

Australian Standard™

**Refractory bricks and shapes**

**Part 5: Magnesite, chrome**

This Australian Standard was prepared by Committee MN-007, Refractories and Refractory Materials. It was approved on behalf of the Council of Standards Australia on 14 March 2003 and published on 25 March 2003.

---

The following are represented on Committee MN-007:

Australian Ceramic Society  
Australasian Institute of Mining and Metallurgy  
Australian Aluminium Council  
Bureau of Steel Manufacturers of Australia  
CSIRO—Manufacturing and Infrastructure Technology  
Institute of Refractories Engineers  
Refractories Manufacturers Association of Australia

---

#### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.com.au](mailto:mail@standards.com.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

Australian Standard™

**Refractory bricks and shapes**

**Part 5: Magnesite, chrome**

Originated as AS 2525—1982.  
Previous edition AS 1617.5—1993.  
Second edition 2003.

**COPYRIGHT**

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd  
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5144 X

## PREFACE

This Standard was prepared by Standards Australia Committee MN-007, Refractories and Refractory Materials to supersede AS 1617.5—1993.

This Standard is based on ASTM C455-84, *Classification of chrome brick, chrome-magnesite brick, magnesite-chrome brick, and magnesite brick*, but has been extensively modified on the basis of additional information obtained from a survey of Australian refractories and available raw materials.

This Standard is aligned with, and a companion Standard to, AS 1617.3, *Refractory bricks and shapes, Part 3: High alumina*, and AS 1617.4, *Refractory bricks and shapes, Part 4: Silica*.



## CONTENTS

	<i>Page</i>
1 SCOPE .....	3
2 REFERENCED DOCUMENTS .....	3
3 DEFINITIONS .....	3
4 MATERIAL .....	3
5 CLASSIFICATION .....	3
6 DIMENSIONS .....	4
7 PHYSICAL REQUIREMENTS .....	4
8 SAMPLING.....	5

STANDARDS AUSTRALIA  

---

**Australian Standard**  
**Refractory bricks and shapes**  

---

**Part 5: Magnesite, chrome**  

---

## 1 SCOPE

This Standard specifies requirements for machine-made, basic refractory bricks.

This Standard deals with—

- (a) classification in terms of composition and type of bonding;
- (b) dimensional tolerances;
- (c) texture and surface appearance; and
- (d) permanent dimensional change after heating.

## 2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1618	Dimensions and preferred sizes for refractory bricks
1774	Refractories and refractory materials—Physical test methods
1774.13	Method 13: Permanent dimensional change
1774.30	Method 30: Drying and firing schedules
2497	Procedures for acceptance testing of refractory products
2497.1	Part 1: Batch procedure
2780	Refractories and refractory materials—Glossary of terms

## 3 DEFINITIONS

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

## 4 MATERIAL

Bricks may be produced from dead burned magnesite, electrofused magnesia, chrome ore, magnesia-rich spinels or mixtures of the above.

## 5 CLASSIFICATION

### 5.1 Chemical composition

Bricks shall be classified according to their chemical composition in accordance with Clause 4 and the following:

- (a) *Magnesite brick*—Having a magnesia content of not less than 80 percent.
- (b) *Magnesite-chrome brick*—having a magnesia content of not less than 55 percent but less than 80 percent.
- (c) *Chrome-magnesite brick*—having a magnesia content of not less than 25 percent but less than 55 percent.