AS 1833—2002
ISO 2892:1973

Australian Standard™

Austenitic cast iron

Standards Australia

This Australian Standard was prepared by Committee MT-001, Iron and Steel. It was approved on behalf of the Council of Standards Australia on 17 May 2002 and published on 4 June 2002.

The following interests are represented on Committee MT-001:

Australian Institute of Steel Construction

Australian Chamber of Commerce and Industry

Australian Industry Group

Australasian Railway Association

Australian Building Codes Board

Australian Foundry Institute

Bureau of Steel Manufacturers of Australia

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Australian Standard™

Austenitic cast iron

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PREFACE

This Standard was prepared by Standards Australia Committee MT-001, Iron and Steel to supersede AS 1833—1986, *Iron castings—Austenitic cast iron.*

The Standard is identical with and has been reproduced from ISO 2892:1973, *Austenitic cast iron*.

This Standard is one of a series of Standards covering the range of cast irons. The series comprises the following:

AS

1830 Grey cast iron

1831 Ductile cast iron

1832 Malleable cast iron

1833 Austenitic cast iron

2027 Wear resistant white cast iron

5049 Cast iron—Designation of microstructure of graphite

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text, 'this International Standard' should read 'this Australian Standard'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

References to International Standards should be replaced by Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
R 83	Charpy impact test (U-notch) for steel	1544 1544.3	Methods for impact tests on metals Method 3: Charpy U-notch and keyhole notch
148	Steel—Charpy impact test (V-notch)	1544.2	Method 2: Charpy V-notch
R 945	Designation of microstructure of graphite in cast iron	—	

AUSTRALIAN STANDARD

Austenitic cast iron

0 INTRODUCTION

Austenitic cast irons are high alloy materials in which the metallic matrix has been rendered austenitic at ambient temperature by the use of alloying elements and in which the carbon is present predominantly as either flake or spheroidal graphite. Carbides are often also present, particularly in the high chromium grades.

Spheroidal graphite grades of austenitic cast iron have mechanical properties superior to those of the flake graphite types. Generally they exhibit superior resistance to heat and corrosion and have other physical properties which differ from those of the flake graphite types of similar basic composition.

Martensite may be present subject to an agreement between the manufacturer and the purchaser.

1 SCOPE AND FIELD OF APPLICATION

This International Standard relates to nine grades of flake graphite austenitic cast iron and eleven grades of spheroidal or nodular graphite austenitic cast iron intended for subsequent use in the manufacture of castings. These grades of material are based on chemical composition and mechanical properties.

2 REFERENCES

ISO/R 83, *Charpy impact test (U-notch) for steel.*

ISO148, *Steel — Charpy impact test (V-notch).*[1)]

1) At present at the stage of draft. (Revision of ISO/R 148.)

ISO/R 945, *Designation of the microstructure of graphite in cast iron.*

3 SYMBOLS AND ABBREVIATIONS

Each grade having a microstructure of flake graphite in accordance with Form I of ISO/R 945 is designated by the initial letter "L".

Each grade having a microstructure of spheroidal or nodular graphite in accordance with Form V and Form VI of ISO/R 945 is designated by the initial letter "S".

In each case the initial letter is followed by appropriately spaced chemical symbols and figures indicating the alloying elements and their approximate mean levels, as shown in the following examples :

Examples

1) L — Ni Cu Cr 15 6 3 (Refer to Table 1 for actual composition)

2) S — Ni Si Cr 20 5 2 (Refer to Table 2 for actual composition)

4 PRODUCTION

The method of producing austenitic cast irons is left to the discretion of the manufacturer, who should ensure that the property requirements, defined in this International Standard, are complied with for the grade of material required on the order.