

The Most Important Document
You'll Read this Year ...

NEW ANSI AUTO GLASS REPLACEMENT SAFETY STANDARD

DRAFT STANDARD • CHECK FOR REVISIONS AND UPDATES • SPRING 2000

I. SCOPE

To develop and publish nationally recognized automotive glass replacement safety standards addressing procedures, education, and product performance.

II. PURPOSES

A. To improve the performance and practices of industry technicians and raise their level of professionalism.

B. To guide the industry in returning a safe vehicle to every customer.

C. To provide guidelines and objectives for groups that supply products, education, and training for the industry.

D. To promote public awareness of the need for safe installation procedures which will reduce the risk of personal injury and/or death from traffic accidents.

E. To provide a comprehensive automotive glass replacement standard.

F. To achieve a higher degree of consistency among many disparate installation practices.

G. To create an automotive glass installation benchmark for anyone engaged in the replacement of automotive glass.

III. DEFINITIONS

A. Adhesive Bonding System –an engineered system using chemical products to bond stationary automotive glass parts to vehicle bodies.

B. AGR—automotive glass replacement

C. ARG—automotive replacement glass

D. Butyl sealant—a copolymer of isobutylene and isoprene

E. Equivalent adhesive bonding system—a system that meets or exceeds the vehicle manufacturer's requirements, or has been certified by the retention system manufacturer as appropriate for the specific application and equivalent to the OEM retention system

F. Final Exam—a comprehensive exam that evaluates the individual's knowledge and skills including but not limited to retention system specific replacement procedures, a variety of automotive safety issues, safe drive-away time, environmental conditions as they affect retention system performance, federal safety requirements, and the basics of safe and effective automotive glass replacement

G. OE—original equipment

H. OEM—original equipment manufacturer

I. Polysulfide adhesive—an adhesive containing sulfur that cures to a cross-linked rubber compound

J. Polyurethane adhesive—a thermoplastic polymer adhesive produced by the condensation reaction of polyisocyanate and a hydroxyl containing material

K. Primer—refers to a bonding agent that is designed specifically by the adhesive company to promote adhesion between the substrate and the adhesive

L. Retention System—refers to any original equipment or equivalent method of glass retention

M. Safe Drive-Away Strength—the minimum psi value specified by the retention systems manufacturer as determined in accordance with SAE J1529: Overlapshear Test for Automotive Type Adhesive for Stationary Glass Bonding

N. Safe Drive-Away Time—the length of time necessary for a given adhesive system to build up a safe drive-away strength

O. Those Engaged in Automotive Glass Replacement—refers to any individual, business, or organization that replaces automotive glass; examples include but are not limited to individual technicians, automotive glass replacement businesses, automotive body shops, and dealerships

IV. VEHICLE ASSESSMENT BEFORE REPLACEMENT

Those engaged in automotive glass replacement shall not undertake or complete such replacement when any related condition compromises returning a safe vehicle to the owner/operator, and they shall be so notified.

V. SELECTION OF GLASS AND RETENTION SYSTEMS

A. Those engaged in automotive glass replacement shall use automotive glass, retention systems, and safety-related components that are

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produced under firmly established quality assurance standards such as ISO 9000, QS 9000, or equivalent.

B. Glass products must meet the requirements of ANSI/SAE Z26.1 as required by Federal Motor Vehicle Safety Standard 205.

C. Retention systems shall be approved either by the OEM, or, in the absence of such approval, must be certified by the retention system manufacturer to be equivalent. Lot certification of conformance must be provided upon request for all system components according to OEM or equivalent specifications.

D. Those engaged in automotive glass replacement shall obtain and follow comprehensive and current application instructions for retention systems. These instructions shall include at least the effect climatic conditions may have on retention system performance, storage specifications, safe drive-away time, and any special procedures required for adverse conditions.

E. Those engaged in automotive glass replacement shall require that lot numbers and expiration dates be printed on appropriate products.

F. Those engaged in automotive glass replacement shall require their adhesive manufacturer or supplier to conduct ongoing comprehensive substrate testing to assure proper adhesion to existing adhesive, glass, glass coatings, plastics, automotive paints, or any original equipment bonding surface.

G. Those engaged in automotive glass replacement shall require their adhesive manufacturer or supplier to state drive-away strength and provide safe drive-away time documentation in the form of a matrix

as described in annex A.

VI. INSTALLATION STANDARDS—ADHESIVE BONDED

A. Those engaged in automotive glass replacement shall follow adhesive manufacturer's application instructions. All in-shop or mobile installations shall be performed under environmental and other conditions that are compatible with the manufacturer's adhesive application instructions.

