

Australian Standard[®]

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

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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
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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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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
SCREWS—SELF-DRILLING—
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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.