Australian Standard®

Electrodes and fluxes for submerged-arc welding

Part 2: Low and intermediate alloy steels

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Australian Gas Association
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
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Lloyd's Register of Shipping
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PREFACE

This Standard was prepared by Standards Australia's Committee on Welding Consumables. It is based on ANSI/AWS A5.23, *Specification for low alloy steel electrodes and fluxes for submerged-arc welding.*

Although the system for the identification of electrodes is based on the ANSI/AWS Standard, some grades not in the ANSI/AWS system have been added. Flux classification is based on the major application of the flux, as specified by the manufacturer, combined with its contribution to the weld metal chemistry. Classification of the weld metal has been derived from the ANSI/AWS Standard, modified to agree with the ship classification societies' unified rules.

The principle behind the classification system is that each of the three factors involved, viz electrodes, flux, and weld metal, should be capable of individual selection and identification. In particular, the concept of the classification of weld metal as a separate entity is regarded as being of great significance. The weld metal classification is in two parts, one part denoting the mechanical properties and heat treatment condition, and the other denoting the chemical composition and whether controlled hydrogen conditions apply.

Because of the large number of electrode/flux combinations available, guidance is frequently needed on the suitability of the process for a specific weldment. The intent here is that the designer should need to specify on the drawing the weld metal classification only, thereby nominating 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/flux combination appropriate to the materials of construction and the conditions pertaining at the time; however, the term 'Australian Standard' will be restricted to the actual sizes, types, and strengths given in the tables in this Standard.

If procedure qualification is called up in the relevant application Standard, it may be necessary for the chosen electrode/flux combination to be qualified by procedure testing.

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