AS 3566—1988

Australian Standard®

SCREWS—SELF-DRILLING—FOR THE BUILDING AND CONSTRUCTION INDUSTRIES

This Australian Standard was prepared by Committee ME/29, Fasteners. It was approved on behalf of the Council of the Standards Association of Australia on 3 August 1988 and published on 12 September 1988.

The following interests are represented on Committee ME/29:

Australian Furniture Industry Association
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Electricity Supply Association of Australia
Fasteners Institute of Australia
Federal Chamber of Automotive Industries
Metal Trades Industry Association of Australia
Railways of Australia Committee
University of Sydney

This Standard was issued in draft form for comment as DR 86107.

AS 3566—1988

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First published as AS 3566—1988.
Incorporating:
Amdt 1—1990

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140
ISBN 0 7262 5215 8

PREFACE

This Standard was prepared by the Association's Committee on Fasteners at the request of the Fasteners Institute of Australia.

The types of screws covered by this Standard have achieved wide use in the building and construction industries and therefore the need for a Standard became apparent. One of the reasons for this request was the lack of accepted tests to which these products should be subjected. This lack of test procedures for the existing products is the main reason that the emphasis of this Standard is on performance.

Several classes of corrosion resistance have been nominated to satisfy various degrees of exposure.

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Australian Standard

SCREWS—SELF-DRILLING— FOR THE BUILDING AND CONSTRUCTION INDUSTRIES

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies requirements for self-drilling screws suitable for use in steel and timber, and fixing plasterboard to steel. Its primary purpose is to provide test performance data.

NOTES:

1. Guidance on the information that should be supplied at the time of enquiry or order is given in Appendix I.
2. Information on the determination of the compliance of a lot is given in Appendix J.

1.2 APPLICATION. Self-drilling screws shall comply with Section 1 and with the following Sections as applicable:

Section 2—Self-drilling screws for fixing to steel.

Section 3—Self-drilling screws for fixing to timber.

Section 4—Self-drilling screws for fixing plasterboard to steel.

NOTE: This Standard does not preclude the use of screws in applications other than those for which tests are specified.

1.3 REFERENCED DOCUMENTS. The documents below are referred to in this Standard.

AS
1080 Methods of test for timber
Part 1: Moisture content (AS 1080.1)

1199 Sampling procedures and tables for inspection by attributes

1237 Flat metal washers for general engineering purposes (metric series)

1397 Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc-coated

1399 Guide to AS 1199, Sampling procedures and tables for inspection by attributes

1580 Methods of tests for paints and related materials
Method 481.1: Assessment of individual defects of exposed films (AS 1580.481.1)
Method 481.2: Assessment of blistering of paint films (AS 1580.481.2)

1594 Hot-rolled low carbon steel plate, sheet and strip

1595 Cold-rolled unalloyed low carbon steel sheet and strip

1649 Methods for the determination of basic working loads for metal fasteners for timber

1791 Chromate conversion coatings—Zinc and cadmium

1817 Method for Vickers hardness test
Part 1: Testing of metals (AS 1817.1)

1821-23 Suppliers quality systems

2000 Guide to AS 1821-23, Suppliers quality systems

2331 Methods of test for metallic and related coatings
Method 1.1: Local thickness tests— Micrographic examination of cross-sections (AS 2331.1.1)
Method 1.3: Local thickness tests—Magnetic method (AS 2331.1.3)
Method 1.4: Local thickness tests—Magnetic induction and eddy current methods (AS 2331.1.4)
Method 3.1: Corrosion and related property tests—Neutral salt spray (NSS) test (AS 2331.3.1)

2490 Sampling procedures and charts for inspection by variables for percent defective

2728 Prepainted and organic film/metal laminate products—Performance requirements for interior/exterior applications in buildings

B194 Tapping and metallic drive screws

ISO
4757 Cross recesses for screws

ASTM
D 2247 Method of testing coated metal specimens at 100 percent relative humidity

G 53 Recommended practice for operating light and water-exposure apparatus (fluorescent UV-condensation type) for exposure of non-metallic materials

DIN
50018 Corrosion tests: Testing in alternating condensation atmosphere containing sulphur dioxide

1.4 MATERIAL. The material of the screws is not specified.

NOTE: Care should be exercised in the selection of material to ensure that an unsatisfactory galvanic relationship does not occur when the screws are used in their intended applications.

1.5 CORROSION RESISTANCE.

1.5.1 Requirements. Self-drilling screws shall have a corrosion resistance appropriate to the intended usage as given in Table 1.1.

1.5.2 Particular requirements for heavy metallic zinc-coated screws. The coating shall have a minimum average thickness of 40 μm measured at a minimum of three points. The minimum thickness shall be 35 μm.

The coating thickness shall be measured at the points shown in Figure 1.1 and determined in accordance with AS 2331.1.1, AS 2331.1.3, or AS 2331.1.4.

Heavy metal zinc coatings shall be chromated to AS 1791 type A, type B, type C or type D.