

# Precious metals — The finenesses of solders used with precious metal jewellery alloys

The European Standard EN 1904:2000 has the status of a British Standard

ICS 39.060

## National foreword

This British Standard is the official English language version of EN 1904:2000.

The UK participation in its preparation was entrusted to Technical Committee STI/53, Jewellery, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE The UK has been granted an A-deviation from EN 1904 as some of its requirements conflict with those of the Hallmarking Act 1973. Details are given in annex ZB to EN 1904.

A list of organizations represented on this committee can be obtained on request to its secretary.

### Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 7 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard, having been prepared under the direction of the Sector Committee for Materials and Chemicals, was published under the authority of the Standards Committee and comes into effect on 15 November 2000

© BSI 11-2000

ISBN 0 580 34999 3

### Amendments issued since publication

Amd. No.	Date	Comments

ICS 39.060

English version

## Precious metals - The finenesses of solders used with precious metal jewellery alloys

Métaux précieux - Titre des soudures utilisées pour les alliages de métaux précieux pour les articles de joaillerie

Edelmetall - Nennfeingehalte von Loten für Edelmetall-Schmucklegierungen

This European Standard was approved by CEN on 25 February 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

---

## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 283, Precious metals – Applications in jewellery and associated products, the Secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies the precious metal content in solders suitable for use in the production of jewellery made of precious metal alloys.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN ISO 11210, *Determination of platinum in platinum jewellery alloys - Gravimetric method after precipitation of diammonium hexachloroplatinate.*

EN ISO 11426, *Determination of gold in gold jewellery alloys - Cupellation method (fire assay).*

EN ISO 11489, *Determination of platinum in platinum jewellery alloys - Gravimetric method after reduction with mercury(I) chloride.*

EN ISO 11490, *Determination of palladium in palladium jewellery alloys - Gravimetric method with dimethylglyoxime.*

EN 31427, *Determination of silver in silver jewellery alloys - Volumetric (potentiometric) method using potassium bromide.*

prEN 31494, *Determination of platinum in platinum jewellery alloys - ICP-solution-spectrometric method using Yttrium as internal standard element.*

prEN 31495, *Determination of palladium in palladium jewellery alloys - ICP-solution-spectrometric method using Yttrium as internal standard element.*

### 3 Definitions

For the purpose of this standard, the following definitions apply.

#### 3.1

##### **assay**

analysis of precious metal by a published standard procedure

#### 3.2

##### **fineness**

content of the named precious metal in the alloy in terms of parts per thousand by weight

#### 3.3

##### **jewellery**

products made of precious metal alloys with or without other materials, such as colliers, necklaces, bracelets, rings, etc. as well as associated products

#### 3.4

##### **precious metal**

platinum, gold, palladium and silver in the pure state and their alloys

#### 3.5

##### **precious metal alloy**

solid mixture of a precious metal with one or more other metals made by melting or an electrochemical technic

#### 3.6

##### **solder**

alloy used to join metal parts

### 4 Requirements with regard to fineness

**4.1** For joining parts of gold jewellery solder shall be used which has at least the same fineness as the article which will be soldered.

Exceptions to the above are:

- gold alloy articles with a fineness of more than 750/1 000 shall be soldered with solder of a minimum fineness of 750/1 000 gold;

- gold chains made from wire with less than 1 mm diameter can be soldered with solder without gold contents. The solders shall not induce a decrease of the measured mean fineness below the declared fineness.

**4.2** For joining parts of platinum jewellery solder shall be used with a minimum total content of precious metals of 800/1 000.

**4.3** For joining parts of palladium jewellery solder shall be used with a minimum total content of precious metals of 700/1 000.

**4.4** For joining parts of silver jewellery solder shall be used with a minimum fineness of 550/1 000 silver.

## **5 Determination of fineness**

For the determination of the fineness the methods given in the referenced standards shall be used, if necessary in combination:

EN ISO 11210, EN ISO 11426, EN ISO 11489, EN ISO 11490, EN 31427, prEN 31494, prEN 31495.

## ANNEX ZB (informative)

### A-Deviations

A-Deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard does not fall under any Directive of EC.

In the relevant CEN/CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

Notification of deviation from Austria legislation as contained in the DVO (Durchführungsverordnung) concerning the marking law.

Clause	Deviation asked from Austria
4.1 and 4.2	<p>“Annex :</p> <p>In § 3 Abs. 3 DVO zum Punzierungsgesetz steht:</p> <p>Das Lot darf das zur Lötung notwendige Mass nicht überschreiten und muss wenigstens die Hälfte des Feingehaltes des Platin-, Gold- oder Silbergegenstandes besitzen, zu dessen Lötung es dient.</p> <p>Diese Bestimmung ist in den Punkten 4.1 und 4.2 des vorliegenden Normentwurfes prEN 1904 nicht erfüllt.”</p> <p>Note – English translation made from the Secretariat:</p> <p>The filler metal shall not exceed the necessary mass for the soldering; the filler metal shall also have at least half of the fineness of the precious metal platinum or gold or silver alloy soldered</p>

Notification of deviation from UK legislation as contained in the Hallmarking Act 1973 as amended by Statutory Instruments 1976 No: 730, 1981 No. 559 and 1998 No. 2978.

Clause	Deviation asked from U.K.
3.6	<p>Hallmarking Act 1973 (Chapter 43, Section 4 on 'Approved hallmarks') as amended by Statutory Instruments 1976 No. 730, , 1981 No. 559 and 1998 No. 2978.</p> <p>As defined in paragraph 3 (c), 'solder' is an 'alloy used to join metal parts <u>and not for strengthening, weighting, filling or otherwise</u>'.</p>
4	<p>Hallmarking Act 1973 (Chapter 43, Section 4 on 'Approved hallmarks') as amended by Statutory Instruments 1976 No. 730, 1981 No. 559 and 1998 No. 2978</p> <p>Paragraph 3 (b) (i) states that in order for a gold article to be sold on the UK markets, the gold solder used has to be of a fineness not less than the standard of fineness of the article.</p> <p>Exceptions to this are the following.</p> <ul style="list-style-type: none"> <li>– Item (a): for gold articles of standard of fineness of 916.6 or above, the gold solder has to be of a minimum fineness of 750.</li> <li>– Item (b): in gold filigree work or watchcases, either of a standard of fineness of 750, the gold solder has to be of a minimum fineness of 740.</li> <li>– Item (c): in an article of white gold of a standard of fineness of not less than 585 and not more than 750, the gold solder has to be of a minimum fineness of 500.</li> </ul> <p>Paragraph 3 (b) (ii) states that in order for a silver article of a standard of fineness of 925 to be sold on the UK markets, the silver solder has to be of a minimum fineness of 650.</p> <p>Paragraph 3 (b) (i) states that in order for a platinum article to be sold on the UK markets, the platinum solder (i.e. gold, silver, platinum or palladium or a combination of two or more thereof) is of a fineness or, as the case may be, of a combined fineness not less than the standard fineness of the article.</p> <p>Paragraph 3 (c) states that solder of a fineness less than the standard of fineness of the article or adhesive must be used in a quantity that is not less than is necessary for joining parts of the article, and must not be used for strengthening, weighting, filling or other purposes.</p>



## Bibliography

- [1] EN 29202, *Jewellery - Fineness of precious metal alloys*.
- [2] COM(93) 322 final - SYN 472, *Proposal for a Council Directive on articles of precious metal*.

---

---

## **BSI — British Standards Institution**

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

### **Revisions**

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

### **Buying standards**

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

### **Information on standards**

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

### **Copyright**

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.