B. Products must be stored and controlled according to manufacturer's requirements.

C. No adhesive system shall be used that will not achieve safe drive-away strength by the time the vehicle may be reasonably expected to be operated.

D. Customers shall be individually advised of the safe drive-away time under the circumstances of the replacement.

E. Adhesive must be applied so that the finished bead cross section profile and dimensions meet or exceed original equipment configuration.

F. If the OEM installation was polyurethane, then the glass must be replaced with polyurethane or an equivalent adhesive bonding system. If the OEM installation was butyl, polysulfide, or other non-polyurethane, and the vehicle is licensed for highway use, front mounted installations shall be performed using polyurethane or an equivalent adhesive bonding system unless in conflict with current OEM specifications.

G. All primer and adhesive lot numbers and expiration dates must

be traceable to each job.

H. No product that has exceeded its expiration date shall be used.

I. When vehicle paint or paint primer is breached, the vehicle paint and paint primer must be restored according to OE specifications. In the absence of such specifications, the area shall be completely covered with a pinchweld primer compatible with the adhesive system being used and then covered with polyurethane or an equivalent adhesive bonding system.

J. All supplemental mechanical glass retention devices must be replaced to original equipment specifications.

K. Any product failure shall be reported promptly to the manufacturer or supplier of the product.

L. When inappropriate replacement materials or methods are detected, those engaged in automotive glass replacement shall report their findings to the vehicle owner/operator.

M. When those engaged in automotive glass replacement correct inappropriate glass installations, they shall remove any inappropriate materials, they shall fully correct any adverse glass installation related condition(s) caused by the use of inappropriate materials or methods, and they shall use appropriate methods described elsewhere within Section V. of this document.

VII. INSTALLATION STANDARDS—RUBBER GASKET

A. If the OEM utilizes the combination of a rubber gasket and polyurethane as a retention system, an equivalent adhesive bonding sys-

tem must be used in the installation. In cases when the OEM didn't include polyurethane or an equivalent adhesive system, such systems shall be used if later production models included the addition of adhesive systems without body style modification.

B. If the OEM gasket installation did not include adhesive systems and the vehicle is licensed for highway use, the installation shall include polyurethane or an equivalent adhesive bonding system. The following are permissible exceptions: egress applications, antique restorations, the customer's requirements differ even after being informed about the safety implica-

tions, or in cases in which this practice conflicts with current vehicle manufacturer specifications.

VIII. MISCELLANEOUS

A. All mechanically fastened automotive glass parts shall be replaced according to original equipment specifications.

B. Glass parts, including custom cut parts, must be marked in compliance with ANSI/SAE Z26.1 for those vehicles licensed for highway use.

C. Those engaged in automotive mirror replacement shall install external and internal replacement mirrors that meet or exceed original equipment specifications and the

requirements of Federal Motor Vehicle Safety Standard 111.

D. Whenever OEM retention systems are modified on later production models without body style modification, the most current system shall be used in the replacement unless otherwise specified by the OEM.

IX. EDUCATION

Technicians installing replacement automotive glass shall be fully qualified for the tasks they are required to perform. Such qualifications shall include, at a minimum, completion of a comprehensive

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TO ORDER EXTRA COPIES:

Additional copies of the standard are available for sale from the AGRSS committee.

QUESTIONS? CALL THE COMMITTEE AT 708/460-8004

Subject to approval by the Auto Glass Replacement Safety Standard (AGRSS) committee, copies of the standard will be made available on or about June 5, 2000 both electronically on the American National Standards Institute website (www.ansi.org) and in hard copy format from the AGRSS Secretariat through this publication. Pricing for the printed copy is subject to approval by the AGRSS committee.

training program with a final exam and a continuing education component. The program shall include, among other things:

- a. AGR safety issues;
- b. an understanding of OEM installation standards and procedures;
- c. relevant technical specifications;
- d. comprehensive retention system specific training;
- e. the opportunity to apply and demonstrate the skills technicians learn.

Interested parties may contact AGRSS by calling Hank Chamberlain, AGRSS Chair, at 816-472-8400.

Safe Drive-Away Time Matrix

Adhesive part number: _____
 Applicable to (body types): _____
 Safe drive-away strength: _____
 Minimum installation temperature: _____
 Minimum installation humidity: _____
 Special procedures required to achieve times stated below: _____

	90% RH	75% RH	50% RH	25% RH	10% RH
85 F	Time	Time	Time	Time	Time
70 F	Time	Time	Time	Time	Time
55 F	Time	Time	Time	Time	Time
40 F	Time	Time	Time	Time	Time
25 F	Time	Time	Time	Time	Time
10 F	Time	Time	Time	Time	Time

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