/N 08681 or 08682) for at least 30 seconds before application.
 4. 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. If a foam dam was used in the OEM application, it is suggested that foam dam material should be replaced.
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 desired 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™ Fast Cure Auto Glass Urethane – High 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 and 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 an appropriate manner that meets the regulations in your area and according to the directions from the Material Safety Data Sheet for the products you are using.

* If 'Directions for Use' reference P.N.'s 08984, 08986, or 08987, please read. Federal and local air quality regulations may regulate or prohibit the use of surface preparation and cleanup solvents based on VOC content. Consult your local and Federal air quality regulations for information. When using solvents, use in a well ventilated area. Extinguish all sources of ignition in the work area and observe precautionary measures for handling these materials. Refer to product label and MSDS for P.N. 8984, 8986, or 8987 for detailed precautionary information.

Applications

3M™ Fast Cure Auto Glass Urethane (High Viscosity) can be used for the Installation of windshields, backlites and sidelites using the full cutout installation method. 3M™ Applicator Guns, P/N 08993 (Cartridge), and P/N 08991 (Flex Pack) are 18:1 ratio caulk guns. Electric or air operated caulking guns can be used for easier caulking. Battery Operated Caulking Guns are available, please see your local 3M AAD/ASG Sales Representative for details.

Storage and Handling

Store between 40°F - 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 08690

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