

Specification for dezincification resistant brass die castings and ingots for die castings

Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted by the Non-ferrous Metals Standards Policy Committee (NFM/-) to Technical Committee NFM/34, upon which the following bodies were represented:

- British Bathroom Council
- British Cable Makers' Confederation
- British Gas plc
- British Malleable Tube Fittings Association
- British Non-ferrous Metals Federation
- British Valve and Actuator Manufacturers' Association
- Copper Development Association
- London Metal Exchange
- Non-ferrous Metal Stockists
- Society of British Aerospace Companies Limited
- Transmission and Distribution Association (BEAMA Ltd.)
- Coopted members

The following bodies were also represented in the drafting of the Draft for Development, through subcommittees and panels:

- British Plumbing Fittings Manufacturers' Association
- British Telecommunications plc
- British Turned-parts Manufacturers' Association
- Copper Smelters' and Refiners' Association
- Electronic Engineering Association
- Spring Research and Manufacturers' Association
- Telecommunication Engineering and Manufacturing Association

This Draft for Development, having been prepared under the direction of the Non-ferrous Metals Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 31 October 1990

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Information to be supplied by the purchaser	1
4 General requirements	1
5 Specific requirements for ingots	2
6 Specific requirements for die castings	2
7 Inspection procedures	3
8 Retests	3
9 Certificates or other information to be provided by the supplier	4
Appendix A Optional supplementary inspection and test procedures for die castings, with corresponding codings	5
Appendix B The rounding of numbers rule	6
Appendix C Colour codes for ingots	6
Appendix D Information to be included in the purchaser's test schedule for die castings	6
Appendix E Method of test to establish dezincification resistance	7
Table 1 — Chemical composition of ingots and die castings	2
Table 2 — Colour codes for ingots	6
Publications referred to	Inside back cover

Foreword

This Draft for Development has been prepared under the direction of the Non-ferrous Metals Standards Policy Committee. It specifies the requirements for ingots and die castings in two dezincification resistant brasses. Both of these brasses have been developed in recent years. Alloy DZR 1 is based on the wrought dezincification resistant brass CZ 132, specified in BS 2872 and BS 2874, whereas DZR 2 is based on an alloy developed in Sweden.

According to the experience gained from the use and application of this Draft for Development, the responsible technical committee will decide in due course whether either or both of the alloys in this Draft for Development should be converted to full British Standard status by incorporation into BS 1400.

This publication is not to be regarded as a British Standard. It is being issued in the Draft for Development series of publications and is of a provisional nature because further evidence is required before the specification can be incorporated into a British Standard. It is recommended that it should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

A review of this Draft for Development will be carried out not later than two years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of *BSI News*. Observations which it is felt should receive attention before the official call for comments will be welcomed.

According to the replies received, the responsible BSI Committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Because of the provisional nature of this Draft for Development, BSI requests manufacturers not to mark products with claims of compliance with this publication. Since such claims would not have the effect of indicating conformity with a definite national standard, they could be judged to be misleading trade descriptions.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Draft for Development specifies requirements for the chemical compositions, and other characteristics for the following two types of product:

- a) brass ingots intended to be remelted for the production of dezincification resistant die castings and pressure die castings; and
- b) dezincification resistant brass die castings and pressure die castings.

Methods for verifying that ingots and die castings comply with the requirements of this Draft for Development are also specified.

NOTE 1 Optional supplementary inspection and test procedures and corresponding codings, that enable die castings to be ordered according to particular inspection and test requirements appropriate to the application of the die castings, are given in Appendix A.

A system of inspection coding is described (**A.1**) that enables the additional inspection and test procedures to be specified readily at the design stage, for quotation purposes and for orders. It is emphasized that over-inspection will lead to unnecessarily high costs and longer delivery times with no compensating advantages. For these reasons it is essential to select only those supplementary procedures that are necessary for the design of the product concerned.

NOTE 2 The titles of the publications referred to in this Draft for Development are listed on inside back cover.

2 Definitions

For the purpose of this Draft for Development the following definitions apply.

2.1

cast (non-continuous melting)

the product of:

- a) one furnace melt; or
- b) one crucible melt; or
- c) a number of furnace or crucible melts where such are aggregated and mixed prior to sampling.

2.2

cast (continuous melting)

in continuous melting for the production of die castings, when the contents of a melting/holding furnace or crucible are supplemented from time to time by the addition of metal to maintain an adequate bulk of liquid metal, a cast is 250 kg or fraction thereof of metal poured

3 Information to be supplied by purchaser

The following information shall be supplied by the purchaser in the enquiry and order to assist the manufacturer in supplying the correct ingots or die castings:

- a) whether ingots or die castings are required;
- b) the designation of the material (see Table 1).

NOTE The purchaser should also be aware of the importance of including, in his enquiry and order, the following information as appropriate:

- 1) for both ingots and die castings, whether it is the purchaser's intention to inspect the material at the supplier's works (see note 3 to **7.1**);
- 2) for die castings only:
 - i) a fully detailed and fully dimensioned drawing of the die casting(s) required;
 - ii) details of the actual die equipment if this is to be supplied by the purchaser;
 - iii) full details of any of the optional supplementary inspection and test procedures required (see Appendix A), including the inspection coding (see **A.1**) and a test schedule in accordance with the recommendations given in Appendix D;
 - iv) if inspection and testing are to be carried out by the purchaser and the samples and test pieces are to be retained by the purchaser (see note 3 to **7.1**);
 - v) whether a statement of compliance, or a certificate of conformity, of the die castings, to the requirements of this Draft for Development is required (see clause **9**);
 - vi) whether a more frequent rate of analysis than that specified in **7.2.1** for die castings is required (see note to **7.2.1**);
 - vii) whether a more frequent rate of testing for dezincification resistance than that specified in **7.2.2** for die castings is required (see note to **7.2.2**).

4 General requirements

Dezincification resistant brass ingots shall comply with the requirements specified in clause **5**.

Dezincification resistant brass die castings shall comply with the requirements specified in clause **6**.

Inspection procedures, the selection of samples and test methods for verifying that the ingots and die castings comply with the requirements specified in clauses **5** and **6** shall be as specified in clauses **7** and **8**.

NOTE 1 For optional supplementary inspection and test procedures see Appendix A.

NOTE 2 In the event of any dispute concerning compliance of the ingots or die castings with the requirements of this Draft for Development, it is normal commercial practice for the supplier and the purchaser to have tests undertaken by a mutually acceptable independent testing authority and to accept the results of such tests as final.

The results obtained from analysis shall be rounded to the last place of figures specified as limits, by the application of the rounding rules in accordance with BS 1957.

NOTE 3 For further guidance see Appendix B.