

Under revision see DR 89140

Australian Standard 1432—1983

COPPER TUBES FOR WATER, GAS AND SANITATION



STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter



This Australian standard was prepared by Committee WS/18, Copper Tubes for Water, Gas and Sanitation. It was approved on behalf of the Council of the Standards Association of Australia on 5 April 1983 and published on 8 August 1983.

The following interests are represented on Committee WS/18:

Australian Gas Association
Brisbane City Council
Copper Development Association of Australia Limited
Department of Local Government, Qld
Department of Public Works, N.S.W.
Engineering and Water Supply Department, S.A.
Federated Master Plumbers of Australia
Manufacturers of tubes and fittings
Melbourne and Metropolitan Board of Works
Metropolitan Water Authority, W.A.
Metropolitan Water Sewerage and Drainage Board, N.S.W.

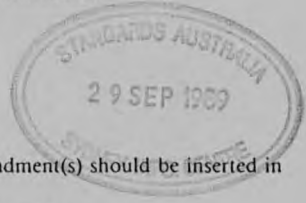
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STANDARDS AUSTRALIA

Amendment No 1
to
AS 1432—1983
Copper tubes for water, gas and sanitation

REVISED TEXT



The 1983 edition of AS 1432 is amended as follows; the amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 10, 11, 12 and 14.

Published on 4 September 1989.

AMDT
No 1
SEPT.
1989

Page 3. Clause 10.
Delete existing Clause 10

AMDT
No 1
SEPT.
1989

Page 4. Clause 11.
Delete existing Clause 11.

AMDT
No 1
SEPT.
1989

Page 4. Clause 12.
Line 3, *delete* 'selected in accordance with Clause 10—.'

AMDT
No 1
SEPT.
1989

Page 4. Clause 14.
Delete existing Clause 14.

AUSTRALIAN STANDARD

COPPER TUBES FOR WATER, GAS AND SANITATION

AS 1432—1983

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PREFACE

This edition of this standard was prepared by the Association's Committee on Copper Tubes for Water, Gas and Sanitation to supersede AS 1432—1973.

The principal changes in this edition are as follows:

- (a) Additional nominal sizes for Type A tubes for the gas industry. (See Table 1.)
- (b) Transfer of contractual requirements to Appendix A.
- (c) Recalculation of bursting pressures, and tabulation of bursting pressures and corresponding safe working pressures. (See Appendix B.)

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
COPPER TUBES FOR WATER, GAS AND SANITATION

1 SCOPE. This standard specifies requirements for a range of round seamless copper tubes intended for use in water, gas and sanitary plumbing installations.

NOTE: Guidelines to purchasers on requirements that must be specified by the purchaser and those that must or may be agreed upon at the time of enquiry or order are given in Appendix A.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1135	SAA Non-ferrous Pressure Piping Code
AS 1279	Copper Refinery Shapes
AS 1817	Method for Vickers Hardness Test Part 1—Testing of Metals
AS K208	Methods for the Analysis of Unalloyed Copper Part 1—Method for the Electrolytic Determination of Copper in Unalloyed Copper Containing Not Less than 99.85 per cent Copper

3 CLASSIFICATION. Copper tubes shall be classified as follows:

- Type A tubes, having a range of nominal sizes of 6 to 200 and a range of nominal thicknesses of 0.91 mm to 2.64 mm.
- Type B tubes, having a range of nominal sizes of 6 to 200 and a range of nominal thicknesses of 0.71 mm to 2.03 mm.
- Type C tubes, having a range of nominal sizes of 10 to 25 and a range of nominal thicknesses of 0.71 mm to 0.91 mm.
- Type D tubes, having a range of nominal sizes of 32 to 150 and a range of nominal thicknesses of 0.71 mm to 1.63 mm.

4 DESIGNATION OF TUBE. Copper tubes shall be designated by the nominal size given in column 1 of Tables 1 to 4, which is related to outside diameter, and by letter type, which refers to thickness.

NOTE: Nominal sizes do not indicate exact dimensions as these details are given in appropriate tables.

5 DEFINITIONS. For the purpose of this standard, the following definitions apply:

5.1 Annealed—the condition of a tube after heat treatment to produce the specified hardness.

5.2 As-drawn—the condition of a tube on completion of the operations necessary to produce the specified diameter and thickness.

NOTE: These operations are not necessarily directed towards producing any particular temper, so that the temper of as-drawn tubes may vary according to the diameter and thickness.

5.3 Mean outside diameter—half the sum of two outside diameters measured at right angles to each other on one cross-section of the tube.

5.4 Mean thickness—half the sum of two thickness measurements taken at points on a cross-section of the tube diametrically opposite to each other.

6 CHEMICAL COMPOSITION. The tubes shall be manufactured from phosphorus deoxidized copper, high residual phosphorus, designation 122A complying with AS 1279.

7 TEMPER AND FORM OF MATERIAL ON DELIVERY. Tubes shall be supplied in accordance with the following conditions:

(a) *Temper.*

Type A tube either as-drawn or annealed.
Type B tube either as-drawn or annealed.
Type C tube either as-drawn or annealed.
Type D only in the as-drawn condition.

The hardness of as-drawn and annealed tubes shall be as specified in Clause 12.

(b) *Form.* As-drawn tubes shall be supplied in straight lengths. Annealed tubes may be supplied in coils or straight lengths.

8 FREEDOM FROM DEFECTS. The tubes shall be clean, smooth and free from internal and external longitudinal grooving and other harmful defects that may affect performance and service.

Notwithstanding the fact that any tube has been passed as complying with this standard, should faults in manufacture during subsequent processing of the tube be revealed, the tube shall then be deemed not to comply.

9 DIMENSIONS AND TOLERANCES.

9.1 General. Dimensions and tolerances shall comply with Clauses 9.2 to 9.5.

9.2 Mean Diameter. The mean outside diameter shall be within the limits specified in Tables 1 to 4, as appropriate.

9.3 Ovality (Out-of-roundness). For as-drawn tube, the outside diameter at any point shall be within the limits specified in the relevant columns of Tables 1 to 4, as appropriate.

NOTE: No ovality tolerances have been established for annealed tubing.

9.4 Thickness. The mean thickness and the thickness at any point of the tubes shall be within the limits specified in Tables 1 to 4, as appropriate.

9.5 Length. Tubes ordered to a specified length shall not vary from that length by more than the amount of tolerance specified in Table 5 when measured at 20°C.

~~**10 SELECTION AND PREPARATION OF TEST SAMPLES.** Where the size of the order permits, tubes of the same diameter, thickness, and temper shall be grouped in batches of 300 tubes or 1000 kg, whichever is the lesser mass.~~

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