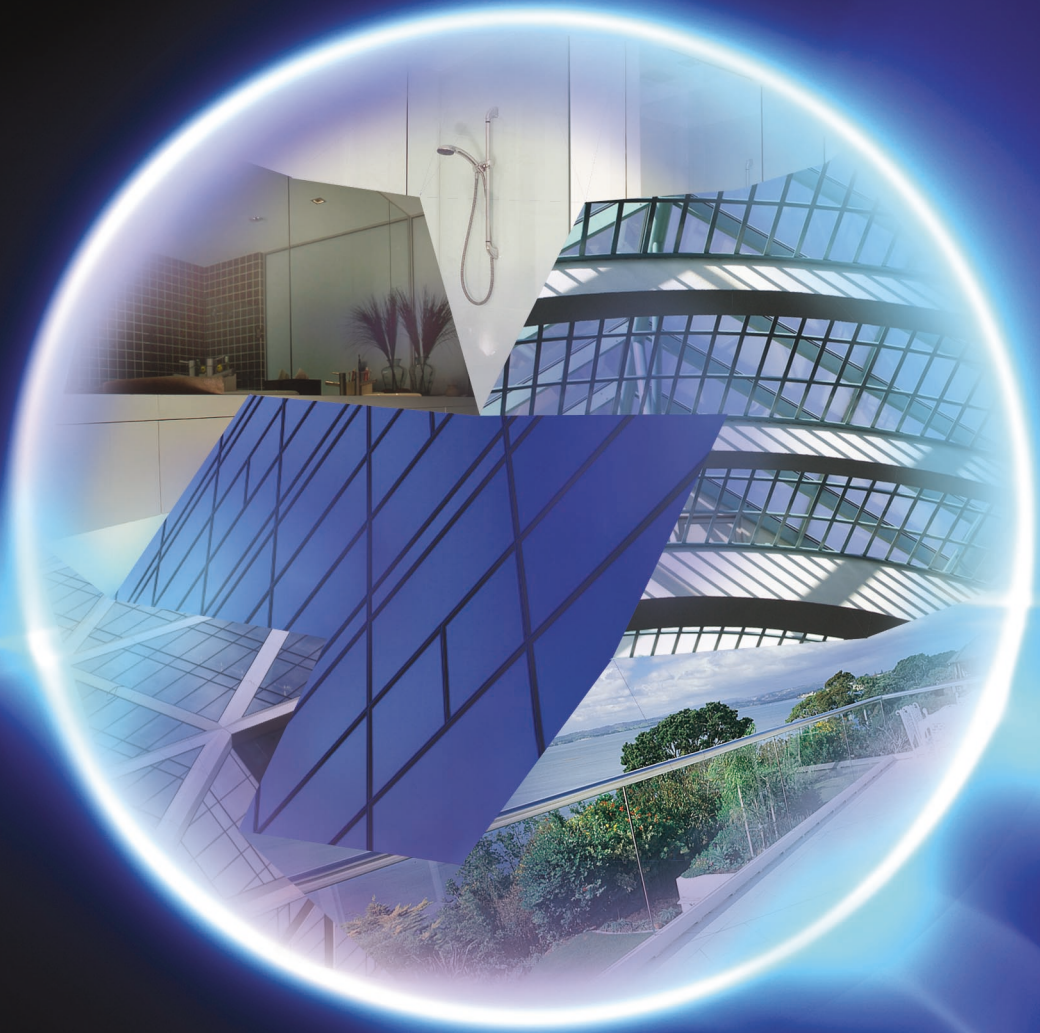
STANDARDS Australia

HB 125—2007

The glass and glazing handbook

(Including guide to AS 1288—2006,
Glass in buildings—Selection and installation)



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Handbook

The glass and glazing handbook (including guide to AS 1288, Glass in buildings—Selection and installation)

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Preface

This Handbook was written primarily to complement the requirements and provide additional information and explanation to AS 1288—2006, *Glass in buildings—Selection and installation*, which supersedes AS 1288—1994. The 2006 update of AS 1288 contains significant changes and additions to the 1994 Standard and this Handbook was written to expand on some of the new sections and clauses, particularly Section 4, Design for wind loading and Section 5, Criteria for human impact safety.

