

Australian Standard[®]

**Development, testing and
implementation of information and
safety symbols and symbolic signs**

This Australian Standard was prepared by Committee MS/3, Public Information Symbols. It was approved on behalf of the Council of Standards Australia on 1 July 1992 and published on 12 October 1992.

The following interests are represented on Committee MS/3:

Australian Road Research Board
Bureau of Steel Manufacturers of Australia
Communication Research Institute of Australia
Confederation of Australian Industry
Department of Transport, Queensland
Latrobe University
Roads and Traffic Authority, N.S.W.
Surf Life Saving Association of Australia
University of N.S.W.
Victorian College of Optometry

Review of Australian Standards To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 91226.

Australian Standard[®]

**Development, testing and
implementation of information and
safety symbols and symbolic signs**

First published in part as AS 2342.1—1980.
AS 2342.2 first published 1980.
AS 2342.3 first published 1980.
AS 2342.4 first published 1981.
AS 2342.5 first published 1980.
AS 2342.6 first published 1985.
AS 2342.1—1980, AS 2342.2—1980, AS 2342.3—1980,
AS 2342.4—1981, AS 2342.5—1980 and
AS 2342.6—1985 revised, amalgamated and
redesignated AS 2342—1992.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 7667 7

PREFACE

This Standard was prepared by the Standards Australia Committee on Public Information Symbols to supersede AS 2342.1—1980, *The design and use of graphic symbols and public information symbol signs*, Part 1: *General principles*, AS 2342.2—1980, Part 2: *Method for determining the need for a symbol and for establishing the design criteria*, AS 2342.3—1980, Part 3: *Test procedures for evaluating graphic symbols and symbol signs*, AS 2342.4—1981, Part 4: *Principles for the design of graphic symbols*, AS 2342.5—1980, Part 5: *Design of signs incorporating symbols*, and AS 2342.6—1985, Part 6: *Guidelines for the implementation of symbol sign systems*.

Apart from the incorporation of all six parts of the original Standard into a single Standard for the convenience of users, this edition contains a number of important changes, especially in relation to the procedures for testing the understanding of symbols and symbolic signs. The most profound change is the setting aside of the recall test as the main criterion of acceptance, and its substitution with a comprehension test which scores test symbols according to respondents' initial comprehension of the symbol or symbolic sign at first sighting. The recall test now assumes a secondary or back-up role, and is to be used under specified conditions when the initial comprehension test fails to yield a successful symbol.

The test methods have been revised to include an improved assessment procedure for short-listing test symbols at the outset of testing, a procedure which also incorporates a facility for screening out potentially very poor performers.

Other changes include a revised *Assessment of Need* form and procedure, revised and updated design criteria for symbols and signs, and revised and enhanced detail on the implementation of sign systems.

Some procedures in this Standard have similarities with the provisions for request application and appropriateness ranking of ISO 9186. There are however, significant differences in detail between the provisions of ISO 9168 and those of this Standard.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
FOREWORD	4
SECTION 1 SCOPE AND DEFINITIONS	
1.1 SCOPE	5
1.2 REFERENCED DOCUMENTS	5
1.3 DEFINITIONS	5
SECTION 2 DETERMINATION OF NEED FOR A SYMBOL AND ESTABLISHMENT OF DESIGN CRITERIA	
2.1 DETERMINATION OF NEED	7
2.2 STANDARDIZATION PROCEDURE	7
2.3 DESIGN CRITERIA	8
SECTION 3 SELECTION AND TESTING OF GRAPHIC SYMBOLS AND SYMBOLIC SIGNS	
3.1 GENERAL	9
3.2 COLLECTION OF SYMBOL VARIANTS	9
3.3 APPROPRIATENESS ASSESSMENT TEST	9
3.4 COMPREHENSION TEST	9
3.5 RECALL TEST	11
SECTION 4 PRINCIPLES FOR THE DESIGN OF GRAPHIC SYMBOLS	
4.1 GENERAL	12
4.2 DESIGN PRINCIPLES	12
SECTION 5 PRINCIPLES FOR THE DESIGN OF SIGNS INCORPORATING SYMBOLS	
5.1 GENERAL	14
5.2 SYMBOLIC COLOURS AND SHAPES	14
5.3 DESIGN OF SYMBOLIC SIGNS	14
5.4 DESIGN OF COMPOSITE SIGNS	15
5.5 CONSPICUITY ENHANCEMENT	15
5.6 SIGN SIZE MODIFICATION	20
5.7 VIEWING OF SIGNS UNDER NATURAL AND ARTIFICIAL LIGHT	20
SECTION 6 SITING AND MAINTENANCE	
6.1 GENERAL	22
6.2 SITING	22
6.3 MAINTENANCE	23
APPENDICES	
A ESTABLISHMENT OF NEED FOR A GRAPHIC SYMBOL OR SYMBOLIC SIGN . . .	24
B METHOD OF COLLECTION AND APPROPRIATENESS ASSESSMENT OF SYMBOL AND SYMBOL SIGN VARIANTS FOR COMPREHENSION AND RELATED TESTING	28
C COMPREHENSION AND RECALL TESTS	32
D PHOTOMETRIC AND COLORIMETRIC PROPERTIES OF SIGN MATERIALS	36
E SOURCES OF POTENTIAL TEST SYMBOLS	38

