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**Covered electrodes for manual metal arc welding of
high-strength steels**

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(English Translation)

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Foreword

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

This standard uses the re-drafting method to amend the use of ISO 18275.:2011 "welding materials high-strength steel electrode welding arc welding Class "(English version).

The main technical differences between this standard and ISO 18275.:2011 are as follows.

- to delete the normative reference documents cited in the international standards, direct reference to China has been the corresponding transformation of the relevant domestic standards;

--- model preparation using international standard preparation method, according to China's actual application, the heat treatment status code, the welding code from "A" is modified to "unmarked";

--- According to China's actual application needs, in the deposited metal tensile strength code, an increase of 73,88 and 98 three strength level;

--- According to China's practical application needs, in the chemical composition of the classification of metal classification code, an increase of N7CM1, 11MoVNi and 11MoVNiW and other categories;

--- According to China's actual application needs, an increase of E5915-3M2, E5915-N5M1, E5918-3M2, E6215-N2M1, E6215-N5M1, E7815-G and other electrode models;

--- increase the electrode eccentricity of the technical indicators.

For ease of use, this standard has also made the following editorial changes.

--- standard name changed to "high-strength steel electrode";

--- standard structure, according to the model, technical requirements, test methods, inspection rules, packaging, logo and quality certification to prepare.

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

The drafting unit of this standard. Harbin Welding Research Institute, Tianjin Jinqiao Welding Group Co., Ltd., Sichuan Atlantic Welding Materials Co., Ltd.

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High strength steel electrode

1 Scope

This standard specifies the high-strength steel electrode model, technical requirements, test methods, inspection rules, packaging, signs and quality certification.

This standard applies to the electrode arc welding with high strength steel electrode, the deposited metal tensile strength of not less than 590MPa.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 2650 welding joint impact test method (GB/T 2650-2008, ISO 9016.:2001, IDT) GB/T 2652 Tensile test method for weld and deposited metal (GB/T 2652-2008, ISO 5178.:2001, IDT) GB/T 3323 metal fusion welding joint radiography GB/T 3965 Determination of diffused hydrogen in deposited metal (GB/T 3965-2012, ISO 3690.:2000, MOD) GB/T 16672 Definition of inclination and corner of weld position (GB/T 16672-1996, idtISO 6947..1990) GB/T 25774.1 Inspection of welding materials - Part 1. Preparation and inspection of mechanical properties of deposited metals for steel, nickel and nickel alloys (GB/T 25774.1-2010, ISO 15792-1.:2000, MOD) Testing of welding materials - Part 3. Preparation and inspection of fillet welds for T - joints (GB/T 25774.

3-2010, ISO 15792-3.:2000, IDT) GB/T 25775 Welding material supply Technical conditions Product type, size, tolerances and signs (GB/T 25775-2010, ISO 544.:2003, MOD) GB/T 25777 Welding materials - Deposited metal chemical analysis Specimen preparation method (GB/T 25777-2010, ISO 6847.:2000, IDT) GB/T 25778 Welding Material Procurement Guide (GB/T 25778-2010, ISO 14344.:2010, MOD)

3.1 Model division

The electrode model is divided according to the mechanical properties of the deposited metal, the type of the coating, the chemical composition of the deposited metal and the post-weld condition. Type of skin for a brief description see Appendix A, see Appendix B for this type of electrode model comparison with other standards.

3.2 Model preparation method

The electrode model consists of five parts.

- 1) The first part uses the letter "E" to represent the electrode;
- 2) The second part of the letter "E" behind the two adjacent figures, said the deposited metal tensile strength code, see Table 1;
- 3) The third part is the third and fourth digits after the letter "E", indicating the type of coating, the location of the welding and the type of current.

Table 2;

- 4) the fourth part of the short draw "-" after the letter or number, said the chemical composition of deposited metal classification, see Table 3;
- 5) The fifth part of the chemical composition of the deposited metal classification code after the post-weld state code, where "no mark" that welding state, "P" table