

AS 1572—1998

Reconfirmed 2018

Australian Standard™

**Copper and copper alloys—
Seamless tubes for engineering
purposes**

This Australian Standard was prepared by Committee MT/2, Copper and Copper Alloys. It was approved on behalf of the Council of Standards Australia on 21 August 1998 and published on 5 November 1998.

The following interests are represented on Committee MT/2:

AUSTAP
Australian Forging Group
Hunter Water Corporation
Metal Trades Industry Association of Australia
New Zealand Manufacturers Federation
Water Corporation Western Australia
Welding Technology Institute of Australia

Additional interests participating in preparation of Standard:

Copper tube manufacturers
Electrical appliance manufacturers
Ship building organizations

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 97410.

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1572–1998

**Copper and copper alloys–Seamless tubes
for engineering purposes**

RECONFIRMATION NOTICE

Major stakeholders of this publication have reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 29 August 2018.

NOTES

AS 1572—1998

Australian Standard™

**Copper and copper alloys—
Seamless tubes for engineering
purposes**

Originated in part as part of AS B2—1928.
Previous edition AS 1572—1985.
Third edition 1998.

Published by Standards Australia
(Standards Association of Australia)
1 The Crescent, Homebush, NSW 2140

ISBN 0 7337 2218 0

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee MT/2, Copper and Copper Alloys, to supersede AS 1572—1985.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

The objective of this revision is to upgrade the requirements for round, square and rectangular seamless copper and copper alloy tubes for general purposes.

In this edition the alloy designations have been changed from the three-digit numbering system to a system, which, although aligning with the American Unified Numbering System (UNS), contains minor variations in the manner impurity levels are specified.

During the preparation of this Standard cognizance was taken of the following International Standards:

ISO

274:1975 Copper tubes of circular section—Dimensions

1635:1974 Wrought copper and copper alloys—Round tubes for general purposes—Mechanical properties.

These Standards were not considered to be appropriate replacements for AS 1572 as their coverage is limited to dimensions and mechanical properties.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
1 SCOPE	4
2 REFERENCED DOCUMENTS	4
3 DESIGNATION	4
4 FORM AND TEMPER OF TUBES	5
5 CHEMICAL COMPOSITION	5
6 FREEDOM FROM DEFECTS	5
7 DIMENSIONAL TOLERANCE REQUIREMENTS FOR ROUND TUBE	5
8 SELECTION AND PREPARATION OF TEST SAMPLES	6
9 MECHANICAL TESTS	6
10 NON-DESTRUCTIVE TESTS	7
11 ELECTRICAL RESISTIVITY	7
12 GRAIN SIZE	8
13 STRESS CRACKING TESTS	8
14 RETESTS	8
15 MARKING	9
16 ROUNDING OF TEST RESULT VALUES	9
 APPENDICES	
A PURCHASING GUIDELINES	13
B RELATED ALLOY DESIGNATIONS	19

STANDARDS AUSTRALIA

Australian Standard**Copper and copper alloys—Seamless tubes for engineering purposes**

1 SCOPE This Standard specifies requirements for round, square and rectangular seamless copper and copper alloy tubes for general purposes. It does not apply to tubes for heat exchangers (see AS 1569) or tubes for airconditioning (see AS/NZS 1571).

NOTE: Advice and recommendations on information to be supplied by the purchaser at the time of enquiry or order are contained in the purchasing guidelines set out in Appendix A.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- 1391 Methods for tensile testing of metals
- 1515 Copper alloys (all parts)
- 1569 Copper and copper alloys—Seamless tubes for heat exchangers
- 1696 Copper
- 1696.1 Part 1: Determination of phosphorus—Spectrophotometric method
- 1733 Methods for the determination of grain size in metals
- 1817 Metallic materials—Vickers hardness test
- 2084 Non-destructive testing—Eddy current testing of metal tubes
- 2136 Method for detecting the susceptibility of copper and its alloys to stress corrosion cracking using the mercurous nitrate test
- 2614 Copper and copper alloys—Sampling for chemical and spectrochemical analysis, and physical testing
- 2706 Numerical values—Rounding and interpretation of limiting values
- 4041 Pressure piping

AS/NZS

- 1571 Copper—Seamless tubes for airconditioning and refrigeration

BS

- 1748 Methods for the analysis of copper alloys (all parts)

ASTM

- E 243 Practice for electromagnetic (eddy-current) examination of copper and copper-alloy tubes

3 DESIGNATION

3.1 General The designation shall include the number of this Australian Standard, i.e. AS 1572, followed by additional characters in accordance with Clauses 3.2, 3.3 and 3.4.

3.2 Alloy designation The designation shall comprise six characters commencing with the letter C, in accordance with the Unified Numbering System (UNS).

3.3 Temper designation The temper designation shall comprise either O, $\frac{1}{4}$ H, $\frac{1}{2}$ H or H.