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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 10044-2022

Replacing GB/T 10044-2006

**Covered electrodes, wires, rods and tubular cored electrodes
for fusion welding of cast iron**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document replaces GB/T 10044-2006 "Cast Iron Electrodes and Wires". Compared with GB/T 10044-2006, except for structural adjustments and

In addition to editorial changes, the main technical changes are as follows.

a) Changed the classification principle and model compilation method of cast iron electrodes and welding wires. According to the homogeneity or heterogeneity of the weld metal and the

Classification by alloy type or chemical composition (see Chapter 4, Chapter 3 of the.2006 edition);

- b) The dimensions of the clamping end of the electrode, the strength of the electrode coating and the moisture absorption resistance requirements are deleted, and the corresponding content is in accordance with the provisions of GB/T 25775 (see 4.1.1, 4.2.3 and 4.2.4 of the 2006 edition);
- c) Added alloy type classification or chemical composition classification (see Chapter 4, 5.3, Chapter 3, 4.6 of the 2006 edition);
- d) Changed the chemical composition requirements (see 5.3, 4.6 of the 2006 edition);
- e) The technical requirements and test methods for the mechanical properties of welding electrodes and welding wire deposited metals with heterogeneous welds are added for use by agreement (see 5.5 and 6.5);
- f) Changed the sample preparation and sampling requirements for the analysis of the chemical composition of the deposited metal for electrodes and flux-cored wires (see 6.3.1, 2006 edition 5.1.1, 5.1.2).

This document is modified to adopt ISO 1071:2015 "Welding consumables Welding rods, solid wires, filler wires and flux-cored wires for cast iron fusion welding Classification".

Compared with ISO 1071:2015, this document has more structural adjustments. For a list of structure number changes between the two documents, see

Appendix A;

Compared with ISO 1071:2015, this document has more technical differences, and vertical single

Lines (I) are marked. See Appendix B for a list of these technical differences and their causes.

The following editorial changes have been made to this document.

--- In order to coordinate with existing standards, change the name of the standard to "Cast Iron Electrodes and Wires";

--- Added Appendix D (informative) "Contrast of Electrodes and Wire Models".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the types, technical requirements, test methods, re-inspection and supply technical conditions of welding rods and wires for cast iron.

This document applies to electrodes for arc welding of cast iron, flux-cored wires for self-shielded and gas-shielded arc welding, solid wires for gas-shielded arc welding

Welding wire and filler wire, casting filler wire for gas welding (hereinafter referred to as "welding rod and welding wire").

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 2652 Tensile test methods for welds and deposited metals (GB/T 2652-2008, ISO 5178.2001, IDT)

GB/T 25774.1 Inspection of welding consumables - Part 1. Preparation and inspection of samples for mechanical properties of deposited metals of steel, nickel and nickel alloys

Inspection (GB/T 25774.1-2010, ISO 15792-1.2000, MOD)

GB/T 25775 Technical Conditions of Supply of Welding Consumables Product Types, Dimensions, Tolerances and Signs (GB/T 25775-2010,

ISO 544.2003, MOD)

GB/T 25776 Welding Consumables Welding Process Performance Evaluation Method

GB/T 25777 Welding Consumable Deposit Metal Chemical Analysis Sample Preparation Method (GB/T 25777-2010, ISO 6847.2000,

IDT)

GB/T 25778 Guidelines for Purchasing Welding Materials (GB/T 25778-2010, ISO 14344.2010, MOD)

GB/T 39255 Shielding gas for welding and cutting (GB/T 39255-2020, ISO 14175.2008, MOD)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4.1.1 General

Electrodes and wires for cast iron are classified according to whether the weld metal is homogeneous or heterogeneous to the base metal. See Appendix C for instructions for use, this document and other

See Appendix D for comparison of welding rods and wires in relevant standards.

Note 1. The homogeneity of the weld metal and the base metal refers to the cast iron weld metal, whose chemical composition, microstructure, mechanical properties and weld color are similar to the base metal.

Note 2. The heterogeneity between the weld metal and the base metal refers to pure iron, non-alloy steel or alloy steel, nickel and nickel alloy weld metal.

4.1.2 Electrodes and wires with homogeneous welds

Electrodes and wires with homogeneous welds are classified according to alloy types, see Table 1 and 5.3.1.