AS 1774.1:2024

Australian STANDARD®

STANDARDS Australia

# Refractories and refractory materials — Physical test methods

## Method 1: Determination of cold compressive strength

AS 1774.1:2024

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Australian Foundry Institute
Australian Industry Group
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Cement Industry Federation
Institute of Refractories Engineers
Materials Australia
Minerals Council of Australia
The Australasian Institute of Mining & Metallurgy
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Originated as AS R31.17—1966, AS R31.1—1966 and AS R31.2—1966.
Revised, amalgamated and redesignated as AS 1774.1—1976.
Previous edition 2000.
Fifth edition AS 1774.1:2024.

# Preface

This document was prepared by the Standards Australia Committee MN-007, Refractories and Refractory Materials, to supersede AS 1774.1—2000.

The objective of this document is to specify a method for determining the cold compressive strength of refractory bricks, pressed and extruded shapes, and formed monolithics.

The major changes in this edition are as follows:

(a) Requirements for a reference test have been defined.

(b) The inclusion of test specimen sizes that align with ISO standards.

(c) Adjustment of loading rates to align with ISO standards.

(d) Inclusion of parallelism and perpendicularity requirements as per ISO standards.

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# Australian Standard®

## Refractories and refractory materials — Physical test methods

## Method 1: Determination of cold compressive strength

## 1 Scope

This document specifies a method for determining the cold compressive strength of refractory bricks, pressed and extruded shapes, and formed 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 classification of force-measuring systems*

AS 2780, *Refractories and refractory materials—Glossary of terms*

## 3 Terms and definitions

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

**3.1**
**bearing faces**
plane and parallel faces of the test specimen through which the compressive force is applied

**3.2**
**cold compressive strength**
maximum load per unit area 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

**3.6**
**reference test**
test that provides greater accuracy and precision

## 4 Principle

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