

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

चाँदी एवं चाँदी मिश्रधातुएँ आभूषण/शिल्पकारी — शुद्धता एवं मुहरांकन — विशिष्टि

Draft Indian Standard

**SILVER AND SILVER ALLOYS, JEWELLERY/ARTEFACTS — FINENESS AND
MARKING — SPECIFICATION**

[Fourth Revision of IS 2112]

ICS 39.060

Precious Metals Sectional Committee, MTD 10

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FOREWORD

This Indian Standard (Fourth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Precious Metals Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1962, and later revised in 1981, 2003 and 2014 respectively. The revision has been brought out to bring the standard in the latest style and format of the Indian Standards.

In this revision following changes have been made:

- a) All amendments issued earlier have been incorporated;
- b) Bullion and coin have been defined and included in the scope of the standard and marking clause has been suitably modified;
- c) Silver jewellery/artefacts grades of fineness 900 has been deleted and a new grade of fineness 958 has been added, in line with ISO 9202; and
- d) In the note to scope it is made clear that all articles of silver are covered under artefacts.

For the purpose of whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Draft Indian Standard***SILVER AND SILVER ALLOYS, JEWELLERY/ARTEFACTS —
FINENESS AND MARKING — SPECIFICATION***(Fourth Revision)***1 SCOPE**

1.1 This standard specifies the grades of silver/silver alloys based on silver content:

- a) Three grades of fine silver used in manufacture of bullion and coins; and
- b) **Seven** grades of silver alloys used in the manufacture of jewellery/artefacts.

1.2 This standard also specifies the requirement for marking of fineness and other details to be marked on tested silver bullion and jewellery/articles.

NOTE —Artefacts cover medallions, utensils and any article of silver

2 REFERENCES

The following standards listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below:

<i>IS No.</i>	<i>Title</i>
IS 1387 : 1993	General requirements for the supply of metallurgical materials (<i>second revision</i>)
IS 2113 : 2014	Assaying silver in silver and silver alloys — Methods (<i>third revision</i>)
IS 15820 : 2009	General requirements for competence of assaying and hallmarking centres
IS 16900 : 2021/ ISO 15096 : 2020	Jewellery and precious metals — Determination of high purity silver — Difference method using ICP-OES (<i>first revision</i>)
IS 18458 : 2023	Jewellery and Precious Metals —Ed-XRF Test — Method of Test

3 TERMINOLOGY

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

3.1 Assaying — The method of accurate determination of silver content of the sample expressed in parts per thousand (‰).

3.2 Bullion — Refined bars of various shapes of fine silver manufactured by mints/refineries.

3.3 Coin —Silver coins of fine silver manufactured by mints/refineries.

3.4 Fineness — The ratio between the mass of silver content and total mass expressed in parts

per thousand (‰).

3.5 Hallmark — Hallmark means in relation to precious metal article, the Standard Mark, which indicates the proportionate content of precious metal in that article as per the relevant Indian Standard.

3.6 Silver — The metallic element silver, free from any other element.

3.7 Silver Alloy — Silver alloyed with one or more other elements (*see* Note in 5).

4 SUPPLY OF MATERIAL

General requirements relating to the supply of material are laid down in IS 1387.

5 GRADES

Fine silver and silver alloys shall be classified in accordance with the following grades depending upon their fineness:

<i>Sl No.</i> (1)	<i>Grade</i> (2)		<i>Fineness</i> (3)
i)	9 999 9 995 999	Fine silver for bullion and coins	999.9 999.5 999.0
ii)	999 990 970 958 925 835 800	Silver alloys for jewellery artefacts	999.0 990.0 970.0 958.0 925.0 835.0 800.0

NOTE — All the above grades of silver and silver alloys shall be free from cadmium and lead.

6 REQUIREMENTS

6.1 Fine silver for bullion and coins and Silver alloys used for manufacture of jewellery/artefacts shall have the fineness as given in 5 without any negative tolerance.

6.2 Cadmium and lead shall not be present in silver jewellery/artefacts.

NOTE — In XRF analysis of silver jewellery/artefacts, the value of cadmium and lead below 0.01% may be considered as absent.

6.3 In the manufacture of jewellery/artefacts of grades 999, 990, 970, 958 and 925, the solder of purity 750 silver minimum and for grade of 835 and 800, the solder of purity 650 silver minimum free from cadmium and lead shall be used. However, melting purity of articles shall not be less than the purity for which it has been offered for hallmarking as per the grades given in 5.

6.4 Sampling

Unless otherwise specified for the jewellery/ artefacts of the same design and quality, the sample shall be taken from 10 percent of the semi-finished/finished jewellery/artefacts. Any other sampling plan may also be followed subject to the agreement between the contracting parties or as specified by the inspection agency as the case may be. The sampling plan mentioned in IS 15820 may also be referred.

6.4.1 The sampling of bullion and coins shall be done as specified in IS 2113/inspection agency.

6.5 Assaying

6.5.1 The sample taken as prescribed in **6.4** shall be assayed in accordance with IS 2113. The actual weight of samples, etc, shall however, be as prescribed in respective test methods as detailed in IS 2113.

6.5.2 For determination of fineness of fine silver IS 16900 is preferred method.

6.5.3 Detection of cadmium and lead in silver and silver alloys shall be carried out by Ed- X-ray fluorescence (XRF) method as per IS 18458: 2023.

6.6 Tolerance

No negative tolerance shall be allowed on the silver content of silver bullion, coin, and jewellery artefact sampled and tested as per **6.4** and **6.5** respectively.

7 MARKING

7.1 The silver and silver alloys, jewellery/artefacts shall be hallmarked by laser marking by BIS recognized Assaying and Hallmarking Centre only. The Hallmarked articles shall carry the following markings:

- a) BIS Standard Mark with the word SILVER;
- b) Grade;
- c) Assay centre's identification mark; and
- d) Jeweller's mark/manufacturer's identification mark.

7.2 The silver bullion and silver coins shall be hallmarked by punching or embossing by BIS recognized Refineries/Mints only. The Hallmarked articles shall carry the following markings:

- a) BIS Standard Mark with the word SILVER;
- b) Grade;
- c) Name/Identification of the manufacturer; and
- d) Serial number.

NOTE — In case of coins, serial numbers may be marked on the packaging.

7.3 Hallmarking

The use of Hallmark is governed by the provisions of the *Bureau of Indian Standards Act*,

2016 and Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Hallmark may be granted to jewelers or jeweler/ artefact manufacturers may be obtained from the Bureau of Indian Standards.

7.3.1 Only linear designs shall be permitted.

7.3.2 Markings shall be legible and durable. Marking shall be visible by a magnifying glass of magnification 10 X.

7.3.3 Markings shall be done on all parts which can be easily removed or replaced.

7.3.4 Silver jewellery/artefacts on which marking should not be applied are as follows:

- a) Any silver jewellery/artefact which has not been assayed by BIS recognized Assaying and Hallmarking Centre and does not confirm to the fineness/grade declared;
- b) Any silver jewellery/artefact which fails to comply with specified fineness;
- c) Any silver jewellery/artefact which is not solid or which is made with hollow centre and then filled with base metal, cement, lac or other substance thereby giving the article a false or added weight or strength; and
- d) Silver jewellery/artefact on which it is physically not possible to stamp the marks.