In addition to chapters relating to subjects covered by the Standard, the Handbook also covers other subjects, such as explaining the performance of Low-E glass, the characteristics of toughened glass and glass maintenance.

This Handbook updates the information on energy-efficiency that was included in HB 125—1998, *The Glass and Glazing Handbook*. New chapters have also been included covering topics that are matters of current interest to designers and other users of glass.

The change to ultimate limit state design in AS 1170.2—1989, *Minimum design loads on structures—Wind loads*, necessitated the corresponding upgrading of the wind loading charts, which are now based on the increased ultimate limit state wind loads. The charts now include basic criteria such as the influence of aspect ratio and slenderness factor. This is a significant change to any previous method of determining glass thickness. To assist users of AS 1288—2006, additional examples to those provided in Appendix B of the Standard have been included in this Handbook and an explanation of Appendix A, Simplified method of determining ultimate and serviceability limit state design wind pressures. Other sections of the Standard have been covered where it was felt that some additional information or explanation might assist the user.

In addition, other chapters not directly related to the Standard have been included, some of which include references to parts of AS 1288 and AS/NZS 2208 and other Australian Standards that are relevant to the selection and installation of glass.

The author of this Handbook, Noel Stokes, who was also the author of the 1998 edition of the Handbook '*The glass and glazing Handbook*', has had extensive experience in the window and glass industries, being involved with those products in both commercial and residential building activities. His experience was spread over a wide range of marketing, sales, design and technical roles. In 2002 he was awarded the Australian Glass and Glazing Association Achievement Award. He is currently a member of several Standards Australia committees.

Acknowledgment is made to various publications and companies (see Bibliography) from whose publications material has been drawn for the content of this Handbook. Every effort has been made to trace and acknowledge copyright but in some cases this has not been possible.

References to Standards

While this Handbook includes references to and extracts from Australian Standards, which refer to frequently encountered situations, it does not contain all the requirements that may be of critical importance to their assessment. In addition, while the Standards from which those extracts were taken are current at the time of publication of this Handbook, at any subsequent time the relevant Standard may have been amended or superseded.

This Handbook makes reference in several places to proposed amendments that were anticipated would be adopted by the committee at the time of publication of this Handbook.

Shaded text

Shaded text is from AS 1288—2006.

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I commend this invaluable Handbook to the building industry, in particular to all window manufacturers. The author Noel Stokes has extensive experience in , and a superior knowledge of, glass and window technologies and he is highly regarded within the industry.

Noel has been a member of the Australian Standards committees for both windows and glass for over 10 years, as well as a member of the Australian Windows Association's Technical Committee. His practical, hands-on method of communicating on glass and its usage has made him a most respected presenter at the AWA National Training Courses throughout Australia.

Ian Frame
Executive Director
Australian Window Association

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1 Introduction

This Handbook has been written with two objectives in mind. The first is to work through the Australian Standard 1288—2006, *Glass in buildings—Selection and installation*, to explain the changes and, where possible, the reasons for those changes, and to provide assistance to those who use the Standard so that they can gain a better understanding of the various sections and clauses. To assist with this objective a section has been devoted to frequently asked questions. Although at the time of writing, the Standard had been available for only a few months, Standards Australia, and also the author at seminars that had been conducted to introduce the Standard, had received numerous questions. Many of these and the answers are included. Questions about the use of glass in swimming pool fences have been answered by inclusion of a separate chapter, as has mirror installation.

The second objective is to update from the first handbook the requirements of energy-efficiency regulations that have now been adopted in all States and Territories of Australia, which includes, in particular, advice on determining what are the most suitable glass products for the different elevations of a house in the various climatic regions. This is a question that people in the glass and window industries receive frequently and it is difficult to answer without knowing the specific details of the house being considered and the other materials forming the building envelope. Some broad guidelines have been included, as has an explanation of new products that are being used in windows to assist in achieving the required level of energy-efficiency, such as Low-E glass.

As with the first glass and glazing handbook, this Handbook is not intended to be a technical publication but rather a ‘user-friendly guide’, to assist, and provide explanations to, designers, builders, consumers and those in the window and glass industries who might benefit from the information that has been included. The hoped-for result is that those users will be better informed and more able to advise, choose, or specify the most appropriate product to meet their needs.

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