



SLOVENSKI STANDARD

SIST EN 610:1998

01-november-1998

Kositer in kositrove zlitine - Ingoti kositra

Tin and tin alloys - Ingot tin

Zinn und Zinnlegierungen - Zinn in Masseln

Etain et alliages d'étain - Etain en lingot

Ta slovenski standard je istoveten z: **EN 610:1998**

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ICS:

77.150.60 Svinčeni, cinkovi in kositrovi izdelki Lead, zinc and tin products

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en

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EUROPEAN STANDARD

EN 610

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 1995

ICS 77.120.60

Descriptors: tin, ingots, designation, specification, chemical composition, grades : quality, sampling, marking

English version

Tin and tin alloys - Ingot tin

Etain et alliages d'étain - Etain en lingot Zinn und Zinnlegierungen - Zinn in Masseln

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CENEuropean Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 220 "Tin and tin alloys" of which the secretariat is held by BSI.

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of an identical text or by endorsement, at the latest by January 1996, and conflicting national standards shall be withdrawn at the latest by January 1996.

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

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1 Scope

This draft European Standard specifies the requirements for the chemical composition, surface condition, sampling, analysis, inspection documentation and marking for five grades of ingot tin.

The grades of tin included in this draft European Standard are those which are traded internationally.

2 Definitions

For the purposes of this standard the following definitions apply.

2.1 ingot: Cast, unwrought product in a form suitable only for remelting.

2.2 batch: Series of ingots produced from a single uniform melt.

2.3 bundle: Collection of ingots taken from one batch and secured by banding for the purposes of handling, shipment and storage.

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3 Ordering information [1d5aa120a22d/sist-en-610-1998](https://standards.iteh.ai/catalog/standards/sist/36a8e72a-ca1c-4f20-8856-1d5aa120a22d/sist-en-610-1998)

The following information shall be supplied by the purchaser in the enquiry and/or order, to assist the supplier in providing the correct material:

- a) the number of this European Standard (EN 610);
- b) the designation of the tin grade required (see table 1);
- c) the individual nominal mass of the ingots;
- d) the total mass of ingots required;
- e) whether a specific ingot shape is required (see 4.2);
- f) whether a certificate of analysis or a statement of conformity is required (see clause 7);
- g) the specific packaging requirements.

4 Requirements

4.1 Chemical composition

The chemical composition of the ingots shall conform to the requirements for the appropriate grade given in table 1. In expressing the results for the analysis, the values obtained shall be rounded to the same number of decimal places as used in expressing the specified limit in table 1. The rounding rules are given in annex A.

Table 1: Chemical composition and grade designation of ingot tin

Tin grade designation	Composition in % (m/m)										
	Sn min.	Al max.	As max.	Bi max.	Cd max.	Cu max.	Fe max.	Pb max.	Sb max.	Zn max.	Total of all impurities max.
Sn 99,99	99,99	0,0005	0,0005	0,0001	0,0005	0,0005	0,0001	0,0040	0,0010	0,0005	0,010
Sn 99,95	99,95	0,0005	0,0040	0,0050	0,0005	0,005	0,0025	0,040	0,015	0,0005	0,050
Sn 99,93	99,93	0,0005	0,004	0,005	0,0005	0,010	0,003	0,040	0,040	0,0005	0,070
Sn 99,90	99,90	0,0010	0,030	0,010	0,0010	0,030	0,005	0,010	0,040	0,0010	0,100
Sn 99,85	99,85	0,0010	0,030	0,030	0,0010	0,050	0,010	0,050	0,050	0,0010	0,150

4.2 Shape of ingots

The shape of the ingots shall be at the discretion of the supplier, unless a specific shape is agreed between the purchaser and the supplier and is stated in the enquiry and/order [see 3e)].

NOTE: The ingot shape should be such that the bundle of ingots remains stable when the banding is removed.

4.3 Surface condition of ingots

The surface of the ingots shall be clean and free of holes and pores.

5 Selection and preparation of samples for analysis

When analysis is to be carried out to verify conformity of a batch of ingots with the composition requirements given in 4.1, the selection of the samples, and the preparation of the analysis samples, shall be in accordance with annex B.

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6 Analytical methods

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For routine control purposes the samples selected and prepared in accordance with clause 5 shall be analyzed by the use of recognized chemical or instrumental analytical methods. In cases of dispute concerning the results of chemical analysis, until the publication of a European Standard¹⁾ for the analysis of tin ingots, the analytical methods used shall be subject to agreement between the disputing parties and any independent arbitrator.

¹⁾ In course of preparation.

7 Inspection documentation

The supplier shall provide inspection documentation with each consignment of ingots. The documentation shall be as requested by the purchaser in the enquiry and order [see 3f)], and shall be in accordance with either a) or b) as follows:

- a) a certificate giving the chemical analysis specific to each batch in the consignment; or
- b) a statement of conformity of the consignment with the order requirements.

NOTE: The statement of conformity does not necessarily relate to specific tests carried out on the consignment.

8 Marking and labelling

8.1 Ingots

Every ingot shall be marked with the following information:

- a) producer's name or mark; and
- b) batch identification.

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8.2 Bundles

Every bundle shall have affixed a label giving all the following information:

- a) number of this European Standard (EN 610);
- b) tin grade designation (see table 1);
- c) producer's name or mark; and
- d) batch identification.