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

GB/T 5118-2012

Replacing GB/T 5118-1995

**Covered electrodes for manual metal arc welding of
creep-resisting steels**

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(English Translation)

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Foreword

This standard rule according to GB/T 1.1-2009 given draft.

This standard is GB/T 5118-1995 "low alloy steel welding rod," the amendment. Compared with GB/T 5118-1995, the main content as follows.

--- This revision only retained the original standard carbon steel electrode molybdenum and chromium molybdenum steel welding rod, and model preparation, technical requirements were phase should be adjusted accordingly. Original standard nickel steel, nickel-molybdenum steel, manganese and molybdenum in steel electrode Model E5515-D3, E5516-D3, E5518-D3, which His low-alloy electrode Model the E5018W, E5518W and other technical requirements to the new electrode revised GB/T 5117 "non-cooperation Magic and fine-grained steel welding rod "standard;

--- Electrode and classification models according to ISO 3580:2010 carried out;

--- Increased 2C1MV, 3C1MV, 5CM, 5CML, 5CMV, 7CM, 7CML, 9C1M, 9C1ML, 9C1MV, 9C1MV1 and other chemical composition;

--- Drug skin types retain the special type of "00", according to ISO drug skin type is changed to "40";

--- For reservations GB/T 5118-1995 the E5500-B1 (model designation for the E5540-CM), E5503-B1 (model designation the E5503-CM) and other 10 models electrode, the deposited metal tensile strength and yield strength of the electrode by other appropriate models Requirements of the regulation, the Elongation was appropriate to reduce the deposited metal chemical composition according to claim other types of welding rod, S, P Adjusted to not more than 0.030%;

--- Remove the technical requirements for drug skin moisture content;

--- Remove the impact test requirements;

--- With ISO 3580:2010 corresponding to the type of electrode according to the technical requirements of ISO 3580:2010 has been adjusted.

This standard uses redrafted law revision of international standards ISO 3580:2010 "welding materials heat resistant steel SMAW medication skin Electrode Classification "(in English).

This standard ISO 3580:2010 and its main technical difference between the following reasons.

--- Remove the International Standards Normative documents referenced in direct reference to domestic standards, China has transformed accordingly, in order to carried out;

--- According to China's actual application, the deposited metal tensile code "49" to "50" In our technical conditions applicable;

--- Retained E5500-B1 (model designation for the E5540-CM), E5503-B1 (model designation for the E5503-CM), E5500-B2-V (Model designation as E5540-1CMV), E5515-B2-V (model designation as E5515-1CMV), E5515-B2-VNb (Model Preparation of E5515-1CMVNb), E5515-B2-VW (model designation as E5515-1CMWV), E5500-B3-VWB (type Preparation No. E5540-2CMWVB), E5515-B3-VWB (model designation as E5515-2CMWVB), E5515-B3-VNb (model designation as E5515-2CMVNb), E6000-B3 (model designation as E6240-2C1M) and other 10 electrodes Model, its technical requirements have been adjusted to apply our technical conditions;

--- Increased drug skin types 03 and 40 are two types, to apply to our technical conditions;

--- Chemical composition types increased 1CMV, 1CMVNb, 1CMWV, 2CMWVB, 2CMVNb, 5CMV, 7CM and 7CML eight types to apply our technical conditions;

--- Retained ray testing requirements of weld metal to apply our technical conditions;

--- Retains the rod eccentricity Technical indicators to facilitate handling.

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

--- Standard name changed to "heat resistant steel electrode";

--- Standard structure, by category and type, technical requirements, test methods, inspection rules, packaging, marking and quality certification be written.

This standard by the National Standardization Technical Committee welded (SAC/TC55) and focal points.

This standard was drafted. Harbin Welding Research Institute, Sichuan Atlantic Welding Materials Co., Ltd., Shanghai Electric Power Plant Co. built the company, Tianjin Bridge Welding Materials Group Co., Ltd. Jiande Xin'anjiang welding, Tianjin Golden Bridge Welding Materials Group Co., Ltd.

Drafters of this standard. Following Chu Jun, Chen Mo, Chen Weifu, Weng Suhua, Yu Peng Li, Shao Hai built to Hou Chang, Ma Hengsheng, Fangnai Wen.

This standard replaces GB/T 5118-1995.

The previous versions of GB/T 5118-1995 release case.

--- GB/T 5118-1967, GB/T 5118-1976, GB/T 5118-1983.

Heat resistant steel welding rod

1 Scope

This standard specifies the heat resistant steel welding rod models, technical requirements, test methods, inspection rules, packaging, marking and quality certificate.

This standard applies to SMAW welding rod with a heat resistant steel.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2652 weld and deposited metal tensile test method (GB/T 2652-2008, ISO 5178:2001, IDT) GB/T 3323 metal fusion welded joints radiography GB/T 3965 deposited metal diffusible hydrogen determination method (GB/T 3965-2012, ISO 3690:2000, MOD) GB/T 16672 Welds - Working positions tilt and swivel definition (GB/T 16672-1996, idtISO 6947.1990) Inspection GB/T 25774.1 welding materials - Part 1. Steel, nickel and nickel alloy welding metal preparation and mechanical properties of samples seized Test (GB/T 25774.1-2010, ISO 15792-1:2000, MOD) Testing - Part 3 GB/T 25774.3 welding materials. preparation and examination of T-joint fillet weld specimens (GB/T 25774.3-2010, ISO 15792-3:2000, IDT) GB/T 25775 Technical delivery conditions for welding material product type, dimensions, tolerances and marking (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 materials procurement guidelines (GB/T 25778-2010, ISO 14344:2002, MOD)

3.1 Model divided

Press the deposited metal electrode Model mechanical properties, the type of drug skin, welding position, type of current, deposited metal chemical composition divided. Medicine A brief description of the type of skin See Appendix A, between models of different control standards see Appendix B.

3.2 Model Methodology

Electrode Model consists of four parts.

- a) The first part of the letter "E" indicates electrode;
- b) The second part is the letter "E" behind the next two digits indicate the minimum tensile strength of the deposited metal code, see Table 1;
- c) The third part is the letter "E" behind the third and fourth two digits indicate the type of drug skin, welding position and type of current, see

Table 2;

- d) The fourth part is a dash "-" after the letters, numbers, or a combination of letters and numbers to indicate the chemical composition of deposited metal classification code,

Table 3.

In addition to these mandatory classification code, the negotiated according to supply and demand, can be added after the model of hydrogen diffusion code "HX", where X stands for 15, 10