

SLOVENSKI STANDARD

SIST EN 12060:2000

01-november-2000

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Zinc and zinc alloys - Method of sampling - Specifications

Zink und Zinklegierungen - Probenahme - Spezifikationen

Zinc et alliages de zinc - Méthode d'échantillonnage - Spécifications

Ta slovenski standard je istoveten z: EN 12060:1997

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ICS:

77.120.60	Svinec, cink, kositer in njihove zlitine	Lead, zinc, tin and their alloys
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12060

October 1997

ICS 77.120.60

Descriptors: zinc, zinc alloys, sampling, specifications, specimen preparation, procedures

English version

Zinc and zinc alloys - Method of sampling - Specifications

Zinc et alliages de zinc - Méthode d'échantillonnage -
Spécifications

Zink und Zinklegierungen - Probenahme - Spezifikationen

This European Standard was approved by CEN on 26 September 1997.

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.

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 209 "Zinc and zinc alloys", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

Within its programme of work, Technical Committee CEN/TC 209 entrusted CEN/TC 209/SC 3 "Methods of analysis and testing" to prepare the following document:

EN 12060 Zinc and zinc alloys - Method of sampling - Specification

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.

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1 Scope

This European Standard specifies the requirements for sampling of zinc and zinc alloys, as specified in EN 1179 and EN 1774, for analysis.

2 Normative references

This European Standard incorporates by dated or undated references 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 1774 Zinc and zinc alloys - Alloys for foundry purposes - Ingot and liquid

EN 1179 Zinc and zinc alloys - Primary zinc

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3 Definitions

For the purposes of this standard, the following definitions apply:

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3.1 ingot: Cast product intended for remelting [EN 1179:1995].

3.2 batch: Number of ingots taken from a single cast [EN 1179:1995].

3.3 cast

3.3.1 cast, for non-continuous casting: Product of one furnace or crucible melt [EN 1179:1995].

3.3.2 cast, for continuous casting: Identified volume of liquid metal [EN 1179:1995].

3.4 sample: Portion of the product, representative of its chemical composition.

3.5 test piece: Final form of the material submitted for analysis.

3.6 consignment of cast product: Unless otherwise agreed between the purchaser and the supplier for the purpose of sampling, a consignment of cast product shall be defined as material received as a load.

3.7 sampling unit: Individual cast product selected from a consignment.

3.8 gross sample: Total amount of sampling units selected from a consignment.

3.9 test sample: Sample prepared from the gross sample and from which test portions shall be taken.

3.10 test portions: Quantity of material taken from the test sample and on which the analysis is actually carried out.

4 Principle

Since zinc and zinc alloy ingots can have very different shapes and weights, the chemical composition of samples can differ depending on the specific location of the test piece in the given ingot due to segregation processes during solidification. It is recommended that samples are taken during the casting process at the time of manufacture.

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5 Apparatus

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5.1 Ladle

Designed to hold sufficient molten metal to completely fill the sample mould, with a handle or other equipment suitable to reach into a furnace, trough, pot or crucible. It shall be made of a material not affecting the molten metal. (i.e. Chemically inert)

5.2 Sample moulds

Designed to produce homogeneous samples representative of the product metal. The form and the size of the mould are very important. Moulds shall have a sufficient cooling rate, to cause the rapid solidification of the metal and avoid the segregation of the components. Moulds shall be chemically inert, not affecting the molten metal.

6 Identification of samples and preparation of test piece

6.1 Identification

Samples shall be identified with a unique identity.

6.2 Preparation

Shape and size of test piece are dependent upon the device and operations used. The test piece shall be prepared according to the requirements of the analytical method used.

7 Procedure

7.1 Frequency of sampling

Sampling during continuous or non-continuous casting processes shall be performed at a frequency that represents the product and production facilities.

7.2 Personnel

Samples shall only be taken by trained and experienced personnel.

7.3 Cast products

If sampling of ingots and castings is required, the method of sampling shall be agreed between the purchaser and the supplier. The sampling of ingots shall be in accordance with annex A.

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Annex A (normative)

Sampling of ingots with a weight less than 25 kg

A.1 General

This annex specifies the methods for the selection and preparation of samples for chemical analysis of zinc and zinc alloys in the form of ingots less than 25 kg when sampling from molten metal is not possible.

A.2 Selection of sampling units

A.2.1 General

The sampling units shall be selected from batches, each batch being composed of ingots of the same composition.

Following an agreement between the purchaser and the supplier, each consignment shall be divided into a series of batches provided that they contain:

- a) not less than 25 t for zinc ingots, or
- b) not less than 5 t for the zinc alloy ingots

Any consignment of less than stated in a) and b) shall be regarded as a single batch.

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A.2.2 Frequency of sampling

For zinc ingots from each batch of ingots, select, at random, one ingot from every 100 for zinc grade Z1, Z2 and Z3 and one ingot from every 50 for zinc grade Z4 and Z5, specified in EN 1179.

For zinc alloy ingots from each batch of ingots select, at random, one ingot from every 50. In each case the number of ingots selected shall be not less than five.

When the consignment is made up of less than five ingots, all shall be used in making the selection.