
**Jewellery and precious metals —
Fineness of solders used with precious
metal jewellery alloys**

*Joellerie bijouterie et métaux précieux — Titre des brasures utilisées
pour les alliages de métaux précieux pour les articles de joaillerie et
de bijouterie*

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 174, *Jewellery and precious metals*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Jewellery and precious metals — Fineness of solders used with precious metal jewellery alloys

1 Scope

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 11210, *Jewellery — Determination of platinum in platinum jewellery alloys — Gravimetric method after precipitation of diammonium hexachloroplatinate*

ISO 11426, *Jewellery — Determination of gold in gold jewellery alloys — Cupellation method (fire assay)*

ISO 11427, *Jewellery — Determination of silver in silver jewellery alloys — Volumetric (potentiometric) method using potassium bromide*

ISO 11490, *Jewellery — Determination of palladium in palladium jewellery alloys — Gravimetric determination with dimethylglyoxime*

ISO 11494, *Jewellery and precious metals — Determination of platinum in platinum alloys — ICP-OES method using an internal standard element*

ISO 11495, *Jewellery and precious metals — Determination of palladium in palladium alloys — ICP-OES method using an internal standard element*

ISO 13756, *Jewellery — Determination of silver in silver jewellery alloys — Volumetric (potentiometric) method using sodium chloride or potassium chloride*

ISO 15093, *Jewellery and precious metals — Determination of high purity gold, platinum and palladium — Difference method using ICP-OES*

ISO 15096, *Jewellery and precious metals — Determination of high purity silver — Difference method using ICP-OES*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

fineness

content of the named *precious metal* (3.2) in the alloy in terms of parts per thousand by weight (‰)

3.2

precious metal

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

3.3

precious metal alloy

solid mixture of a *precious metal* (3.2) with one or more other metals made by melting or an electrochemical technique

3.4

solder

alloy used to join metal parts

4 Requirements with regard to fineness

4.1 Mean fineness

The solders shall not decrease the measured mean fineness below the declared fineness.

4.2 Gold jewellery

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

Exceptions to the above are:

- Red and dark red gold alloy articles (as described in ISO 8654) with a fineness equal or more than 750 ‰ shall be soldered with a solder of a minimum fineness of 585 ‰ gold.
- Other gold alloy articles with a fineness of more than 750 ‰ shall be soldered with a solder of a minimum fineness of 750 ‰ gold.
- Gold chains made from the wire with less than 1 mm diameter can be soldered with any solder, including goldless ones.

4.3 Platinum jewellery

For joining parts of platinum jewellery solder shall be used with a minimum total content of precious metals of 800 ‰.

4.4 Palladium jewellery

For joining parts of palladium jewellery solder shall be used with a minimum total content of precious metals of 700 ‰.

4.5 Silver jewellery

For joining parts of silver jewellery solder shall be used with a minimum fineness of 550 ‰ silver.

5 Determination of fineness

For the determination of the fineness the methods given in the specific reference standards ISO 11210, ISO 11426, ISO 11427, ISO 11490, ISO 11494, ISO 11495, ISO 13756, ISO 15093 and ISO 15096 shall be used.