

Australian Standard[®]

**STEEL SHEET AND STRIP—
COLD-ROLLED,
ELECTROLYTIC ZINC-COATED**

[Title allocated by Defence Cataloguing Authority:
METAL SHEET AND STRIP (Cold-rolled, Electrolytic Zinc-coated,
Coils and Cut Lengths)]

This Australian Standard was prepared by Committee MT/1, Iron and Steel. It was approved on behalf of the Council of the Standards Association of Australia on 8 December 1981 and published on 9 August 1982.

The following interests were represented on the Committee responsible for the preparation of this standard:

Australian Farmers Federation
Australian Institute of Steel Construction
Australian Zinc Development Association
Confederation of Australian Industry
Society of Automotive Engineers—Australasia

Review of Australian Standards. *To keep abreast of progress in industry, Australian 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 Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

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

This standard was issued in draft form for comment as DR 78022.

Australian Standard[®]

**STEEL SHEET AND STRIP—
COLD-ROLLED,
ELECTROLYTIC ZINC-COATED**

First published 1982

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

ISBN 0 7262 2572 X

PREFACE

This standard was prepared by a subcommittee of the Association's Committee on Iron and Steel in order to meet a requirement of Australian industry. It applies to cold-rolled unalloyed low carbon steel sheet and strip produced on a continuous mill and zinc-coated by an electrolytic process.

In the preparation of this standard, cognizance was taken of a draft proposal (DP 5002) for cold-reduced electrolytic zinc-coated carbon steel sheet of commercial and drawing qualities that is being developed by Subcommittee 12, Continuous Mill Flat Rolled Products, of Technical Committee No 17, Steel, of the International Organization for Standardization (ISO). It was found that DP 5002 could not be used as the basis for this standard since designation, grades, coating masses and tolerances were not compatible with Australian practice.

Appendix A presents purchasing guidelines, including contractual requirements, and directs attention to matters requiring consideration at the time of enquiry and/or order. The intention is to avoid misinterpretation or other problems and to ensure a clear understanding of product requirements by both supplier and purchaser.

CONTENTS

	<i>Page</i>
SECTION 1. SCOPE AND GENERAL	
1.1 Scope	3
1.2 Application	3
1.3 Referenced Documents	3
1.4 Designation	3
1.5 Definitions	3
1.6 Identification	3
1.7 Rounding of Results Obtained by Inspection and Testing	3
SECTION 2. THE STEEL BASE	
2.1 Scope of Section	4
2.2 Designation of Base Steel Grade	4
2.3 Freedom from Defects	4
2.4 Chemical Composition	4
2.5 Mechanical Property Requirements	4
2.6 Retests	5
2.7 Manufacturing Tolerances	5
SECTION 3. THE ZINC COATING (ELECTROLYTIC)	
3.1 Scope of Section	6
3.2 Coating Designation	6
3.3 Coating Mass	6
3.4 Determination of Coating Mass	6
3.5 Coating Adhesion	6
APPENDICES	
A Purchasing Guidelines	7
B Approximate Coating Thicknesses	8
C Method for Removal of Phosphate Layer	9
D Rounding of Results Obtained by Inspection and Testing	10

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

STEEL SHEET AND STRIP—COLD-ROLLED, ELECTROLYTIC ZINC-COATED

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for cold-rolled unalloyed low carbon steel sheet and strip produced on a continuous mill and zinc-coated by an electrolytic process, supplied as coil or cut lengths in thicknesses from 0.3 mm up to and including 2.0 mm and in widths from 15 mm up to and including 1250 mm.

Provision is made for three of the grades of coldrolled steel classified in terms of mechanical properties in accordance with AS 1595, produced with an exposed (E) finish, and for three classes of zinc coating according to the mass per unit area of the coating metal applied.

NOTE: Guidelines to purchasers on requirements that must be specified by the purchaser and those that must be agreed at the time of enquiry and/or order are given in Appendix A.

1.2 APPLICATION. The coated steel shall be supplied in accordance with the requirements of this Section 1.

The steel base shall comply with the requirements of Section 2.

The zinc coating shall comply with the requirements of Section 3.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1050 Methods for the Analysis of Iron and Steel
- AS 1213 Methods for the Sampling of Iron, Steel, Permanent Magnet Alloys and Ferro-alloys
- AS 1365 Tolerances for Hot-rolled and Cold-rolled Unalloyed Low Carbon Steels (Coils and Cut Lengths)
- AS 1391 Methods for Tensile Testing of Metals
- AS 1595 Cold-rolled Unalloyed Low Carbon Steel Sheet and Strip
- AS 1650 Galvanized Coatings
- AS 1815 Method for Rockwell Hardness Test Part 1 — Testing of Metals
- AS 2025 Method for Rockwell Superficial Hardness Test Part 1 — Testing of Metals, N and T scales
- AS 2338 Preferred Dimensions of Wrought Metal Products
- AS 2505 Methods for Bend Testing of Metals Part 1 — Sheet, Strip and Plate
- AS K1 Methods for the Sampling and Analysis of Iron and Steel

1.4 DESIGNATION.

1.4.1 Steel Base. The steel base shall be designated in terms of the grade designation as given in Clause 2.2 and Table 2.1.

1.4.2 Zinc Coating. The zinc coating shall be designated in terms of the coating class as given in Clause 3.2 and Table 3.1.

1.5 DEFINITIONS. For the purpose of this standard, the following definitions apply:

Cold-rolled sheet—a rolled product of any width and thickness, supplied in cut lengths and coated prior to cutting to length. Edges available are mill, sheared or slit.

Cold-rolled strip—a rolled product of any width and thickness, supplied in coil form. Edges available are mill or slit.

Test batch—consists of one grade of the same product form and thickness processed under similar conditions.

1.6 IDENTIFICATION.

1.6.1 Package. Each package for delivery shall be marked or tagged as follows to enable it to be identified with this standard:

- (a) A number to enable it to be traced to the ladle of steel from which it was made.
- (b) The steel quality and grade, coating class, the ordered dimensions and the manufacturer's name or trade mark.

1.6.2 Product. Each coil or package of cut lengths shall have a brand or sticker showing the number of this Australian standard, i.e. AS 2551, the base steel thickness, the base steel quality and grade, and the coating class.

NOTE: Manufacturers who place the number of this Australian standard on steel sheet or strip, its packaging or literature related thereto, should ensure that the steel sheet or strip complies with the standard.

1.7 ROUNDING OF RESULTS OBTAINED BY INSPECTION AND TESTING. For the purpose of deciding whether a particular requirements of this standard is complied with, the determined value, observed or calculated, shall be rounded off in accordance with Appendix D. The number of significant places retained in the rounded-off value shall be the same as that of the specified value in this standard.