AS 1517, Part 1—1982
UDC 669.14-415:669.68

Australian Standard 1517, Part 1—1982

TINPLATE AND BLACKPLATE
Part 1—SHEET

1517—1991 Tinplate and blackplate A4 19pp *F*
Specifies requirements for standard grade cold-reduced electrolytic tinplate and cold-reduced blackplate supplied in either sheet or coil form.
*Committee MT/1: **Supersedes AS 1517.1—1982 and AS 1517.2—1982**: Draft for comment DR 88162: **Publication date** 1991-02-11: ISBN 0 7262 6577 2.*

[Title allocated by Defence Cataloguing Authority: METAL SHEET AND TINPLATE (Low Carbon Steel, Cold-Reduced) ... NSC 9515]

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

This Australian standard was prepared by Committee MT/1, Iron and Steel. It was approved by the Metals Standards Board on behalf of the Council of the Standards Association of Australia on 29 April 1982 and published on 9 August 1982.

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

Australian Canners Association

Australian Tin Information Centre

Bureau of Steel Manufacturers of Australia

Canmakers Institute of Australia

Confederation of Australian Industry

CSIRO, Division of Food Research

Department of Science and Technology

The Council of Australian Food Technology Association, Inc.

This standard was issued in draft form for comment as DR 80267.

AUSTRALIAN STANDARD

TINPLATE AND BLACKPLATE
Part 1—SHEET

AS 1517, Part 1—1982

First published 1973
Second edition 1982

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 2599 1

PREFACE

This edition of this standard was prepared under the direction of the Association's Committee on Iron and Steel, by its subcommittee on tinplate and blackplate, to supersede AS 1517, Part 1—1973. It specifies requirements for cold-reduced electrolytic tinplate and cold-reduced blackplate in sheet form and in nominal thicknesses from 0.20 mm up to and including 0.60 mm.

In revising AS 1517, Part 1—1973, the committee took account of the following document and standard under the jurisdiction of the International Organization for Standardization (ISO) and the American Society for Testing and Materials (ASTM), respectively:

ISO/TC17/SC9 N252	Third draft ISO Proposal for Cold-reduced Tinplate and Cold-reduced Blackplate (Revision of ISO/RIIII: Part 1)
ASTM A623M	General Requirements for Tin Mill Products (Metric)

This edition aligns essentially with ISO/TC17/SC9 N252, but differs in designation of coating mass and temper, following ASTM in the latter case. In comparison with AS 1517, Part 1—1973, the top level of thickness has been reduced from 0.90 mm to 0.60 mm, and hot-dipped tinplate has been deleted because of its limited usage. Rationalization of tin coating masses of differentially-coated tinplate has occurred, and a number of thicknesses have been eliminated.

Appendix A presents purchasing guidelines, including contractual requirements previously included in the body of AS 1517, Part 1—1973, 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 purchaser and supplier.

CONTENTS

Page

SPECIFICATION

1 Scope 3
2 Referenced Documents 3
3 Designation 3
4 Definitions 3
5 Process of Manufacture of Steel Base 5
6 Chemical Composition 5
7 Surface Finish 5
8 Selection of Sample Sheets 5
9 Manufacturing Tolerances 6
10 Tin Coating Mass 7
11 Temper 7
12 Retests 8
13 Identification 8
14 Packaging 8
15 Rounding of Results Obtained by Inspection and Testing 9

APPENDICES

A Purchasing Guidelines 10
B Method for Determining Tin Coating Mass (Iodine Method) 12
C Rockwell HR 30 T Test 16
D Line Marking System for Differentially-coated Tinplate 17
E Rounding of Results Obtained by Inspection and Testing 18

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
TINPLATE AND BLACKPLATE

PART 1—SHEET

1 SCOPE. This standard specifies requirements for standard grade cold-reduced electrolytic tinplate and cold-reduced blackplate in sheet form, in nominal thicknesses from 0.20 mm up to and including 0.60 mm.

This standard does not apply to tinplate and blackplate in coils (see AS 1517, Part 2), double-reduced tinplate or blackplate, or material described commercially as tinned sheets, steel sheets or TFS (electrolytic chromium-coated steel).

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.

2 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 2025	Method for Rockwell Superficial Hardness Test Part 1—Testing of Metals, N and T Scales
AS K1	Methods for the Sampling and Analysis of Iron and Steel.

3 DESIGNATION.

3.1 Steel Type Designation.

3.1.1 *General.* The steel shall be designated as L or MR, as appropriate, in accordance with Clause 4.2.

3.1.2 *Nitrogenized steel.* Nitrogenized steel shall be designated by adding the suffix 'N' to the steel type designation, e.g. MRN.

3.1.3 *Stabilized steel.* Stabilized steel shall be designated by the addition of the suffix 'S' to the steel type and the temper designation, e.g. MRT1S.

3.2 Temper Designation.

3.2.1 *Batch-annealed material.* When batch-annealed material is specified, the temper designation shall be either T1, T2, T3 or T4 and shall follow the steel type designation, e.g. MRT1.

3.2.2 *Continuously annealed material.* When continuously annealed material is specified, the temper designation shall be either T4CA, T5CA or NT5CA and shall follow the steel type designation, e.g. MRT4CA, MRNT5CA.

3.3 Designation of Tin Coating Mass. The tin coating mass designation shall consist of either of the following letters followed by a number or numbers (see Table 3):

E — denotes tinplate with the same coating mass on both surfaces (equally-coated).

D — denotes tinplate with different coating mass on each of the two surfaces (differentially-coated).

3.4 Designation for Surface Finish.

3.4.1 *Tinplate.* For tinplate, the surface finish designation shall consist of a letter or letters in accordance with the following (see also Clause 4.5.1 and 4.6.1):

S — stone finish
MS — matt stone finish
MG — matt grit finish
SF — silver finish

3.4.2 *Blackplate.* For blackplate, the surface finish designation shall consist of a letter in accordance with the following (see also Clause 4.6.2):

S — stone finish
G — grit finish

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

4.1 Product Types.

4.1.1 *Tinplate*—low carbon steel sheet coated on both sides with tin, applied by electrodeposition. Tinplate thicknesses range from 0.20 mm up to and including 0.60 mm.

NOTES:

1. Passivation treatment (see Clause 4.5.2) is usually applied to the surface.
2. Normally, the surface of tinplate has applied to it a very thin coating of oil (see Clause 4.5.3) which is approved for contact with food.

4.1.2 *Standard grade tinplate*—normal production of lines employing the usual inspection and classification procedures.

NOTE: In normal conditions of storage and use, standard grade tinplate permits lacquering and printing over the entire surface.

4.1.3 *Differentially-coated tinplate*—tinplate, one surface of which carries a heavier tin coating than the other.

4.1.4 *Blackplate*—low carbon steel sheet normally not oiled or otherwise treated. Thicknesses range from 0.20 mm up to and including 0.60 mm.

NOTE: Blackplate is line inspected during processing. Material having visible imperfections of only moderate magnitude or frequency is included. Blackplate is liable to rust but, at the time it is made available by the manufacturer, the material is suitable for normal lacquering and printing over the entire surface.