

Australian Standard™

**Self-drilling screws for the building and
construction industries**

**Part 1: General requirements and
mechanical properties**

This Australian Standard was prepared by Committee ME-029, Fasteners. It was approved on behalf of the Council of Standards Australia on 28 February 2002 and published on 19 March 2002.

The following interests are represented on Committee ME-029:

Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Industry Group
Bureau of Steel Manufacturers of Australia
Electricity Supply Association of Australia
Federal Chamber of Automotive Industries
Institute of Materials Engineering Australasia
Metal Building Products Manufacturers Association

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

Australian Standard™

**Self-drilling screws for the building and
construction industries**

**Part 1: General requirements and
mechanical properties**

Originated as AS 3566—1998.
Revised and redesignated in part as AS 3566.1—2002.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4385 4

PREFACE

This Standard was prepared by the Standards Australia Committee ME-029, Fasteners to supersede (in part) AS 3566—1988, *Screws—Self-drilling—For the building and construction industries*.

The objective of this Standard is to provide manufacturers and users with the general requirements and mechanical properties for self-drilling screws used in the building and construction industries.

This Standard is Part 1 of a two-part series dealing with self-drilling screws for the building and construction industries. Part 2 specifies the corrosion resistance requirements for self-drilling screws.

The size designations given in AS/NZS 4411:1996, *Tapping screws thread* have been adopted in this Standard. The equivalent screw number designations used in the 1988 edition are given in parenthesis.

Statements expressed in mandatory terms in notes to tables in figures are deemed to be requirements of this Standard.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL REQUIREMENTS	
1.1 SCOPE.....	4
1.2 APPLICATION	4
1.3 REFERENCED DOCUMENTS.....	4
1.4 CLASSIFICATION AND DESIGNATION.....	5
1.5 MATERIALS.....	5
1.6 METHOD OF MANUFACTURE.....	5
1.7 HEADS.....	5
1.8 LENGTH.....	9
1.9 CONCENTRICITY AND SYMMETRY	9
1.10 SQUARENESS.....	10
1.11 MECHANICAL PROPERTIES	10
1.12 MARKING	11
SECTION 2 SELF-DRILLING SCREWS FOR FIXING TO STEEL	
2.1 TYPES.....	12
2.2 THREADS.....	12
2.3 LENGTH OF THREAD.....	14
2.4 DRILL POINTS.....	14
2.5 PROTRUSION ALLOWANCE.....	14
2.6 LENGTH OF SCREWS.....	15
2.7 TORSIONAL STRENGTH	16
2.8 PERFORMANCE REQUIREMENTS	16
SECTION 3 SELF-DRILLING SCREWS FOR FIXING TO TIMBER	
3.1 TYPE.....	18
3.2 THREAD.....	18
3.3 LENGTH OF THREAD.....	19
3.4 LENGTH OF SCREWS.....	19
3.5 TORSIONAL STRENGTH	19
3.6 PERFORMANCE REQUIREMENTS	19
SECTION 4 SELF-DRILLING SCREWS FOR FIXING PLASTERBOARD TO STEEL	
4.1 TYPES.....	21
4.2 THREAD.....	21
4.3 LENGTH OF THREAD.....	21
4.4 LENGTH OF SCREWS.....	21
4.5 TORSIONAL STRENGTH	22
4.6 PERFORMANCE REQUIREMENTS	23
APPENDICES	
A DUCTILITY TEST.....	24
B TEST FOR TORSIONAL STRENGTH.....	25
C DRILLING AND DRIVING TEST FOR SELF-DRILLING SCREWS FOR STEEL AND FOR FIXING PLASTERBOARD TO STEEL	27
D WITHDRAWAL TEST FOR SELF-DRILLING SCREWS FOR STEEL AND FOR FIXING PLASTERBOARD TO STEEL.....	30
E WITHDRAWAL TEST FOR SELF-DRILLING SCREWS FOR TIMBER.....	32

STANDARDS AUSTRALIA

Australian Standard

Self-drilling screws for the building and construction industries

Part 1: General requirements and mechanical properties

SECTION 1 SCOPE AND GENERAL
REQUIREMENTS**1.1 SCOPE**

This Standard specifies the general requirements and mechanical properties for the following types of self-drilling screws used in the building and construction industries:

- (a) Screws for drilling and tapping into layered or unlayered steel of 0.9 mm minimum total thickness.
- (b) Screws for drilling and tapping into timber.
- (c) Screws for fixing plasterboard to steel with a maximum thickness of 0.8 mm.

1.2 APPLICATION

Self-drilling screws shall comply with Section 1 and with the relevant requirements of Sections 2, 3 and 4 and AS 3566.2.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- | | |
|----------|--|
| 1397 | Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc-coated |
| 4291 | Mechanical properties of fasteners made of carbon steel and alloy steel |
| 4291.1 | Part 1: Bolts, screws and studs |
| 3566 | Self-drilling screws for the building and construction industries |
| 3566.2 | Part 2: Corrosion resistance requirements |
| HB 18 | Guidelines for third-party certification and accreditation |
| HB 18.22 | Guide 22: Information on manufacturers' declaration of conformity with Standards or other technical specifications |

AS/NZS

- | | |
|--------|---|
| 1080 | Timber—Methods of test |
| 1080.1 | Method 1: Moisture content |
| 1080.3 | Method 3: Density |
| 4406 | Cross recessed pan head tapping screws |
| 4407 | Cross recessed countersunk (flat) head tapping screws (common head style) |

ISO

- | | |
|------|--|
| 272 | Fasteners—Hexagon products—Widths across flats |
| 4757 | Cross recesses for screws |