

AS 1428.3—1992

Australian Standard[®]

Design for access and mobility

**Part 3: Requirements for children
and adolescents with physical
disabilities**

This Australian Standard was prepared by Committee ME/64, Access for People with Disabilities. It was approved on behalf of the Council of Standards Australia on 2 March 1992 and published on 15 May 1992.

The following interests are represented on Committee ME/64:

Access Australia
ACROD
Australian Chamber of Manufactures
Australian Council on the Ageing
Australian National Council of and for the Blind
Australian Uniform Building Regulations Coordinating Council
Building Owners and Managers Association of Australia
Department of Administrative Services – Australian Construction Services
Department of Housing and Local Government, Queensland
Department of Housing, New South Wales
Department of the Premier and Cabinet, South Australia
Master Builders Construction and Housing Association, Australia
National Committee of Independent Living Centres
Royal Australian Institute of Architects
Royal Melbourne Institute of Technology
South Australian Department of Housing and Construction
Telecom Australia

Additional interest participating in preparation of Standard:

Crippled Childrens Association of South Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Access for People with Disabilities to fulfil a need for information on the design of buildings and facilities which provide suitable general access for children and adolescents with disabilities.

For the purpose of this Standard, children and adolescents have been divided into age groups and disability types. Where facilities are for use by all groups, the minimum requirements are those for the group shown in research to be the most disadvantaged group.

The requirements given in the Standard are based on research completed in 1988 and published in a report entitled *Ergonomic design for physically disabled children*.*

The recommendations from the report which have been adopted in this Standard will allow access for at least 80 percent of children and adolescents with physical disabilities. The 80 percent rule has been generally accepted as the minimum provision for adult people with disabilities in AS 1428.1, *Design for access and mobility, Part 1: General requirements for access – Buildings*.

However, where the access needs of children and adolescents are identical to those of adults, this Standard calls up the requirements in AS 1428.2, *Design for access and mobility, Part 2: Enhanced and additional requirements – Buildings and facilities*. AS 1428.2 sets down access requirements which are not covered in AS 1428.1 and also sets down requirements which provide a level of access which is greater than that provided by AS 1428.1, the requirements in AS 1428.2 being determined from research data of the needs of 90 percent of adults who have disabilities.

Appendix E gives data on wheelchair dimensions and user size which will assist in the provision of access for items such as viewing ranges for children and adolescents which are not covered in this Standard.

This Standard is part of a series of Standards, which comprises:

AS

1428 *Design for access and mobility*

1428.1 Part 1: *General requirements for access – Buildings*

1428.2 Part 2: *Enhanced and additional requirements – Buildings and facilities*

1428.3 Part 3: *Requirements for children and adolescents with physical disabilities*

1428.4 Part 4: *Tactile ground surface indicators for the orientation of people with vision impairment*

* BAILS, J.H. and SEEGER, B.R. *Ergonomic design for physically disabled children*. Adelaide, S.A.: South Australian Department of Housing and Construction, 1988.

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FOREWORD

Although the access needs of adults who have disabilities have been the subject of research both in Australia and overseas, the access needs of children with disabilities have been generally overlooked.

Since little information was available concerning in what respects and to what extent the access needs of children differed to those of adults, it was decided to undertake research to seek answers to these questions. With a direct grant from the Channel 10 Children's Medical Research Foundation of South Australia and support from the Regency Park Centre for Young Disabled and the South Australian Department of Housing and Construction, research was commenced in June 1986 and a final report was completed in August 1988.

The research aimed to determine the physical capabilities of children with disabilities to determine if their needs differed from other groups in the community and to provide guidelines for design. Full-size test equipment was used to test the mobility, reach and strength capabilities of 288 children, including 109 able-bodied children. Test subjects were selected to cover various types of physical disability and ages from 3 to 18 years. At the test site 30 separate items of test equipment were used to measure and record 72 variables to cover the various capabilities, preferences and dimensional details of children.

Research into the needs of children and adolescents on which these requirements are based revealed that some facilities provided for use by adults will be inaccessible to a significant number of children.

In particular, the research showed the following:

- (a) In most cases, capability and size depend on age.
- (b) Except for reach for some wheelchair users, most abilities of both non-disabled and disabled children increase rapidly as age increases from 3 to 18 years.
- (c) The abilities of disabled children are much less than those of non-disabled children but the abilities of disabled adolescents approach the abilities of disabled adults by age 18 years.

If the specifications and guidelines in this Standard are followed, the integration into the community of children and adolescents with disabilities will be significantly advanced.

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Design for access and mobility

Part 3: Requirements for children and adolescents with physical disabilities

1 SCOPE This Standard sets out requirements for the design of buildings and facilities suitable for access by children and adolescents with physical disabilities in the age range 3 to 18 years for the groups specified in Clause 5.

NOTES:

- 1 This Standard does not include requirements for children with sensory disabilities. Some information is available in AS 1428.2.
- 2 The children surveyed were grouped into four age ranges, as follows:
 - (a) $\geq 3 \leq 6\frac{1}{2}$ years old.
 - (b) $>6\frac{1}{2} \leq 10\frac{1}{2}$ years old.
 - (c) $>10\frac{1}{2} \leq 14\frac{1}{2}$ years old.
 - (d) $>14\frac{1}{2} \leq 18$ years old.

Some users of this Standard may wish to consider Group (a) as being approximately equivalent to pre-school children, Group (b) to primary school children and Groups (c) and (d) to secondary school children.

2 APPLICATION This Standard is intended for use by regulatory authorities, architects, designers of buildings and facilities, and professional and home builders where the provision of access to buildings and facilities for children and adolescents with physical disabilities is specifically required.

NOTE: In integrated facilities used by all groups of children (see Clause 5), it would be desirable for the entire facility to comply with this Standard. The minimum requirements, however, would normally be based on the type of facility, anticipated usage or desired result and would in general be set by a funding or regulatory authority.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1428 Design for access and mobility

1428.1 Part 1: General requirements for access — Buildings

1428.2 Part 2: Enhanced and additional requirements — Buildings and facilities

4 DEFINITIONS For the purpose of this Standard, the definitions given in AS 1428, Parts 1 and 2, apply.

5 DISABILITY GROUPS For the purpose of this Standard, children and adolescents are classified into disability groups as follows:

- (a) Group F – Fit, able-bodied children including those with intellectual disabilities.

NOTE: Group F is included for reference in the data provided in the Appendices.

- (b) Group A – Ambulant children with physical disabilities who use no visible aid to mobility.
- (c) Group S – Ambulant children who use sticks, crutches or walking frames to assist mobility.
- (d) Group M – Children who use manual wheelchairs.
- (e) Group E – Children who use electrical wheelchairs.

6 APPLICATION OF AS 1428.2 TO THE PROVISION OF ACCESS FOR CHILDREN AND ADOLESCENTS WITH PHYSICAL DISABILITIES In the provision of access for children and adolescents with physical disabilities, the requirements of AS 1428.2 apply in respect of the following:

- (a) Circulation space.
- (b) Continuous accessible path of travel.
- (c) Surfaces.
- (d) Grabrails.
- (e) Doorways and doors.
- (f) Lifts.
- (g) Car parking facilities.
- (h) Symbols.
- (i) Signs.
- (j) Warnings.

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