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Australian Standard 2342, Part 4—1981

THE DESIGN AND USE OF GRAPHIC SYMBOLS AND PUBLIC INFORMATION SYMBOL SIGNS

Part 4—PRINCIPLES FOR THE DESIGN OF GRAPHIC SYMBOLS

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:

Australian Council of Trade Unions

Australian Road Research Board

Australian Tourist Commission

Confederation of Australian Industry

Department of Immigration and Ethnic Affairs

Department of Productivity

Ethnic Affairs Commission, N.S.W.

Electricity Commission of New South Wales

Flinders University of South Australia

Industrial Design Institute of Australia, N.S.W. Chapter

Institute of Technology, Western Australia

Monash University

National Association of Australian State Road Authorities

Railways of Australia Committee

Royal Australian Institute of Architects

Sydney College of the Arts

University of New South Wales

University of Sydney

Victorian College of Optometry, University of Melbourne

Victorian Ministry of Immigration and Ethnic Affairs

In addition a Social Worker and a Safety Superintendent of two industrial organizations were coopted to the committee.

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AUSTRALIAN STANDARD

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PREFACE

This standard was prepared by the Association's Committee on Public Information Symbols. It is intended for reference by those involved in the design and construction of public information symbol signs.

In preparing this standard which deals solely with the design of the symbol, the committee considered the relevant international standard, ISO 3461, Graphic Symbols—General Principles for Presentation. It was decided that the design principles for the symbol specified in that standard were complicated and inappropriate for public information symbols and this simplified set of principles was developed. These have been submitted to ISO/TC 145/SC 1, Public Information Symbols, for consideration as ISO 3461 is to be revised with a special Part to deal with public information symbols.

This standard requires reference to the following standards:

AS 2342 The Design and Use of Graphic Symbols and Public Information Symbol Signs
Part 1—General Principles
Part 2—Method for Determining the Need for a Symbol and for Establishing the Design Criteria
Part 5—Design of Signs Incorporating Symbols

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
THE DESIGN AND USE OF GRAPHIC SYMBOLS AND PUBLIC INFORMATION SYMBOL SIGNS

PART 4—PRINCIPLES FOR THE DESIGN OF GRAPHIC SYMBOLS

1 SCOPE. This standard sets out the principles to be followed in the design and development of a graphic information symbol.

2 DEFINITIONS. In addition to the terms defined in AS 2342, Part 1, the following definitions apply for the purpose of this standard:

Significant detail—detail in the image content which is critical to the comprehension of the symbol.

'Shall' and 'should'—the word 'shall' is to be understood as mandatory, and the word 'should' as non-mandatory, i.e. advisory or recommended.

3 GENERAL PRINCIPLES. Before commencing the design and development of a symbol, its need shall be established in accordance with procedures specified in AS 2342, Part 2. Its design and development should then be undertaken with its ultimate application constantly in mind. Information symbols to convey a message or instruction fully will be only one element of a sign except in limited circumstances, e.g. symbols to indicate controls on cars or electronic equipment or to identify facilities on maps. A symbol must therefore be designed with an understanding of its field of application. When this has been established, the following must be clearly defined:

(a) The class of sign or signs on which it is intended to be used, i.e. warning, regulatory, mandatory, prohibitory or informational.

(b) The shape of the signs on which it is intended to be used including any enclosure used to reinforce the shape coding.*

(c) The colours of both symbol and background and their luminous contrast.*

(d) The locations, in broad terms, in which the signs carrying the designated symbol will be used, e.g road, beach, factory, hospital.

(e) Whether the symbol is also intended for use on maps or diagrams. If so, either it must be designed so that it does not lose definition when the side of the square or the diameter of the circle in the layout grid (see Fig. 1) is reduced to 3 mm, or an alternative version to be used in such cases must be supplied.†

4 DESIGN PRINCIPLES.

4.1 Symbol Proportions. Symbols which are too narrow in any dimension should be avoided as this is likely to create problems of legibility and comprehension particularly in combination with the negation slash.

NOTE: Recent ISO work indicates that a length: width ratio of 1:4 is the maximum variation recommended for use in public information symbols.

4.2 Symbol Detail. No detail which is critical to the comprehension of the symbol should occupy an area of less than 1 unit² of a total area having the following dimensions—

(a) for a square or diamond, length of side = 20 units; and

(b) for a circle, diameter = 20 units;

including any enclosure. (For design purposes, it may be assumed that the width of an enclosure is not less than 1 unit nor more than 2 units.)†

NOTE: Reference should also be made to the legibility requirements specified for symbol signs in Clause 4.5 of AS 2342, Part 5. To facilitate the design of symbols, with particular reference to significant details, the grid of Fig. 1 may be used.

4.3 Conspicuity. In those instances where conspicuity of the symbol needs to be enhanced, the significant details as specified in Clause 4.2 may be increased considerably in area, bearing in mind the need for overall proportion and simplicity of the symbol, i.e the image content.

4.4 Perimeter: Area Ratio. The ratio between the perimeter and the area of the symbol including any separate elements should be minimized, consistent with the requirements of Clauses 4.1 and 4.2.

4.5 Symbol Outline. Symbols should be of solid form rather than in outline form.

4.6 Direction.

4.6.1 *General.* In design development, care should be taken to avoid conflict between the sense of a directional message and any intended or implied direction in the graphic symbol itself.

4.6.2 *Intended directional characteristics.* Where a symbol is specifically designed to have directional characteristics, it shall be such that it can be reversed.

*Refer to AS 2342, Part 5.

†In such an event the alternative design must be tested.

†These principles are based on the present available evidence.

Ref.: 'Design of Symbolic Signs for Legibility', J.F.M. Bryant. Australian Road Research Board, 1979.