FOREWORD

The communication of information by means of graphic symbols or signs incorporating symbols has enjoyed considerable appeal in recent times. The use of symbols for this purpose has been variously promoted as conveying a message more quickly and efficiently than text, as being more legible at longer viewing distances for a given signboard size, and as being understood more readily by people who are poor readers of English. Although these are sound reasons for promoting communication by symbols there is always the concern that either the symbol designs will not be as comprehensible as the promoters might wish, or that attempts will be made to symbolize concepts which are simply not capable of being symbolized, often because the concept is too complex for this medium. Moreover, there is also the likelihood that in some situations, the display of text rather than symbols will provide the more efficient form of communication.

The aims of this Standard are first to encourage communicators to determine objectively, by following a defined procedure, whether a symbol or symbolic sign is the best solution to a problem and, if so, to provide standardized symbol design criteria, and a standardized method of testing the comprehension of the symbol by the target population.

It is believed that by promoting this process, and by maintaining a register of standard symbols in other Australian Standards (e.g. the AS 2899 series) the community's confidence in the use of symbols for communication can be retained, at the same time ensuring that there is no proliferation of untested and hence poorly understood symbols.

STANDARDS AUSTRALIA

Australian Standard

Development, testing and implementation of information
and safety symbols and symbolic signs

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies principles and procedures for determining the need, and the selection, testing and design of graphic symbols which may be—

- (a) placed on equipment or parts of equipment to instruct or advise people handling the equipment as to its use and operation;
- (b) used in locations where people may work, assemble or move, to give them information or instructions, such as prohibitions, warnings, rules, limits, or directional guidance; or
- (c) used in pictorial representations on maps, plans, drawings, illustrations and similar documents.

It also specifies principles and procedures for the design and use of information and safety signs using these symbols.

NOTE: The standardization of letters, numerals, punctuation marks, mathematical signs and symbols and symbols for quantities and units is excluded.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this standard:

AS

- 1101 Graphical symbols for general engineering
- 1102 Graphical symbols for electrotechnology
- 1319 Safety signs for the occupational environment
- 1742 Manual of uniform traffic control devices
 - 1742.1 Part 1: General introduction and index of signs
 - 1742.2 Part 2: Traffic control devices for general use
 - 1742.3 Part 3: Traffic control devices for works on roads
 - 1742.4 Part 4: Speed controls
 - 1742.5 Part 5: Street name and community facility name signs
 - 1742.6 Part 6: Service and tourist signs for motorists
 - 1742.7 Part 7: Railway crossings
 - 1742.8 Part 8: Freeways
 - 1742.9 Part 9: Bicycle facilities
 - 1742.10 Part 10: Pedestrian control and protection
 - 1742.11 Part 11: Parking controls
 - 1742.12 Part 12: Bus, transit and truck lanes
 - 1742.13 Part 13: Local area traffic management
- 1906 Retroreflective materials and devices for road traffic control purposes
 - 1906.1 Part 1: Retroreflective materials
- 2293 Emergency evacuation lighting in buildings
- 2700 Colour standards for general purposes
- 2899 Public information symbol signs
 - 2899.0 Part 0: Consolidated index
 - 2899.1 Part 1: General information signs
 - 2899.2 Part 2: Water safety signs
 - 2899.3 Part 3: Hospital signs

ISO

- 7001 Public information symbols
- 9100 Procedures for the development and testing of public information symbols

1.3 DEFINITIONS For the purpose of this Standard the definitions below apply.

1.3.1 Background—that part of a sign immediately behind a symbol or word.

1.3.2 Colour code—one or more colours used symbolically to represent a particular function.

1.3.3 Composite sign—a sign that carries more than one symbol on a signboard, or a sign which comprises any combination of symbols, words and arrows on the one signboard.

1.3.4 Conspicuity of a sign—the extent to which a sign is more easily noticed than anything else in the visual field.