



CERTIFICATE OF ACCREDITATION

ENZIE SPIRAL STAIR

Whereas Enzie Stairs Pty Ltd, of
287 Arthur Street
FAIRFIELD VIC 3078

has applied to the Building Regulations Advisory Committee for the accreditation of the 1300/12, 1500/14; 1750/16 and 1880/16 ENZIE SPIRAL STAIR system as suitable for use in a Class 1 building, and as private stairs in sole occupancy units of Class 2 and 3 buildings and a Class 4 part of a building. The Building Regulations Advisory Committee appointed under Division 4 of Part 12 of the Building Act 1993 has examined the application and determined that the ENZIE SPIRAL STAIR complies with the requirements where appropriate to stairways of:

Clauses DP 2 (c) and DP 3 of Volume One and

Clauses P 2.5.1 (b) and P 2.5.2 of Volume Two

of the Building Code of Australia 1996 as adopted by the Building Regulations 1994 when installed in accordance with the details provided in the four attached data sheets updated 20 April 1998.

DATE: 21 SEPTEMBER 2001

SECRETARY:

A handwritten signature in black ink, appearing to read 'C. M. Bruma', written over a horizontal line.

Absac

Australian Building Systems Appraisal Council Ltd
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TECHNICAL OPINION 232 December 1997

Enzie® Spiral Stair System

PURPOSE

A spiral stair system

APPLICANT

Enzie Stairs Pty Ltd (ACN 005 544 454), 287 Arthur Street,
Fairfield, Victoria 3078 (Manufacturer)



enzie®

**Steel spiral stair system
provides safe, quality access
& assures long term value.**

- range of 4 diameters
- modular construction
- extensive range of colours
- powder coated finish
- space saving & minimal intrusion
- easy to install
- structurally independent between floor levels
- custom made
- indoors or outdoors
- no ugly welds, bolts, corners or projections
- clockwise or anti-clockwise
- non-slip treads
- stair kit with everything you need for fast installation
- delivery in 14 days

THE PRINCE PHILLIP JUDGE'S COMMENT

...A system that can be installed by a handyman and a truly professional finish achieved.



TECHNICAL OPINION

In the opinion of ABSAC, the Enzie® Spiral Stair System is suitable for enclosed stairways and external stairways in Class 1 or 10 buildings or the internal parts of sole-occupancy units in a Class 2 or Class 3 building or a Class 4 part, provided that:

1. The components are manufactured by Enzie Stairs Pty Ltd to the specific design for the given installation.
2. The stairs are supplied with comprehensive installation instructions for the specific nominal diameter stair system and video.
Note: These instructions are available from Enzie Stairs Pty Ltd, 287 Arthur Street, Fairfield, Victoria 3078 (Facsimile 03 9418 8919).
3. The stairs are not to be used for a fire rated exit.
4. A continuous handrail is installed.
5. The spacing between balusters is not more than 125 mm on balconies and landings.
6. Where the stairway is used in an external location in areas with exposure classification E3 as defined in Australian Standard, AS 3700-1988 'SAA Masonry Code' (Amdt 1 January 1989, Amdt 2 March 1991, Amdt 3 April 1992, Amdt 4 July 1994), additional galvanising protection is provided to the metal stairway components.
7. Where the stairway is used in external situations, the stairway is not a 'public place area' as defined in Standards Australia, 'Australian Building Construction Definitions' (July 1992).

Note: Safety of young children is to be considered with each installation and, if necessary, optional gates are available to restrict access.

BUILDING CODE of AUSTRALIA

BCA 1996

In the opinion of ABSAC, the system described in this Technical Opinion and installed under the conditions listed in this Technical Opinion will satisfy the relevant requirements of clause DP2 and DP3 (Volume 1 - Class 2 to Class 9 Buildings) so far that it is used only in the internal parts of a sole-occupancy unit in a Class 2 or 3 building or Class 4 part and clause P2.5.1 (Volume 2 - Class 1 and Class 10 Buildings Housing Provisions) of the Building Code of Australia 1996 (including Amendments 1 and 2).

Notes:

- (i) The inclusion of this clause with reference to the BCA is aimed at assisting those involved in the

building approval/permit process relate the Appraisal to the relevant regulations.

- (ii) Any changes made to the BCA will be reviewed during the term of validity of this Technical Opinion and, where necessary, any amendment required will be published in the annual ABSAC Consolidated List of Technical Opinions.

RELATED INFORMATION

VALIDITY OF THE OPINION

Condition:

This Technical Opinion applies only to the use of Enzie® Spiral Stair System as described herein.

Withdrawal:

This Technical Opinion will be withdrawn or amended if ABSAC considers that a change in design or manufacturing quality renders the basis of appraisal invalid, or if reported field experience convinces ABSAC of unsatisfactory quality or performance.

Term of Validity:

This Technical Opinion will lapse three years after the date of issue unless revalidation has been requested and granted (see back page).

RELEVANT DOCUMENTS

Enzie Stairs Pty Ltd, 'Data sheet Enzie 1300/12 Spiral Stair' (Updated 23/10/1997)
 Enzie Stairs Pty Ltd, 'Data sheet Enzie 1500/14 Spiral Stair' (Updated 23/10/1997)
 Enzie Stairs Pty Ltd Data sheet Enzie 1750/16 Spiral Stair' (Updated 23/10/1997)
 Enzie Stairs Pty Ltd, 'Data sheet Enzie 1880/16 Spiral Stair' (Updated 23/10/1997)
 Enzie Stairs Pty Ltd, 'Enzie Steel Spiral Stairs Design Guide' (bca2 07/09/93)
 Enzie Stairs Pty Ltd, 'Check List (2-Jul-97)
 Standards Australia, AS 3700-1988 'SAA Masonry Code' (Amdt 1 January 1989, Amdt 2 March 1991, Amdt 3 April 1992, Amdt 4 July 1994)

APPROVED OPINION EXTRACT

Enzie® Spiral Stair Systems as manufactured by Enzie Stairs Pty Ltd (ACN 005 544 454), Fairfield, Victoria are suitable for internal and external stairways in Class 1 or 10 buildings or the internal parts of sole-occupancy units in a Class 2 or Class 3 building or a Class 4 part when the conditions listed in ABSAC Technical Opinion 232 are fulfilled.

APPRAISAL

DESCRIPTION

The following description is based on information supplied by the applicant.

General:

Enzie ® Spiral Stair System is a spiral stair with tapered box-section treads and a continuous handrail on one side. It can be used internally or externally and can be assembled in either a clockwise or anti-clockwise spiral. It is available in four different diameter spirals. An optional gate is available to restrict access.

Each installation is individually designed.

The finish for internal stairs is a baked polyester coating. This is available in a range of colours. External stairs are supplied galvanized and powder coated. The handrail is also available with a chrome or stainless steel finish.

All treads, handrails and stair components are mechanically jointed on site.

Quality control checks are carried out at the factory on the finished product for dimensions.

Components:

1. Treads and risers:

Treads are tapered box section made from 16 gauge mild steel. The treads are of uniform shape and size for each diameter. Risers are supplied of uniform height between 180 and 220 mm as specified by the client for the specific installation. The going and slope relationship at 7/10th of the width varies from 219 to 244 mm.

An anti-skid pad is applied to the top surface of each tread. This pad is replaceable should wear occur.

2. Handrails and balusters:

Handrails are made from tubular 19 mm OD 1.6 gauge mild steel. The hand rail is continuous on one side of the stairs and is 866 mm above the nosing of the tread and 1000 mm above landings.

Balusters are spaced at not more than 125 mm on balconies and landings. The spacing of balusters varies for each diameter stairway.

3. Columns:

Columns are nominally 5 mm thick 100 mm diameter mild steel.

4. Design:

Enzie Stairs Pty Ltd provide a design service. All details relating to use, location and requirements of the stairs are taken into account. Drawings are supplied by the client to assist in the design program. A site inspection is usually carried out to ensure all measurements are correct before a design layout is finalised.

5. Packing and installation:

The stairs are provided in a pre-finished, modular kit form and include all other components required. The packed weight is approximately 15 kg per rise and the maximum length of any component is slightly more than one metre.

6. Installation:

Each kit comes with comprehensive assembly instructions and video showing steps in assembly and installation. Installation may be by the client or Enzie Stairs Pty Ltd can provide suitably qualified contractors.

