Australian STANDARD

Insulating glass units

STANDARDS Australia

This Australian Standard® was prepared by Committee BD-007, Glazing and Fixing of Glass.
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The following are represented on Committee BD-007:

- Association of Accredited Certification Bodies
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Glass and Glazing Association
- Australian Industry Group
- Australian Shop and Office Fitting Industry Association
- Australian Window Association
- Building Research Association of New Zealand
- Housing Industry Association
- Master Builders Australia
- Monash University
- The University of New South Wales
- The University of Sydney
- Window and Door Industry Council
- Window Association of New Zealand
- Window Film Association of Australia and New Zealand

Additional Interests:

- Insulating Glass Unit Manufacturers Association New Zealand

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This Standard was issued in draft form for comment as DR AS/NZS 4666.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

Insulating glass units

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PREFACE

A1 This Standard was prepared by Standards Australia/Standards New Zealand Committee BD-007, Glazing and Fixing of Glass, in collaboration with, the Insulating Glass Manufacturers Affiliation Australia (IGMA) and Insulating Glass Unit Manufacturing Association New Zealand (IGUMA) to supersede AS/NZS 4666:2000. Amendment No. 1 to this Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee. As a consequence of Amendment No. 1, which is published as an Australian-only Amendment, the designation of this Standard has been changed from AS/NZS 4666:2012 to AS 4666:2012.

This Standard incorporates Amendment No. 1 (May 2018). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The main objectives of this Standard are to—

(a) provide normative long term type test procedures and time frames intended to apply to all types of insulating glass units that are manufactured with the aim of complying with this Standard;

(b) provide normative aspects and elements deemed essential in achieving the correct glazing of insulating glass units;

(c) provide normative manufacturing and periodic test requirements for both, the components used in the manufacture of insulating glass units and completed insulating glass unit; and

(d) provide informative detail and material to support the intent of the normative requirements of this Standard as well as supplying additional aspects deemed relevant to the manufacture, glazing, application and use of insulating glass units.

A statement expressed in mandatory terms in a note to a table is deemed to be a requirement of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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FOREWORD

In addition to revising the 2000 edition of this Standard, IGMA and IGUMA have looked to expand the content of this Standard by—

(a) specifying time frame associated with long term type testing requirements; and

(b) introducing an additional section that deals with the implementation of periodic manufacturing tests.

In the first case, it was considered that the previous requirement for a once only long term type test ran the risk of ignoring the accumulative effects that minor changes to both component supply and manufacturing activity, may have on the finished product.

In the second instance, IGMA and IGUMA were concerned that the nature of long term type testing, i.e. it deals only with completed units, is conducted in a laboratory environment where results are not known for a number of months, had little relevance to the day-to-day activity taking place in the manufacturing environment. Accordingly, IGMA sought the assistance of Standards Australia in developing a Standard that would help ensure that the inherent qualities deemed to exist in units that had passed long term type testing, would be incorporated into daily production.

Consequently, Standards Australia, Standards New Zealand, IGMA and IGUMA are hopeful that compliance with this Standard will help maximize the longevity and performance of insulating glass units that are produced for the Australian and New Zealand markets.

STANDARDS AUSTRALIA

Australian Standard
Insulating glass units

S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard sets out requirements and guidelines for the long term type testing, glazing, periodic manufacturing testing and other associated aspects to do with insulating glass units intended for use in the applications listed in Clause 1.2.

NOTES:

1 Achieving satisfactory test results to this Standard does not imply a fit for purpose status to any specific application, and any such determination should be in accordance with the criteria specified in AS 1288 or any relevant statutory requirement, or both.

2 Thermal, solar, light transmission and acoustic properties are excluded from this Standard. These and other design criteria including sealant type and sealant dimensional properties are considered to have been catered for as part of the architectural or engineering functions, or both.

3 Manufacturing tests covered in this Standard subject samples only to the ambient temperatures existing at the time of manufacture, whilst testing conducted in accordance with this Standard subject units to a defined laboratory controlled temperature range. Consideration should be given to environmental extremes during the design phase which should allow for thermal build up during operating extremes. In particular, consideration should be given to the actual operating temperature of the insulating glass unit when determining sealant types.

4 It is not the intention of this Standard to preclude new or existing products, or technologies where equal or superior performance can be demonstrated to that specified in this Standard. This applies equally to component types, test, installation and glazing methods.

5 Testing for compliance with this Standard may involve the use of materials, equipment and methods that could be deemed hazardous. This Standard does not purport to address all the relevant safety aspects inherent to the test procedures and test personnel should consult the appropriate authorities in order to ascertain adequate safety procedures or compliance with relevant statutory requirements, or both.

1.2 APPLICATION

This Standard applies to the following types of insulating glass units:

(a) Hermetically sealed insulating glass units.

(b) Insulating glass units constructed with glass panes.

(c) Insulating glass units with one or more air spaces, where the glass panes are parallel to each other.

(d) Stepped insulating glass units.

(e) Insulating glass units containing introduced gases.

(f) Insulating glass units intended for use in refrigerated applications.

Glass types include obscure, wired, coated, laminated and toughened glass, as well as sand blasted, acid etched and normal annealed glass.