

Under review see DR 89030

AS 2203—1981

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Australian Standard 2203—1981

CARBON STEEL ELECTRODES, CORED (FOR ARC WELDING)

[Title allocated by Defence Cataloguing Authority: ELECTRODE,
WELDING (Flux-cored, Arc Welding of Carbon and Low Alloy
Steels) NSC 3439]

**STANDARDS ASSOCIATION OF AUSTRALIA***Incorporated by Royal Charter*

THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Gas Association
Australian Welding Institute
Australian Welding Research Association
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Department of Productivity
Department of Industrial Relations, N.S.W.
Department of Labour and Industry, Victoria
Lloyds Register of Shipping
Metal Trades Industry Association of Australia
Metropolitan Water, Sewerage and Drainage Board, N.S.W.
Railways of Australia Committee

This standard, prepared by Committee WD/2, Electrodes and Filler Rods, was approved on behalf of the Council of the Standards Association of Australia on 24 February 1981, and was published on 1 May 1981.

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This standard was issued in draft form for public review as DR 77159.

AUSTRALIAN STANDARD

**CARBON STEEL ELECTRODES,
CORED (FOR ARC WELDING)**

AS 2203—1981

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PREFACE

This standard was prepared by the Association's Committee on Electrodes and Filler Rods as the second in a series of standards for continuous wire processes developed to suit Australian conditions. The classification system adopted has been designed to be compatible with AS 1858, Electrodes and Fluxes for Submerged-arc Welding of Carbon and Low Alloy Steels, and like the system in that standard has mechanical requirements complying with the ship classification societies' Unified Rules. It also takes into consideration recent documents of the International Institute of Welding and the American National Standards Institute.

To assist designers, the concept of weld metal classification which was first introduced in AS 1858 has been incorporated in the classification of cored electrodes. This concept of weld metal classification is regarded by members of the committee which prepared the standard as being of great significance.

For ease of selection, the weld metal is classified according to its tensile strength and is divided into grades related to its Charpy V-notch impact energy value. The intent here is that the designer needs only to specify on the drawing the weld metal classification which will thereby nominate the mechanical properties required for the satisfactory functioning of the welded joint. The fabricator, taking into account recommendations by the manufacturer of the consumables, can select the electrode or electrode/gas combination appropriate to the materials of construction and the conditions pertaining at the time.

The term 'Australian Standard' will be restricted to the actual sizes, types and strengths of the consumables given in the tables in this standard.

If procedure qualification is called up in the relevant application code it may be necessary for the chosen electrode to be qualified by procedure testing.

The standard incorporates the method for hydrogen determination given in ISO 3690, Welding—Determination of Hydrogen in Deposited Weld Metal Arising from the Use of Covered Electrodes for Welding Mild and Low Alloy Steels.

This standard requires reference to the following standards and documents:

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| AS 1050 | Methods for the Analysis of Iron and Steel (Metric Units) |
| AS 1204 | Structural Steels—Ordinary Weldable Grades |
| AS 1391 | Methods for Tensile Testing of Metals |
| AS 1544 | Methods for Impact Tests on Metals Part 2—Charpy V-notch |
| AS 1674 | Fire Precautions in Cutting, Heating and Welding Operations |
| AS 1858 | Electrodes and Fluxes for Submerged-arc Welding of Carbon and Low Alloy Steels |
| AS 2177 | Radiography of Welded Butt Joints in Metal |
| AS 2205 | Methods of Destructive Testing of Welds in Metal |
| AS K1 | Methods for the Sampling and Analysis of Iron and Steel |
| AS Z5 | Glossary of Metal Welding Terms and Definitions |
| BS 1384 | Measurement of Photographic Transmission Density |
| ANSI W3.20 | Specification for Mild Steel Electrodes for Flux-cored Arc Welding |
| ISO 2560 | Covered Electrodes for Manual Arc Welding of Mild Steel and Low Alloy Steel—Code of Symbols for Identification |
| AWRA Technical Note 7—Health and Safety in Welding | |
| Other Australian standards dealing with electrodes are as follows: | |
| AS 1167 | Alloy Filler Rods for Brazing |
| AS 1552 | Classification of Covered Electrodes |
| AS 1553 | Low Carbon Steel Covered Electrodes for Manual Metal-arc Welding |
| AS 1586 | Low Alloy Steel Covered Electrodes for Manual Metal-arc Welding |
| AS 1588 | Filler Rods for Welding |
| AS | Welding Consumables for Build-up and Wear Resistance* |

*In course of preparation—see DR 80264.

CONTENTS

| | <i>Page</i> |
|--|-------------|
| SECTION 1. SCOPE AND GENERAL | |
| 1.1 Scope..... | 4 |
| 1.2 Purpose | 4 |
| 1.3 Application | 4 |
| 1.4 Definitions..... | 4 |
| 1.5 Classification | 4 |
| SECTION 2. PROPERTIES AND REQUIREMENTS | |
| 2.1 Shielding Gases | 6 |
| 2.2 Electrodes | 6 |
| 2.3 Chemical Composition Requirements | 6 |
| 2.4 Physical Requirements | 6 |
| 2.5 Manufacture | 9 |
| 2.6 Sizes | 9 |
| 2.7 Voids in Core of Electrodes..... | 9 |
| 2.8 Finish, Temper, Cast, Helix and Uniformity | 9 |
| 2.9 Coiling and Packaging Requirements | 9 |
| 2.10 Marking | 12 |
| 2.11 Storage | 12 |
| APPENDICES | |
| A Methods of Test | 13 |
| B Guide to Cored Carbon Steel Electrodes for Arc Welding | 19 |

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