AS 3784.1—1990

Australian Standard®

Coatings for fire protection of building elements

Part 1: Guide to selection and installation of sprayed mineral coatings

This Australian Standard was prepared by Committee BD/18, Fire Tests — Building Materials, Components, Structures. It was approved on behalf of the Council of Standards Australia on 16 May 1990 and published on 15 October 1990.

The following interests are represented on Committee BD/18:

Australian British Chamber of Commerce
Australian Fire Protection Association
Australian Institute of Building
Australian Uniform Building Regulations Coordinating Council
Board of Fire Commissioners, New South Wales
Bureau of Steel Manufacturers of Australia
Cement and Concrete Association of Australia
Commonwealth Fire Board
Confederation of Australian Industry
CSIRO, Division of Building Construction and Engineering
Fire Protection Industry Association of Australia
Forestry Commission of New South Wales
Metropolitan Fire Brigades Board, Melbourne
Plastics Institute of Australia
Royal Australian Institute of Architects

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This Standard was issued in draft form for comment as DR 89173.

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First published as AS 3784.1—1990.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 6353 2

PREFACE

This Standard was prepared by the Standards Australia Committee on Fire Tests on Building Materials, Components and Structures. It is based on BS 8202: *Coatings for fire protection of building elements*, Part 1: *Code of practice for the selection and installation of sprayed mineral coatings.*

The technical content of the two Standards is identical and the only differences are that, where possible, references to other British Standards have been replaced by references to the equivalent Australian Standards.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Coatings for fire protection of building elements

Part 1: Guide to selection and installation of sprayed mineral coatings

1 SCOPE This Standard gives recommendations for the selection and installation of sprayed mineral coatings to enhance the fire-resistance of building elements. It describes methods of application to various types of surface in varying densities and finishes.

NOTE: Recommendations for structural fire protection in ships are given in Appendix A.

2 APPLICATION This Standard is intended for the guidance of specifiers, applicators and site inspectors.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1315 Portland cement
1530 Methods for fire tests on building materials, components and structures
1530.1 Part 1: Combustibility test for materials
1530.3 Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release
1530.4 Part 4: Fire-resistance tests of elements of construction
2312 Guide to the protection of iron and steel against exterior atmospheric corrosion
2423 Galvanized wire fencing products
2592 Gypsum plaster for building purposes
3600 Concrete structures

BS
915 Specification for high alumina cement
915.2 Part 2: Metric units
3797 Specification for lightweight aggregates for concrete
3797.2 Part 2: Metric units

4 DEFINITIONS For the purposes of this Standard the definitions below apply.

4.1 Spray — sprayed mineral coating.

4.2 Adhesive retention — use of an additional material to improve the bond of the spray to a substrate.

4.3 Mechanical retention — use of mechanical system(s) to retain the spray *in situ*.

4.4 Registered testing authority — a testing authority registered in accordance with the relevant building regulations.

4.5 Standard fire test — the fire-resistance test specified in AS 1530.4.

5 INDEPENDENT VALIDATION The appropriate independent validation should be provided as evidence that the recommendations of this Standard have been followed. For many applications particularly those relating to building control, it will be necessary for the specifier, manufacturer or applicator to produce test reports from a registered testing authority to show that the required performance criteria can be achieved.

Any changes in the spray system, i.e. primer, spray and surface finish, or its method of application may affect its performance. Ideally, performance tests previously carried out should be repeated to ensure that the level of performance is not affected. However, in practice this is not always possible because of the cost of some types of test, particularly fire-resistance tests complying with AS 1530.4, and because of the range of variables which may occur, e.g. raw materials may be obtained from several sources or a spray may be required to be used with a large number of different primers. Thus changes in the chemical or physical nature of the components of the spray or their relative proportions should be the subject of a full re-test in accordance with the appropriate performance Standard whilst detail changes in the spray system may be validated without repeating the appropriate performance test, using analytical laboratory tests or reduced scale performance tests. It is important that any reduced scale tests can be shown to correlate with the appropriate performance Standard. In many cases the spray manufacturer/supplier would be the only source of this information. The justification for any assessment of changes in the spray system should be available for inspection as appropriate.