

AS/NZS 2312:1994

Australian/New Zealand Standard

**Guide to the protection of iron and
steel against exterior atmospheric
corrosion**

AS/NZS 2312:1994

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee MT/14, Corrosion of Metals. It was approved on behalf of the Council of Standards Australia on 30 May 1994 and on behalf of the Council of Standards New Zealand on 29 August 1994. It was published on 19 September 1994.

The following interests are represented on Committee MT/14:

Aluminium Development Council
Australasian Corrosion Association
Australasian Institute of Metal Finishing
Australian Chamber of Commerce and Industry
Australian Gas Association
Australian Institution of Steel Construction
Australian Pipeline Industry Association
Australian Zinc Development Association
AUSTROADS
Bureau of Steel Manufacturers of Australia
Department of Defence, Australia
Division of Building, Construction and Engineering, CSIRO
Electricity Supply Association of Australia
Engineering and Water Supply Department, South Australia
Heavy Engineering Research Association, New Zealand
Railways of Australia Committee
States Electrolysis Committees

Additional interests participating in preparation of Standard:

Abrasive Blast Cleaning and Protective Coating Association of New South Wales
Corrosion consultants
Corrosion Prevention Centre
Department of Administrative Services, Australia
Hydro-Electric Commission of Tasmania
Melbourne Water Corporation
Paint manufacturing organizations
Water Board, Sydney—Illawarra—Blue Mountains

Review of Standards. To keep abreast of progress in industry, Joint Australian/New Zealand Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Joint Standards and related publications will be found in the Standards Australia and Standards New Zealand Catalogue of Publications; this information is supplemented each month by the magazines 'The Australian Standard' and 'Standards New Zealand', which subscribing members receive, and which give details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Joint Standards, addressed to the head office of either Standards Australia or Standards New Zealand, are welcomed. Notification of any inaccuracy or ambiguity found in a Joint Australian/New Zealand Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

AS/NZS 2312:1994

Australian/New Zealand Standard

Guide to the protection of iron and steel against exterior atmospheric corrosion

First published in Australia as AS 2312—1980.
Second edition 1984.
Jointly revised and designated as Joint Standard
AS/NZS 2312:1994.

PUBLISHED JOINTLY BY:

STANDARDS AUSTRALIA
1 The Crescent,
Homebush NSW 2140 Australia

STANDARDS NEW ZEALAND
Level 10, Standards House,
155 The Terrace,
Wellington 6001 New Zealand

ISBN 0 7262 9047 5

PREFACE

This Standard was prepared by the Joint Australia/New Zealand Standards Committee MT/14 on Corrosion of Metals to supersede AS 2312—1984, NZS/AS 2312—1984 and NZMP 2312:1987, *Commentary on AS 2312—1984*. It is issued as a Joint Standard under the terms of the Active Cooperation Agreement between Standards Australia and Standards New Zealand.

The objective of this Standard is to provide guidance for architects, engineers, builders, the surface coating industry and users of protective services in general, on coating systems for the protection of iron and steel against exterior atmospheric corrosion.

In providing recommendations on up-to-date protection systems, the Committee is aware of the large number of systems used commercially, but, to avoid confusion, has included only a limited range of systems for each type of environment.

The Committee acknowledges the developments which are taking place in the protection of iron and steel and will continue to monitor these in order to make changes to future editions of this Standard as may become necessary.

In preparing this revision, cognizance was taken of the International Standard ISO 9223—1992, *Corrosion of metals and alloys—Corrosivity of atmospheres—Classification*.

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.

CONTENTS

	<i>Page</i>
FOREWORD	6
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	7
1.2 REFERENCED DOCUMENTS	7
1.3 DEFINITIONS	10
1.4 DESIGNATION OF PROTECTION SYSTEMS	10
SECTION 2 ATMOSPHERIC ENVIRONMENTS	
2.1 GENERAL	11
2.2 ATMOSPHERIC CLASSIFICATIONS (APPLICABLE TO STEEL)	11
SECTION 3 CORROSION PROTECTION SYSTEMS	
3.1 GENERAL	13
3.2 RECOMMENDED COATING SYSTEMS	13
SECTION 4 PLANNING AND DESIGN FOR CORROSION PROTECTION	
4.1 GENERAL	15
4.2 PLANNING	15
4.3 DESIGN	16
SECTION 5 SURFACE PREPARATION TREATMENTS	
5.1 GENERAL	29
5.2 CLEANING WITH SOLVENTS OR ALKALINE SOLUTIONS	29
5.3 CLEANING AND PREPARATION USING ACID SOLUTIONS (NON-IMMERSION)	30
5.4 ABRASIVE BLAST CLEANING	30
5.5 PICKLING	31
5.6 PHOSPHATE CONVERSION COATINGS	31
5.7 FLAME CLEANING	32
5.8 POWER TOOL CLEANING	32
5.9 HAND TOOL CLEANING	33
5.10 THE REMOVAL OF SOLUBLE SALTS	33
5.11 THE PROTECTION OF STEEL DURING EXTENDED FABRICATION	33
5.12 RUST CONVERSION	34
SECTION 6 METALLIC COATINGS FOR CORROSION PROTECTION	
6.1 GENERAL	35
6.2 HOT-DIP GALVANIZED COATINGS	35
6.3 METAL SPRAY COATINGS	37
6.4 ELECTROPLATED COATINGS	38
6.5 THE USE OF ROOFING AND CLADDING MATERIALS	39
SECTION 7 COATING SYSTEMS FOR CORROSION PROTECTION	
7.1 GENERAL	40
7.2 DESIGN CONSIDERATIONS	40
7.3 COATING SYSTEM DETAILS	41
7.4 SELECTION OF COLOUR	41
7.5 HEAT-RESISTING COATINGS	42
7.6 POWDER COATINGS	42
7.7 PAINTING STAINLESS STEEL	42

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-