7. General geometry:

Stairs are available in four widths. Each width is available in a range of riser heights to enable any floor to floor height to be accommodated with equal risers for each tread. The headroom also varies depending the width of stair, height of riser and angle of landing

Table 1. General stair geometry

	Nominal stair width mm			
	1300	1500	1750	1900
Variable in mm				
Clear width	520	620	750	810
Baluster spacing (max.) on stairs	150	150	180	180
Riser	208 to 220	208 to 220	178 to 190	178 to 190
Headroom 60° landing	2080 to 2200	2427 to 2567	2400 to 2533	2400 to 2533
Headroom 90° landing	1872 to 1980	2184 to 2310	2160 to 2280	2160 to 2280

DESIGN INFORMATION

General:

Based on information from the applicant, Enzie® Spiral Stair System is a steel spiral stair. The treads are made from sheet metal box sections, the handrails and balusters are tubular steel. The components are powder coated in the factory. The structure is mechanically jointed for easy site assembly. Four sizes are available.

Design considerations:

A design service is provided for each installation.

Durability:

In the opinion of ABSAC, Enzie® Spiral Stair System is suitable for both internal and external use. The Enzie® Spiral Stair System has powder coating finish for internal use and is galvanized, zinc primed and powder coated for external use.

BASIS OF APPRAISAL

ABSAC has assessed the following aspects in undertaking this appraisal:

- (a) The applicant's installation instructions.
- (b) The physical properties of the material.
- (c) The design load of the assembled stair.

It was noted that whilst the dimensions of openings between balusters and treads vary from those stated in the deemed to comply section of the 1996 BCA, the stairway with handrail does, in the opinion of ABSAC, meet the performance requirements of the 1996 BCA in that it enables people to move safely to and within a building.

The following documents and inspections were used in carrying out the appraisal.

Manufacturer's Information:

1. Enzie Stairs Pty Ltd (ACN 005 544 454), 287 Arthur Street, Fairfield, Victoria 3078:

Enzie Stairs Pty Ltd, 'Data sheet Enzie 1300/12 Spiral Stair' (Updated 23/10/1997)

Enzie Stairs Pty Ltd, 'Data sheet Enzie 1500/14 Spiral Stair' (Updated 23/10/1997)

Enzie Stairs Pty Ltd Data sheet Enzie 1750/16 Spiral Stair' (Updated 23/10/1997)

Enzie Stairs Pty Ltd, 'Data sheet Enzie 1880/16 Spiral Stair' (Updated 23/10/1997)

Enzie Stairs Pty Ltd, 'Check List (2-Jul-97)

These include details of the stairs, and show details for various landing situations, base plate details for concrete and timber, column, newel and handrails.

Enzie Stairs Pty Ltd, 'Enzie Steel Spiral Stairs Design Guide' (bca2 07/09/93)

This provides information on specifying and design of the various stairs.

2. Enzie Stairs Pty Ltd 'Quality Assurance System' (23/10/97):

This provides details of the steps involved from client enquiry to manufacture and installation of stairs. The company has in place various quality control procedures and all designs are checked.

Reports:

1. Davies Associates Pty Ltd, 43 Wantirna Road, Ringwood, Victoria 3134. 'Deign of two storey stair' (Job No 92/060) (May 1992):

These calculations are for Enzie Stairs Pty Ltd. It gives a live load, fixing at landings and base.

Inspections:

Satisfactory inspections have been undertaken by ABSAC and satisfactory performance has also been reported to ABSAC.



B. L. Schafer
Appraisal Officer



K. G. Deacon
Chairman ABSAC



AUSTRALIAN BUILDING SYSTEMS APPRAISAL COUNCIL LIMITED

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features, it has set up regional committees in each State and Territory.

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Technical Opinions are given a term of validity of three years from the date of issue, in the expectation that, after that period, the subject will no longer be an innovation. They are reviewed within the first twelve months and again, as necessary. At the end of the three year term of validity, a review is undertaken. This can result in an extension to the term of validity. The limitation on the term of validity of the Technical Opinions should not be interpreted as implying a similarly limited life expectancy of the products or systems. The term of validity of the Technical Opinion can be checked at the registered office of ABSAC.

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Each Technical Opinion is prepared on behalf of the ABSAC by its Technical Advisory Committee (TAC) after careful consideration of the evidence available. TAC draws on the service of specialists, the Appraisal Officers, who are appointed for each application. ABSAC makes the appraisals on a national basis. To take account of variations in local building regulations, practice and local climatic

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14. ABSTRACT *(ABSAC Approved Opinion Extract)*

Enzie® Spiral Stair Systems as manufactured by Enzie Stairs Pty Ltd (ACN 005 544 454), Fairfield, Victoria are suitable for internal and external stairways in Class 1 or 10 buildings or the internal parts of sole-occupancy units in a Class 2 or Class 3 building or a Class 4 part when the conditions listed in ABSAC Technical Opinion 232 are fulfilled.