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Australian Standard 1397—1984

AS 1397—1993
Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc-coated
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Specifies requirements for formable and structural grades of hot-dipped zinc-coated and aluminium/zinc-coated sheet and strip, up to and including 5.0 mm thick. Gives information on coating thickness determination, fabricating characteristics and guidelines on the selection of specific grades.
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STEEL SHEET AND STRIP— HOT-DIPPED ZINC-COATED OR ALUMINIUM/ZINC-COATED



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Australasian Institute of Metals
Australian Foundry Institute
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Department of Defence Support
Institute of Steel Service Supply Management Ltd
Metal Trades Industry Association of Australia
Railways of Australia Committee
Society of Automotive Engineers—Australasia

Representatives of the following interest also participated in the drafting of this standard:

Metal Building Products Manufacturers Association

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AUSTRALIAN STANDARD

STEEL SHEET AND STRIP— HOT-DIPPED ZINC-COATED OR ALUMINIUM/ZINC-COATED

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PREFACE

This edition of this standard was prepared by a subcommittee of the Association's Committee on Iron and Steel, to supersede AS 1397—1977. It applies, in particular, to steel sheet and strip zinc-coated or aluminium zinc-coated by hot dipping, and supplied as structural or formable grades in a variety of coating types and surface finishes.

In this edition, coating classes have been aligned with those adopted in International standards—ISO 3575, Continuous Hot-dip Zinc-coated Carbon Steel Sheet of Commercial, Lock-forming and Drawing Qualities and ISO 4998, Continuous Hot-dip Zinc-coated Carbon Steel Sheet of Structural Quality. Appendix A presents purchasing guidelines, including contractual requirements, and directs attention to matters requiring consideration at the time of enquiry and order. The intention is to avoid misinterpretation or other problems and to ensure a clear understanding of product requirements by both purchaser and supplier.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

STEEL SHEET AND STRIP—HOT-DIPPED ZINC-COATED OR ALUMINIUM/
ZINC-COATED

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for hot-dipped zinc-coated or aluminium/zinc-coated steel sheet and strip, supplied in thicknesses from 0.25 mm up to and including 3.5 mm and widths up to and including 1525 mm.

Provision is made for the following:

- (a) Three grades by base formability.
- (b) Six structural grades by minimum yield strength.
- (c) Six classes of zinc coating.
- (d) Two classes of aluminium/zinc coating.
- (e) A variety of surface finishes.

NOTES:

1. 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.
2. Appendices B and C provide information to users in the selection of grades of material.

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

The steel base shall comply with Section 2.

The coating shall comply with 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	Iron and Steel—Methods of Sampling
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 1650	Galvanized Coatings
AS 2331	Methods of Test for Metallic and Related Coatings
AS 2338	Preferred Dimensions of Wrought Metal Products
AS 2505	Methods for Bend and Related Testing of Metals Part 1—Sheet, Strip and Plate
AS 2700	Numerical Values—Rounding and Interpretation of Limiting Values
AS 2701	Methods for the Sampling and Analysis of Iron and Steel

1.4 DESIGNATION. The complete designation shall include the following:

- (a) The number of this Australian standard, i.e. AS 1397.
- (b) The steel base designation in accordance with Clause 2.2 of Section 2.

(c) The coating designation in accordance with Clause 3.2 of Section 3.

Examples of Complete Designation: AS 1397/G1 Z550 Z450, AS 1397/G2 Z275, AS 1397/G3 Z200.

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

1.5.1 Sheet—a rolled product of any width and thickness supplied in cut lengths and coated by hot dipping and cutting to length after hot dipping.

1.5.2 Strip—a rolled product of any width and thickness supplied in coil form and coated by hot dipping.

1.5.3 Coating mass—the total amount of coating on both surfaces of the steel base, measured in grams per square metre.

NOTE: Because of the difficulty in accurately measuring thickness of normal hot-dipped coated product, coating thickness is not subject to specification. The approximate coating thickness for available coating classes is given in Paragraph A3.1 of Appendix A.

1.5.4 Coating type.

1.5.4.1 Zinc coating type—may be either Type Z or Type ZF as follows:

(a) **Type Z**—essentially zinc coating incorporating minor additions of control elements only.

NOTE: Normally provided with a chromate passivation treatment, not oiled.

(b) **Type ZF**—zinc coating converted to zinc-iron alloy.

NOTE: Normally provided lightly phosphated, not oiled.

1.5.4.2 Aluminium/zinc coating type—Type AZ—essentially 50 percent to 60 percent aluminium with the remainder zinc but incorporating minor additions of control elements.

NOTE: Normally provided with a chromate passivation treatment, not oiled.

1.5.5 Single spot—the coating mass determined on specimens selected from any part of the sheet or strip not closer than 25 mm from either edge as coated.

1.5.6 Triple spot—the average coating mass of three specimens selected from a sample representing the original cross-section of the strip. One specimen is selected from the centreline, and others from near each edge but not closer than 25 mm from the edge of the sheet or strip.

1.5.7 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 with an identification number, the