

# Australian Standard™

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AS 1774.5

## Refractories and refractory materials— Physical test methods

### Method 5: The determination of density, porosity and water absorption

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#### PREFACE

This Standard was prepared by the Standards Australia Committee MN-007, Refractories and Refractory Materials as a revision of AS 1774.5—1989. The objective of this revision is to correct the procedure clause.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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#### METHOD

##### 1 SCOPE

This Standard sets out the evacuation method and the boiling water method for determining the following properties of a refractory:

- (a) Bulk density.
- (b) Apparent solid density.
- (c) Apparent porosity.
- (d) Water absorption.

The evacuation method is applicable to all refractories. The boiling water method is applicable only to refractories that are unaffected by boiling water and should not be used where the resistance to boiling water is in doubt.

In addition, it sets out a method for determining bulk density by direct measurement of mass and volume and provides equations from which, after determining true density by AS 1774.6, the following may be calculated:

- (i) True porosity.
- (ii) Sealed porosity.