

Specification for

Performance of automotive laminated windscreen repair systems

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Automobile Standards Policy Committee (AUE/-) to Technical Committee AUE/10, upon which the following bodies were represented:

- Association of British Glass Repair Operators
- Automobile Association
- British Plastics Federation
- British Railways Board
- Department of Transport
- Department of Transport (Transport Research Laboratory)
- Flat Glass Manufacturers' Association
- Glass and Glazing Federation
- National Caravan Council Limited
- Society of Motor Manufacturers and Traders Limited
- Windscreen and Glass Repairer's Association
- Windscreen Repair Equipment Manufacturers' and Suppliers' Association

This British Standard, having been prepared under the direction of the Automobile Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 February 1994

© BSI 09-1999

The following BSI references relate to the work on this standard:
Committee reference AUE/10
Draft for comment 92/77928 DC

ISBN 0 580 22532 1

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 References	1
3 Definitions	1
4 Principal characteristics of a windscreen repair system	1
5 Categories of damage types	1
6 Test pieces	1
7 Testing	2
8 Performance	3
9 Spectrometric analysis of windscreen resin repair materials	4
10 Marking and information	5
Annex A (normative) Method of test for resistance to humidity	6
Annex B (normative) Method of test for resistance to high temperature	6
Annex C (normative) Method of test for resistance to radiation	6
Annex D (normative) Method of test for visual appearance before and after storage	6
Annex E (normative) Method of test for optical distortion	7
Annex F (normative) Method of test for light scatter	7
Annex G (normative) Method of test for impact resistance (2.26 kg ball)	7
Annex H (normative) Method of test for impact resistance (headform)	7
Annex J (normative) Three point bend test	8
Annex K (normative) Method for spectrometric analysis of windscreen resin repair material	8
Figure 1 — Types of windscreen damage	2
Figure J.1 — Example of method of supporting test pieces under load	9
Table 1 — Schedule of tests and types of damage to be used for testing	3
List of references	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Automobile Standards Policy Committee. It is based on initial proposals from the Glass and Glazing Federation and the Association of British Glass Repair Operators.

There is a growing practice to repair minor impact damage to laminated windscreens using some form of plastics resin. Such repair, whilst not restoring a windscreen to its original condition in all respects, is advantageous since, if carried out using the correct procedures, it can:

- a) improve the appearance of the damaged area and its optical quality;
- b) restore a smooth surface to the damaged area which might otherwise interfere with the performance of the windscreen wipers;
- c) prevent further deterioration, e.g. moisture ingress.

The procedures to be followed for windscreen repairs are given in BS AU 242:1991 *Code of practice for automotive windscreen repair*.

This standard specifies the performance requirements for windscreen repair systems, including the materials used, when carrying out repairs in accordance with BS AU 242:1991. Performance of the system is specified in terms of the performance of repairs to test pieces with specified types of damage. The standard takes into account the requirements specified for glazing materials given in the Road Vehicle (Construction and Use) Regulations 1986 [1].

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing product surveillance which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes are forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies performance requirements for windscreen repair systems, including the materials used, to be employed for the repair of laminated windscreens that have been damaged by impacts. This standard is applicable to repair systems to be used for the repair of windscreens of heavy goods vehicles (HGVs), coaches and passenger cars in accordance with BS AU 242:1991.

NOTE Attention is drawn to the Road Vehicle (Construction and Use) Regulations 1986 [1].

2 References

2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this British Standard only when incorporated in it by updating or revision.

2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Definitions

For the purposes of this British Standard the following definitions apply.

3.1

windscreen repair system

a specific procedure, apparatus and windscreen repair material designed for carrying out repair to an area of localized impact damage in a laminated glass windscreen

3.2

windscreen repair material

a plastics resin material containing as its essential ingredient an organic substance of high molecular weight which is polymerized during the repair procedure to provide adhesive strength, and a colourless, weatherproof transparent filler

3.3

laminated glass windscreen

a windscreen consisting of two or more layers of glass held together by one or more interlayers of plastics material

3.4

principal characteristic

a characteristic that substantially changes the performance of the windscreen repair system and the trade name or mark of the manufacturer

3.5

flat windscreen

a windscreen with no curvature

4 Principal characteristics of a windscreen repair system

4.1 A windscreen repair system shall be identified by its principal characteristics as listed in 4.2. A change in any principal characteristic shall imply a new system.

4.2 The principal characteristics of a windscreen repair system shall be as follows:

- a) the trade name or mark of the manufacturer of the repair system;
- b) the apparatus used for repair;
- c) the chemical name of the repair material;
- d) the category of damage types which can be repaired (see clause 5);
- e) the repair method and procedure specified by the manufacturer.

5 Categories of damage types

The type, size and location of damage which may be repaired shall be limited to that given in clause 2 of BS AU 242:1991.

For the purposes of this standard the class of damage, for which a windscreen repair system may claim to be suitable, shall be divided into two categories.

- a) Category A. All damage types shown in Figure 1.
- b) Category B. Damage which includes only types which do not have cracks of any kind projecting from the edge or centre of the damaged area, i.e. clover leaf, bull's eye and half moon types as shown in Figure 1.

6 Test pieces

NOTE Test pieces may be specially prepared or they may be cut from a flat laminated windscreen.

Test pieces shall be of flat, clear, windscreen quality glass of symmetrical construction with an 0.76 mm polyvinyl butyral (PVB) high penetration resistant (HPR) interlayer.

Test pieces of 5 mm nominal thickness shall have a 2.1 mm + 0.76 mm + 2.1 mm construction. Test pieces of 7 mm nominal thickness shall have a 3.0 mm + 0.76 mm + 3.0 mm construction.