International Standard

ISO 544

Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings

Produits consommables pour le soudage — Conditions techniques de livraison des produits d'apport et des flux — Type de produits, dimensions, tolérances et marquage

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Foreword

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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 document 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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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This sixth edition cancels and replaces the fifth edition (ISO 544:2017), which has been technically revised.

The main changes compared to the previous edition are as follows:

— in 7.2, text has been added regarding delivery in larger packages;

— in Figure 1, NOTE has been revised;

— Clause 8 has been revised.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html. Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings

1 Scope

This document specifies technical delivery conditions for filler materials and fluxes for fusion welding.

This document does not apply to other auxiliary materials such as shielding gases.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14174, *Welding consumables — Fluxes for submerged arc welding and electroslag welding — Classification*

ISO 14344, *Welding consumables — Procurement of filler materials and fluxes*

ISO 80000-1:2022, *Quantities and units — Part 1: General*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Product type and welding process

The types of products covered by this document and the welding process(es) in which they are used are listed in Table 1.

NOTE The corresponding reference numbers for each welding process in accordance with ISO 4063 are given for information.

5 Dimensions and tolerances

5.1 Solid wires and solid wire electrodes, tubular cored wires and tubular cored electrodes, solid and tubular cored rods and covered electrodes

Dimensions and tolerances for solid wires and solid wire electrodes, tubular cored wires and tubular cored electrodes, solid and tubular cored rods and covered electrodes are given in Table 2.

Table 1 — Product type and welding process

Product type	Welding process(es)[a]
Cored strip electrode	EG, ES, S
Covered electrode	E
Solid rod	W, O, P
Solid strip electrode	ES, S
Solid wire	W, P, L, EB
Solid wire electrode	EG, ES, G, S
Tubular cored rod	W, O, P
Tubular cored wire	L, W
Tubular cored electrode	EG, ES, P, S, T
Thin foil	L, EB

[a] The corresponding reference numbers for each welding process in accordance with ISO 4063 are given in the key.

Key

E Manual metal arc welding (111);

EB Electron beam welding (51);

EG Electrogas welding (73);

ES Electroslag welding (72);

G MIG/MAG welding with solid wire electrode (131, 135);

L Laser welding (52);

O Oxyfuel gas welding (31);

P Plasma arc welding (15);

S Submerged arc welding (12);

T Metal arc welding with tubular cored electrode with a gas shield (132, 133, 136 and 138) or without a gas shield (114);

W Gas tungsten arc welding (14).

5.2 Solid strip electrodes

Dimensions and tolerances for solid strip electrodes are given in Table 3.

5.3 Cored strip electrodes and thin foils

Dimensions and tolerances for cored strip electrodes and thin foils shall be in accordance with the relevant application standard.