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Australian/New Zealand Standard™

Welding consumables — Covered electrodes, wires, rods and tubular cored electrodes for fusion welding of cast iron — Classification



AS/NZS ISO 1071:2023

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WD-002, Welding Consumables, to supersede AS/NZS 1167.2:1999, *Welding and brazing — Filler metals, Part 2: Filler metal for welding*.

The objective of this document is to specify requirements for the classification of covered electrodes for manual metal arc welding, wire electrodes for metal arc welding, tubular cored electrodes for metal arc welding with and without a gas shield, rods for TIG-welding, and rods for oxy-fuel gas welding of unalloyed cast irons. Classification is based on the chemical composition of wires and rods and on the all-weld metal deposit for tubular cored and covered electrodes.

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Contents

Preface	ii
Foreword	iv
Introduction	v
Section 1 Scope	1
Section 2 Normative references	1
Section 3 Classification	1
3.1 Wire electrodes and rods	1
3.2 Tubular cored electrodes	1
3.3 Covered electrodes	2
3.4 Tubular cored and covered electrodes	2
Section 4 Symbols and requirements	2
4.1 Symbols for the product form	2
4.2 Symbol for the type of alloy	2
4.3 Symbol for the chemical composition	2
4.3.1 General	2
4.3.2 Consumables producing similar weld metal	2
4.3.3 Consumables producing dissimilar weld metal	3
4.4 Symbol for shielding gas (tubular cored electrode)	3
4.5 Symbols for effective electrode efficiency and type of current (covered electrode)	7
Section 5 Mechanical tests	7
Section 6 Chemical analysis	7
Section 7 Rounding procedure	7
Section 8 Retests	8
Section 9 Technical delivery conditions	8
Section 10 Designation	8
Annex A (informative) Description of the consumable	10
Annex B (informative) Expected minimum values for strength and elongation of dissimilar all-weld metal in tensile test	14
Bibliography	15

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*.

This third edition cancels and replaces the second edition (ISO 1071:2003), which has been technically revised.

Introduction

This International Standard classifies welding consumables for fusion welding of various types of unalloyed cast irons.

Applications for welding consumables classified to this International Standard:

- production welding, that means welding of cast materials during the process of production. In that way, the quality of the casting shall be ensured in accordance with the guaranteed properties and to the requirements of the application;
- repair welding of castings which are damaged during service;
- welding for construction purposes where cast irons are joined to themselves or to other ferrous or non-ferrous metals.

The following methods are used for the welding of cast irons:

- using a welding consumable which produces a weld metal similar to the parent metal. High preheating is required (typical temperature range 550 °C to 650 °C);
- using a welding consumable which produces a weld metal dissimilar to the parent metal. No or only low preheating is required.

This International Standard contains different types of welding consumables because the chemical composition of welding rods and wire electrodes, as well as the all-weld metal of the corresponding covered electrodes and tubular cored electrodes, is similar.

Additionally, to the welding consumables specified in this International Standard, consumables classified to other standards can be used (see Annex A).

NOTES