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Solid wire electrodes, tubular cored electrodes and electrode/flux combinations for submerged arc welding of high strength steels

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafted method to modify the use of ISO 26304.2011 "High-strength steel solid welding wire for welding submerged arc welding, flux cored welding

Wire and Wire/Flux Combination Classification (English version).

This standard compares with ISO 26304.2011 in terms of structure, according to classification, technical requirements, test methods, re-inspection and supply technology

Prepare the pieces.

The technical differences between this standard and ISO 26304.2011 and its causes are as follows.

--- With regard to normative references, this standard has made adjustments with technical differences to adapt to China's technical conditions and adjust the situation.

The focus is reflected in Chapter 2, "Normative References," and the specific adjustments are as follows.

* Added references GB/T 2650, GB/T 2652 and GB/T 3323;

* Equivalent to the use of international standards GB/T 25777, GB/T 18591 instead of ISO 6847, ISO 13916;

* Replaced with GB/T 3965, GB/T 25774.1, GB/T 25775, and GB/T 25778 modified by adopting international standards

ISO 3690, ISO 15792-1, ISO 544, ISO 14344;

* Delete ISO 80000-1.2009.

--- According to China's actual application, according to GB/T 221-2008 "Steel Product Brand Representation" provided with solid wire

Corresponding metallurgical brand number classification of the model.

---In accordance with the tensile strength range of this standard, GB/T 12470-2003 "Low Alloy Steel Welding Wire and Flux for Submerged Arc Welding" was added.

H08MnMoA, H08Mn2MoA, H08Mn2MoVA, H10Mn2MoA, H10Mn2MoVA, H08CrNi2MoA and

Technical requirements for H10Mn2NiMoCuA 7 grades, according to GB/T 3429-2015 "steel wire rod for welding" will be its metallurgical grade

The classification was modified to H08MnMo, H08Mn2Mo, H08Mn2MoV, H10Mn2Mo, H10Mn2MoV, H08CrNi2Mo and

H10Mn2NiMoCu, model number is SUM3, SUM31, SUM3V, SUM4, SUM4V, SUN3C2M1

And SUN2M2C1.

---According to domestic demand, H15Mn2Ni2CrMo, H08MnCrNiCu and GB/T 3429-2015 have been added

H10MnCrNiCu 3 grades of technical requirements, models were compiled as SUN4C1M31, SUN1C1C and SUNCC1.

--- Diffusion Hydrogen number increased "H2" and "H4" for ease of selection.

---For solid wire and GB/T 5293 "un-alloyed steel and fine-grained steel solid welding wire, flux cored wire and welding wire - flux for submerged arc welding

Combination of classification requirements" consistent wire model, the wire chemical composition requirements in accordance with GB/T 5293 was adjusted.

--- According to GB/T 5293, the name of the chemical composition of the deposited metal of the flux cored wire-flux combination was adjusted.

This standard also made the following editorial changes.

--- The standard name was changed to "High-strength steel solid wire for submerged arc welding, flux cored wire and welding wire - flux combination classification requirements";

--- Added Appendix A solid wire model/grade comparison (informative annex);

--- Added Appendix B flux types (informative annex).

This standard is proposed and managed by the National Welding Standardization Technical Committee (SAC/TC55).

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High-strength steel solid wire and flux-cored wire for submerged arc welding

Wire - flux combination classification requirements

1 Scope

This standard stipulates the classification, technical requirements, and test methods for the combination of high strength steel solid wire, flux cored wire and wire-flux combination for submerged arc welding.

Re-inspection and supply technical conditions and other content.

This standard applies to submerged arc welding of high-strength steel solid wire classification, and the minimum tensile strength requirements of not less than 590MPa wire -

Flux combination classification requirements.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 2650 welding joint impact test method (GB/T 2650-2008, ISO 9016.2001, IDT)

GB/T 2652 Weld and deposited metal tensile test method (GB/T 2652-2008, ISO 5178.2001, IDT)

GB/T 3323 Metal Fusion Welding Joints Radiography

GB/T 3965 Determination of Diffusion Hydrogen in Deposited Metals (GB/T 3965-2012, ISO 3690.2000, MOD)

GB/T 18591 Measurement Guide for Welding Preheating Temperature, Inter-Road Temperature and Preheating Maintaining Temperature (GB/T 18591-2001,

idtISO 13916.1996)

GB/T 25774.1 Inspection of welding materials - Part 1. Preparation and inspection of mechanical properties of steel, nickel and nickel alloy deposited metals

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

GB/T 25775 welding material supply technical conditions product type, size, tolerances and marks (GB/T 25775-2010,

ISO 544.2003, MOD)

GB/T 25777 welding material deposited metal chemical analysis sample preparation method (GB/T 25777-2010, ISO 6847.2000,

IDT)

GB/T 25778 Welding Material Purchase Guide (GB/T 25778-2010, ISO 14344.2010, MOD)

Category 3

3.1 Solid wire classification

Solid wire types are divided according to chemical composition, in which the letters "SU" indicate solid arc welding of submerged arc welding, "SU" after the numbers and letters

Combinations represent the classification of their chemical composition. See Appendix A for comparison of model/plate numbers between solid wires.

Examples of solid wire models in this standard are as follows.

Example 1.

SUN2M2

Submerged arc welding solid wire

Indicates chemical composition