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Carbonaceous materials for the production of aluminium — Cathode blocks and baked anodes — Determination of compressive strength

Produits carbonés utilisés pour la production de l'aluminium — Blocs cathodiques et anodes cuites — Détermination de la résistance à la compression

Reference number
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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 226.

This second edition cancels and replaces the first edition (ISO 18515:2007), of which it constitutes a minor revision.

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Carbonaceous materials for the production of aluminium — Cathode blocks and baked anodes — Determination of compressive strength

1 Scope

This International Standard specifies a method to determine the compressive strength of solid carbon and graphite materials at room temperature.

NOTE ISO 18515 is based on DIN 51910.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 8007-1, *Carbonaceous materials used in the production of aluminium — Sampling plans and sampling from individual units — Part 1: Cathode blocks*

ISO 8007-2, *Carbonaceous materials used in the production of aluminium — Sampling plans and sampling from individual units — Part 2: Prebaked anodes*

ISO 8007-3, *Carbonaceous materials used in the production of aluminium — Sampling plans and sampling from individual units — Part 3: Sidewall blocks*

3 Terms and definitions

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

3.1
compressive strength
σ_{dB}
ratio of the maximum force ($F_{\max}$) during a compressive experiment leading to fracture and the initial cross-section, A, of the specimen

Note 1 to entry: The compressive strength is calculated as the quotient of the maximum force at fracture of the specimen under the conditions of the compressive strength method.

$$\sigma_{dB} = \frac{F_{\max}}{A}$$

where

$F_{\max}$ is the maximum force in newton;

A is the initial cross-section, in meter squared.

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