
**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*

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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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.

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.