AS 1774.3:2022

Australian STANDARD®

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Refractories and refractory materials — Physical test methods

Method 3: Determination of cold modulus of rupture

AS 1774.3:2022

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Australian Ceramic Society
Australian Foundry Institute
Australian Industry Group
Bureau of Steel Manufacturers of Australia
CSIRO
Cement Industry Federation
Institute of Refractories Engineers
Materials Australia
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Refractories and refractory materials — Physical test methods

Method 3: Determination of cold modulus of rupture

Originated as AS R31.3—1966.
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Preface

This Test Method was prepared by the Standards Australia Committee MN-007, Refractories and Refractory Materials, to supersede AS 1774.3:2000.

The objective of this document is to set out the method for determining the cold modulus of rupture, under a three-point load system, of refractory bricks and monolithics.

The major changes in this edition are:

(a) The inclusion of shapes specified in ISO 1927-5.

(b) A change in the loading rates to align with ISO 5014.

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1 Scope

This document sets out a method for determining the cold modulus of rupture, under a three-point load system, of refractory bricks and monolithics.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 2193, *Calibration and grading of force-measuring systems of testing machines*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in AS 2780 and those below apply.

3.1
bearing
roll edges and sample surfaces of the test specimen through which the transverse stress is applied

3.2
cold modulus of rupture
maximum transverse stress, applied under specified conditions, that a refractory will withstand at room temperature

3.3
may
indicates the existence of an option

3.4
shall
indicates that a statement is mandatory

3.5
should
indicates a recommendation

4 Principle

A refractory test specimen is subjected to a constant rate of increase of transverse stress, at room temperature, until failure occurs.

5 Safety

For information on safety in laboratories, refer to the relevant parts of AS 2243.