Australian Standard™

AS 1774.7

Refractories and refractory materials—Physical test methods

Method 7: Permeability to gases

PREFACE

This Standard was prepared by the Standards Australia Committee MN-007, Refractories and Refractory Materials, as a revision of AS 1774.7—1991. It is based on but not equivalent to BS 1902 Section 3.9:1995, *Methods of testing refractory materials*, Part 3: *Methods of test for dense-shaped refractory products*, Section 3.9*: Determination of permeability to gases*.

This revision is to correct a number of errors related to the apparatus used in the test.

METHOD

1 SCOPE

This Standard specifies a method for determining the permeability to gases of dense, shaped refractory products. The determination is normally made using air as the gas.

The method is suitable for materials having a permeability of greater than 1×10^{-14} m^2 and less than 20×10^{-12} m^2.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1984	Vernier callipers (metric series)
2243	Safety in laboratories (series)
2497	Sampling procedures for acceptance testing of shaped refractory products
2780	Refractories and refractory materials — Glossary of terms

3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2780 apply.

4 PRINCIPLE

The permeability is calculated after measurement of the rate of flow of a dry gas of known dynamic viscosity through a test piece. The gas flow rate is measured either by a rotameter or by the displacement of air in a measuring cylinder.