

## **भारतीय मानक ब्यूरो**

### **DRAFT FOR WIDE CIRCULATION**

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### *भारतीय मानक मसौदा*

## **वेल्डिंग उपभोग्य — गैस परिरक्षित और गैर-गैस परिरक्षित धातु आर्क वेल्डिंग का स्टेनलेस और गर्मी प्रतिरोधी स्टील्स के लिए ट्यूबलर कोर्ड इलेक्ट्रोड और रॉड — वर्गीकरण**

### *Draft Indian Standard*

## **Welding Consumables — Tubular Cored Electrodes and Rods for Gas Shielded and Non-Gas Shielded Metal Arc Welding of Stainless and Heat-Resisting Steels — Classification**

ICS 25.160.20

Welding General and its Applications  
Sectional Committee, MTD 11

Last date of comment:  
04/01/2024

### **NATIONAL FOREWORD**

This draft standard is identical to ISO 17633 : 2017 'Welding consumables — Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels — Classification' issued by the International Organization for Standardization (ISO), and subject to its finalization, is to be adopted by the Bureau of Indian Standards on the recommendation of the Welding General and its Applications Sectional Committee and approval of the Metallurgical Engineering Division Council.

The committee decided to adopt ISO 17633 : 2017 standard under dual numbering system.

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical with those used in Indian Standard. Attention is especially drawn to the following:

- Wherever the words 'International Standard' appear referring to this standard, it should be read as 'Indian Standard'.
- Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exists. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the edition indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 544 : 2017 Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings	Doc : MTD/11/22952 Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings	Identical
ISO 6847 : 2020 Welding consumables — Deposition of a weld metal pad for chemical analysis	Doc : MTD/11/22954 Welding consumables — Deposition of a weld metal pad for chemical analysis	Identical
ISO 6947 : 2019 Welding and allied processes — Welding positions	Doc : MTD/11/22957 Welding and allied processes — Welding positions	Identical
ISO 14175 : 2008 Welding consumables — Gases and gas mixtures for fusion welding and allied processes	Doc : MTD/11/22962 Welding consumables — Gases and gas mixtures for fusion welding and allied processes	Identical
ISO 14344 : 2010 Welding consumables — Procurement of filler materials and fluxes	Doc : MTD/11/22964 Welding consumables — Procurement of filler materials and fluxes	Identical
ISO 15792-1 : 2020 Welding consumables — Test methods — Part 1: Preparation of all-weld metal test pieces and specimens in steel, nickel and nickel alloys	Doc : MTD/11/22966 Welding consumables — Test methods — Part 1: Preparation of all-weld metal test pieces and specimens in steel, nickel and nickel alloys	Identical
ISO 80000 - 1 : 2022 Quantities and units — Part 1 : General	IS / ISO 80000 - 1 : 2022 Quantities and Units Part 1 General (First Revision)	Identical

The technical committee responsible for the preparation of this standard has reviewed the provisions of following International Standards referred in these adopted standards and decided their acceptability for use in conjunction with this standard.

<i>International Standard</i>	<i>Title</i>
ISO 13916 : 2017	Welding — Measurement of preheating temperature, interpass temperature and preheat maintenance temperature

This standard also makes a reference to the BIS Certification Marking of the product, details of which are given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical-values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

The scope of the standard is as follows:

## **SCOPE**

This document specifies requirements for classification of tubular flux and metal cored electrodes and rods, based on the all-weld metal chemical composition, the type of core, shielding gas, welding position and the all-weld metal mechanical properties, in the as-welded or heat-treated conditions, for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels.

This document is a combined standard providing for classification utilizing a system based upon nominal composition or utilizing a system based upon alloy type.

- a) Clauses, subclauses, and tables which carry the suffix letter “A” are applicable only to products classified using the system based upon nominal composition.
- b) Clauses, subclauses, and tables which carry the suffix letter “B” are applicable only to products classified using the system based upon alloy type.
- c) Clauses, subclauses, and tables which do not have either the suffix letter “A” or the suffix letter “B” are applicable to all products classified in accordance with this document.

This document does not use pulsed current for determining the product classification.

**The complete document/text of ISO 17633 : 2017 ‘Welding consumables — Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels — Classification’ may be made available, on request to:**

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**National Annex A**  
*(National Foreword)*

**A-1 BIS CERTIFICATION MARKING**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark