International Standard

ISO 20182

Refractory test-piece preparation — Gunning refractory panels by the pneumatic-nozzle mixing type guns

Préparation d'éprouvettes réfractaires — Panneaux réfractaires pour gunitage au pistolet mélangeur pneumatique

Third edition
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Foreword

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This document was prepared by Technical Committee ISO/TC 33, *Refractories,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 187, *Refractory products and materials,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 20182:2008), which has been technically revised.

The main changes are as follows:

— Scope has been broadened to include preparation of gunned panels under both controlled laboratory (“standard”) conditions and “site” conditions; this broadening of scope aligns with that adopted in ISO18886;

— in 6.5, details of two acceptable support plates have been amended;

— in Clause 4, provision has been made for the use of a gunning liquid other than water and examples of liquids other than water that might typically pertain, are given;

— Clause 8 has been revised;

— in Clause 9 test report item a), details of any stainless-steel wire fibre additions are to be reported;

— A.2 has been amended, specifying that it is the as-cured mass of the panel that is to be used as the basis for rebound calculations.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Refractory test-piece preparation — Gunning refractory panels by the pneumatic-nozzle mixing type guns

WARNING — This document can involve the use of hazardous materials, operations and equipment. It does not attempt to address the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices, and to determine the applicability of regulatory limitations prior to use.

1 Scope

This document describes the procedure for the preparation of test panels from refractory materials by gunning through pneumatic nozzle mixing type guns at ambient temperatures. The test pieces are for the determination of properties on as-gunned products prepared under either "standard conditions" (as required for quality assurance or product development) or "site conditions". In the case of "site conditions", the purpose of the testing is to establish the properties pertaining to a given installation or a given set of installation conditions. In this case, the panel can be obtained during the on-site installation. Parameters such as ambient temperature, gunning elevation, air pressure and curing conditions (temperature, orientation of the panel) applicable during the preparation of the panel are as near as possible to the respective parameters pertaining to the site installation.

It is also possible to simulate certain "site conditions" by gunning panels off-site, for example, in a laboratory setting. This is acceptable under this document, by agreement between interested parties.

This document does not apply to plastic gunning mixes and to those mixes that contain aggregates that are susceptible to hydration.

This document does not apply to shotcrete type mixes, which are dealt with in ISO 18886.

2 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 836, *Terminology for refractories*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 836 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
gun
assembly, essentially comprising a chamber into which the refractory is added, together with a mechanism that controls the flow of the material through the unit

Note 1 to entry: Depending on the type used, the gun may be open at the top, or a closed pressurized unit may be used.

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