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AS 3796 (Int)—1990
Expires 27 July 1992

Interim Australian Standard®

Dezincification resistance of copper alloys

STANDARDS AUSTRALIA

This Interim Australian Standard was prepared by Committee WS/—, Water Supply Sewerage and Drainage Standards Board. It was approved on behalf of the Council of Standards Australia on 8 August 1990 and published on 12 November 1990.

The following interests are represented on Committee WS/—:

ACT Electricity and Water
AUSTAP
Australian Institute of Building
Australian Valve Manufacturers Association
Board of Works, Melbourne
Brisbane City Council
Confederation of Australian Industry
Department of Administrative Services—Australian Construction Services
Department of Conservation and Environment, Victoria
Division of Building, Construction and Engineering, CSIRO
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The Plastics Industry Association
Water Authority of Western Australia
Water Board, Sydney—Illawarra—Blue Mountains
Water Resources Commission, Queensland
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PREFACE

This interim Standard was prepared under the direction of the Water Supply Sewerage and Drainage Standards Board, to supersede in part Specification 016 in SAA MP52—1990, *Manual of authorization procedures for plumbing and drainage products.*

The information contained in this interim Standard was developed by Corrotec, Metallurgical Consultants for Brisbane City Council, who have made the information available on a nationwide basis.

Standards Australia invites comment on this interim Standard from persons and organizations concerned with this subject. The date of expiry for comment is 27 July 1992 at which time this interim Standard will either be withdrawn or revised in the light of public comment, with the view to the preparation of an Australian Standard.

During the life of this document, Committee MT/14 will monitor all comment or field data as and when it is received.

Attention is drawn to the fact that this document is an interim Australian Standard only and should be regarded as a draft Standard and hence liable to alteration after the expiry date.

This document is not to be regarded as an Australian Standard until issued as such by Standards Australia.

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Interim Australian Standard
Dezincification resistance of copper alloys

1 SCOPE This interim Standard specifies requirements for dezincification-resistant copper alloys.

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

AS
1565 Copper and copper alloys—Ingots and castings

1567 Copper and copper alloys—Wrought rods, bars and sections

2345 An accelerated laboratory test method for assessment of the susceptibility of brass to dezincification

2738 Copper and copper alloys, compositions and designations
2738.2 Part 2: Wrought products
2738.3 Part 3: Cast products

3 MATERIAL REQUIREMENTS Dezincification-resistant copper alloys are those alloys that either—

(a) correspond in chemical composition to those alloys designated Category I alloys in Appendix A; or

(b) when tested in accordance with AS 2345, satisfy the average depth of penetration criteria given in Table 1.

4 PRODUCT REQUIREMENTS

4.1 Acceptance based on composition of alloy Alloy composition, when NATA certified, shall be taken as the acceptance criterion. Where the alloy composition corresponds to that of—

(a) Category I alloys (see Appendix A, Table A1), acceptance shall be without further testing;

(b) Category II materials (see Appendix A, Table A2), testing in accordance with AS 2345 shall be carried out. Acceptance shall be based on the average depth of penetration being not greater than the values given in Table 1; or

(c) Category III materials (see Appendix A, Table A3), they will not be accepted.

4.2 Acceptance based on depth of penetration Where alloy composition does not correspond to the Categories I, II or III, testing shall be carried out in accordance with AS 2345 for compliance with the acceptance criteria given in Table 1.

TABLE 1

DEPTH OF PENETRATION CRITERIA FOR ACCEPTANCE OF COPPER-BASE ALLOYS WHEN TESTED IN ACCORDANCE WITH AS 2345

Form of product	Average depth limit, μm
Castings—thin and thick sections	100
Forgings—	
longitudinal sections	300
transverse sections	100
Machined items from extruded rod—	
longitudinal sections	300
transverse sections	100

NOTES:

1 Any brazing performed during manufacture or installation may change the dezincification-resistance properties of the product.

2 Where reheating processes are a necessary part of manufacture, e.g. fabrication by brazing or where temperatures may exceed 600°C, then the relevant depth criteria above may be increased by 100 μm.

3 The maximum depth of dezincification should not exceed 400 μm at any measured point.

4 Dezincification resistance may be assessed on the fitting after all manufacturing procedures are completed but prior to installation in the field.