BS ISO 18515:2014

BSI Standards Publication

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

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National foreword

This British Standard is the UK implementation of ISO 18515:2014. It supersedes BS ISO 18515:2007 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CII/24, Raw materials for the aluminium industry.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

ISBN 978 0 580 81221 7

ICS 71.100.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2014.

Amendments issued since publication

Date	Text affected

BS ISO 18515:2014

INTERNATIONAL STANDARD

ISO 18515

Second edition
2014-06-15

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
ISO 18515:2014(E)

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Published in Switzerland

Contents

Page

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.

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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.

INTERNATIONAL STANDARD ISO 18515:2014(E)

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.