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MASTIC ADHESIVES FOR FIXING WALLBOARDS



STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter



THE FOLLOWING SCIENTIFIC, INDUSTRIAL, CONSUMER AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Adhesives and Sealants Manufacturers Association of Australia
Australian Chemical Industry Council
Australian Council of Furniture Manufacturers
Australian Federation of Consumer Organizations
Confederation of Australian Industry
CSIRO, Division of Building Research
Department of Defence
Department of Productivity
Footwear Manufacturers Federal Executive Council
Plastics Institute of Australia
Plywood Association of Australia
Printing and Allied Trades Employers Federation of Australia
Railways of Australia Committee
Society of Automotive Engineers—Australasia
Telecom Australia

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AUSTRALIAN STANDARD

MASTIC ADHESIVES FOR FIXING WALLBOARDS

AS 2329—1980

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PREFACE

This standard for mastic adhesives for non-structural fixing of wallboards was prepared by the Association's Committee on Adhesives, under the authority of the Chemical Standards Board. It forms part of a series of standards dealing with functional adhesives of varying chemical types that are currently used for non-mechanical fixing of materials commonly used in the building industry.

Adhesives specified in this standard may be required to bond to a variety of substrate materials. They will generally adhere to timber, aluminium, brick and concrete but with some other adherends separate tests may be required. Adhesives in this standard have gap-filling properties to bridge distortion and unevenness of the framing, the brickwork, or the concrete. They are intended for interior use only.

Standards in this series specify quality requirements for the adhesive for the designated purpose. In conjunction with comprehensive manufacturers' instructions, they may be used for subsequent workmanship warranties on bonded assemblies.

This standard requires reference to the following standards:

- AS 1309 Glossary of Terms Used in the Adhesive Industry
- AS 1321 Methods for the Sampling and Testing of Adhesives
- AS 1820 Loomstate Cotton Duck
- AS 2193 Methods for Calibration and Grading of Force-measuring Systems of Testing Machines
- AS 2272 Marine Plywood

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard for MASTIC ADHESIVES FOR FIXING WALLBOARDS

1 SCOPE. This standard specifies requirements for solvent-based mastic adhesives used to bond various types of hardboard, asbestos cement, particle-board, plywood and wallboard panels to wood or metal framing, for interior use.

The standard does not apply to adhesives for gypsum-board or plasterboard.

NOTE: For other adherends, specific tests using the material in question should be carried out in consultation with the supplier.

2 DEFINITIONS. For the purpose of this standard, the definitions in AS 1309 apply.

3 PRODUCT INFORMATION. The supplier shall supply all necessary information on storage requirements and bonding procedures such as mixing, spreading, pot life, open and closed assembly times, as well as on shelf life and on non-volatile matter and cleaning instructions.

The information may be on the pack or supplied separately for industrial applications. Instructions for use, including cleaning up, shall be included with or printed on each retail pack.

4 SAMPLING. The adhesive sample shall be selected for testing in accordance with AS 1321, Part 1.

5 PERFORMANCE REQUIREMENTS.

5.1 Consistency. The adhesive shall be essentially free of foreign matter and shall be of uniform consistency suitable for application as specified by the manufacturer and in accordance with accepted commercial practice.

5.2 Shelf Life. When stored under the conditions recommended by the manufacturer in an unopened container as supplied by the manufacturer, the adhesive shall comply with the requirements of this standard and remain suitable for use for a period of at least 1 year from the date of manufacture, unless otherwise specified.

5.3 Thermal Stability. After storage in the original unopened container for 7 days at $40 \pm 2^\circ\text{C}$, the adhesive shall comply with the requirements of Clauses 5.4, 5.5, 5.6, 5.7 and 5.8.

5.4 Sag Resistance. When tested in accordance with Appendix A, the sag of extruded beads of the adhesive shall be not more than 6 mm.

5.5 Flow and Transfer of the Adhesive After 15 min Drying Time. When tested in accordance with Appendix B, the adhesive shall spread as follows:

- (a) On at least 50 percent of the surface area of the (bottom) panel A.
- (b) On the (top) panel B, at least 75 percent of the wetted area of panel A.

5.6 Ageing. When tested in accordance with Appendix C, the adhesive shall not become embrittled as evidenced by chipping, flaking, or cracking through to the substrate, after 500 h exposure at $70 \pm 2^\circ\text{C}$.

NOTE: Surface crazing is permissible.

5.7 Adhesion Strength of Adhesive.

5.7.1 Initial bond strength. When tested in accordance with Appendix D, the mean shear strength shall not be less than 200 kPa.

5.7.2 Bond strength in tensile shear (dry substrate). When tested in accordance with Appendix E, using the method of preparation of the test assemblies described in Paragraph E5.1, the mean shear strength shall be not less than 1 MPa.

5.7.3 Bond strength in tensile shear (wet substrate). When tested in accordance with Appendix E, using the method of preparation of the test assemblies described in Paragraph E5.2, the mean shear strength shall be not less than 1 MPa.

5.7.4 Bond strength in peel. When tested in accordance with Appendix F, the mean 180-degree peel strength shall be not less than 40 N per 25 mm width of bond.

5.8 Static Load in Shear. When tested in accordance with Appendix G, the assembly shall sustain a load in shear of 40 N for not less than 24 h at $40 \pm 2^\circ\text{C}$.

6 LABELLING AND PACKAGING.

6.1 Labelling. Each product container shall be labelled in accordance with the relevant statutory regulations.

The identification of the contents, the batch number and the date of manufacture shall be marked either on the product container or on the outer pack.

6.2 Packaging. The adhesive shall be packed in adequately labelled, airtight containers, protected where necessary by an outer pack to prevent damage in transport.