

Australian/New Zealand Standard™

**Heat-treated steel tapping screws—  
Mechanical properties**



## **AS/NZS 4412:2015**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-029, Fasteners. It was approved on behalf of the Council of Standards Australia on 24 July 2015 and on behalf of the Council of Standards New Zealand on 24 July 2015.

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The following are represented on Committee ME-029:

Association of Accredited Certification Bodies  
Association of Wall and Ceiling Industries of Australia and New Zealand  
Australasian Corrosion Association  
Australian Chamber of Commerce and Industry  
Australian Engineered Fasteners and Anchors Council  
Australian Industry Group  
Australian Steel Institute  
Australian Technical Infrastructure Committee  
Austroads  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-029, Fasteners, to supersede AS/NZS 4412:1996.

The objective of this Standard is to ensure that tapping screws will form mating threads in materials into which they are normally driven without deforming their own thread and without breaking during assembly or service.

This Standard is identical with, and has been reproduced from, ISO 2702:2011, *Heat-treated steel tapping screws—Mechanical properties*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
898	Mechanical properties of fasteners	4291	Mechanical properties of fasteners made of carbon steel and alloy steel
898-7	Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm	4291.7	Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

## AUSTRALIAN/NEW ZEALAND STANDARD

**Heat-treated steel tapping screws—Mechanical properties****1 Scope**

This International Standard specifies the characteristics of heat-treated steel tapping screws, with tapping screw thread from ST2,2 to ST9,5 inclusive according to ISO 1478, together with the corresponding test methods.

**2 Normative references**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 898-7:1992, *Mechanical properties of fasteners — Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

**3 Materials**

Tapping screws shall be made from cold heading, case hardening quality steel.

**4 Requirements****4.1 Metallurgical requirements****4.1.1 Surface hardness**

The minimum surface hardness after heat treatment shall be 450 HV 0,3 (see ISO 6507-1).

**4.1.2 Case depth**

The case depth shall conform to the values given in Table 1.

**Table 1 — Case depth**

Dimensions in millimetres

Thread	Case depth	
	min.	max.
ST2,2, ST2,6	0,04	0,10
ST2,9, ST3,3, ST3,5	0,05	0,18
ST3,9, ST4,2, ST4,8, ST5,5	0,10	0,23
ST6,3, ST8, ST9,5	0,15	0,28