AS 2074—1982

Australian Standard®

STEEL CASTINGS

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 25 June 1982 and published on 11 October 1982.

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

Australasian Institute of Metals

Australian Foundry Institute

Bureau of Steel Manufacturers of Australia

Confederation of Australian Industry

Department of Defence

Department of Industry and Commerce

Institute of Steel Service Centres of Australia

Metal Trades Industry Association of Australia

Railways of Australia Committee

Society of Automotive Engineers-Australasia

This standard was issued in draft form for comment as DR 80228.

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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.

AS 2074—1982

Australian Standard®

STEEL CASTINGS

First published (as AS G22)	1969
AS 2074 first published	1977
Second edition	1982

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

ISBN 0 7262 2693 9

PREFACE

This edition of this standard was prepared under the direction of the Association's Committee on Iron and Steel by its subcommittee on steel castings, to supersede AS 2074—1977. It applies in particular to carbon, low alloy and high alloy steel in the form of castings, intended for use in pressure vessels, railway and general engineering applications.

In this edition, several new grades have been included for use at elevated temperatures and are applicable to the SAA Boiler Code (AS 1200). In this regard, cognizance was taken of BS 1504, Steel Castings for Pressure Purposes. Provision has also been made for an additional precipitation hardening grade (AS 2074/H7B), and both grades conform to ASTM A 747, Precipitation Hardening Stainless Steel Castings. The subcommittee considered the inclusion of an appendix dealing with non-destructive examination of castings in relation to quality, and categorizing quality levels as is done in BS 1504. However, it was decided to defer this inclusion until the draft Australian standard dealing with non-destructive testing of steel castings was finalized.

Appendix A presents purchasing guidelines and directs attention to matters requiring consideration at the time of enquiry and/or order. Appendix B provides guidance on the selection of grades for specific applications and summarizes the chemical composition and tensile properties of the grades. For the general principles and procedures which should be followed in welding steel castings, reference should be made to AS 1988, Code of Practice for Fusion Welding in the Production, Rectification and Repair of Steel Castings.

© 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.

3

CONTENTS

Page

SECTION 1. SCOPE AND GENERAL

1.1 1.2 1.3	Scope	5 5 5
1.4 1.5	Designation of Grade	5 6
1.6	Chemical Composition	6
1.7	Fettling and Dressing	6
1.8 1.9	Freedom from Defects	6
	Heat Treatment	6 6
1.11	Mechanical Properties	6
1.12	Provision and Preparation of Test Bars	6
	Preparation of Test Pieces	7 7
	Retests	7
	Test Certification	8
	Rectification of Castings	8
1.18	Rounding of Results Obtained by Inspection and Testing	8
		0
SECTION	2. REQUIREMENTS FOR CARBON STEEL CASTINGS	
2.1 2.2	Carbon Steel Castings for Case Hardening — Grade AS 2074/C1 Carbon Steel Castings with High Magnetic Permeability — Grade	9
2.3	AS 2074/C2 Carbon Steel Castings for General Purposes—Grades AS 2074/C3,	10
2.4	C4, C5 Carbon Steel Castings for Resistance to Wear and Suitable for	11
	Surface Hardening—Grade AS 2074/C6	12
2.5	Carbon Steel Castings for Pressure Purposes-Grade AS 2074/C7	13
SECTION	3. REQUIREMENTS FOR LOW ALLOY STEEL CASTINGS	
3.1 3.2	 1.5% Manganese Steel Castings—Grades AS 2074/L1A, L1B 1% Chromium Steel for Resistance to Abrasion—Grades AS 2074/ 	15
3.3	L2A, L2B	16 17
3.4	3% Nickel Steel for Case Hardening — Grade AS 2074/L4A	18
3.5	Low Alloy Steel for Use at Elevated Temperatures — Grades AS 2074/L5A, L5B, L5C, L5D, L5E, L5F, L5G, L5H	19
3.6	Alloy Steel for Higher Tensile Strength—Grades AS 2074/L6, L6A, L6B, L6C	22
SECTION	4. REQUIREMENTS FOR HIGH ALLOY STEEL CASTINGS	
4.1	Austenitic Manganese Steel Castings-Grades AS 2074/H1A, H1B	23
4.2	9% Chromium-Molybdenum Steel Castings—Grade AS 2074/H2A	24
4.3	13% Chromium Steel Castings for Resistance to Corrosion — Grades AS 2074/H3A, H3B, H3C	25
4.4	28% Chromium Steel Castings — Grades AS 2074/H4A, H4B	26
4.5	Austenitic Chromium-Nickel Steel Castings for Resistance to	
1.0	Corrosion—Grades AS 2074/H5A, H5B, H5C	27
4.6	Austenitic Chromium-Nickel-Molybdenum Steel Castings for Resistance to Corrosion—Grades AS 2074/H6A, H6B, H6C	28
4.7	Precipitation Hardening Steel Castings for Resistance to Corro-	20
1.0	sion—Grades AS 2074/H7A, H7B	29
4.8	Alloy Steel Castings for Use at High Temperature—Grades AS 2074/H8A, H8B, H8C, H8E, H8F, H8G, H8H, H8J	31
4.9	Austenitic Chromium-Nickel-Molybdenum-Copper Steel Castings	51
	for Resistance to Corrosion—Grade AS 2074/H9A	31



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

Product Page

S Looking for additional Standards? Visit Intertek Inform Infostore

> Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation