
INTERNATIONAL STANDARD



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Zinc alloy ingots — Selection and preparation of samples for spectrographic analysis

Alliages de zinc en lingots — Prélèvement et préparation des échantillons pour l'analyse spectrale d'émission

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3817 was drawn up by Technical Committee ISO/TC 18, *Zinc and zinc alloys*, and was circulated to the Member Bodies in July 1975.

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It has been approved by the Member Bodies of the following countries :

Austria	Ireland	South Africa, Rep. of
Belgium	Japan	Spain
Bulgaria	Mexico	Turkey
Czechoslovakia	Norway	United Kingdom
France	Peru	U.S.S.R.
Germany	Poland	
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The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Australia
Canada

Zinc alloy ingots – Selection and preparation of samples for spectrographic analysis

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the requirements for the selection and preparation of samples for spectrographic analysis. Sampling may be carried out either by drilling or by sawing slices. Both methods of sampling provide a sample for possible analysis by other standardized methods.

This International Standard covers only the selection and preparation of samples from zinc alloy ingots. Alternatively, the interested parties may agree to select samples of zinc alloy in the liquid state during production.

2 REFERENCE

ISO/R 301, *Zinc alloy ingots*.

3 SELECTION OF INGOTS

3.1 General

3.1.1 The samples shall be selected from batches, each batch being composed of ingots of the same composition, as specified in clause 3 of ISO/R 301.

3.1.2 Following agreement between the interested parties, each consignment may be divided into a series of batches, provided that they contain not less than 5 t. Any consignment of less than 5 t shall be regarded as a single batch.

3.2 Procedure

3.2.1 From each batch of ingots select, at random, one ingot from every 50. The number of ingots selected shall be not less than five.

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

3.2.2 Carefully clean the surface of each ingot selected, to remove all dirt. Apply the consignee's mark by means of a die-stamp.

4 PROCEDURE FOR DRILLING, PELLETIZATION AND RECASTING

4.1 Sampling by drilling

Arrange the selected ingots flat, side by side, upside down with reference to the position occupied in the ingot mould, in groups of a maximum of five ingots. Ensure that the casting marks are arranged in the same way for each of the ingots.

In each group, draw a diagonal across the rectangle thus formed.

With the aid of a tungsten carbide drill of approximately 15 mm diameter and without the use of a lubricant, drill each ingot right through at three points on the diagonal at distances from the long side of the ingot of one-quarter, one-half and three-quarters of the length of the short side (see the figure).

NOTE 6 – When the exact position of the point to be drilled coincides with a notch in the ingot, choose another point as close as possible.

Carry out the drilling without heating the metal to the point of oxidation, in such a way as to obtain drillings of a thickness between 0,2 and 0,5 mm.

Collect all the drillings and break them up.

NOTE – In the case of batches less than 5 t, a sufficient number of drillings must be provided for the mass of the sample to amount to at least 1 kg.

4.2 Preparation and pelletization

Homogenize the sample by mixing, as completely as possible, all the drillings originating from the ingots from a single batch.

Take a mean sample having a mass of at least 1 kg.

Divide the mean sample into two portions, one of approximately 750 g, the other of approximately 250 g.

Place the 250 g portion in a suitable container. Close, label and seal the container. This portion is intended for the possible case of a check or arbitration analysis by other standardized methods.¹⁾

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¹⁾ ISO 3815, *Zinc and zinc alloys – Spectrographic analysis*, provides that if the specified criteria are not fully respected, either of the interested parties may reject the results obtained by spectrographic analysis and demand the use of other standardized methods.

