



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

GB/T 8110-2020

**Wire electrodes and weld deposits for gas shielded metal arc
welding of non alloy and fine grain steels**

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Foreword

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

This standard replaces GB/T 8110-2008 "Welding electrodes and rods for gas shielding arc welding of carbon and low alloy steel". Compared with GB/T 8110-2008, the main technical changes are as follows.

- RETAIN the 13 welding electrode models in the 2008 edition; COMPILE the chemical composition classification, according to ISO 14341.2010;
- ADD the 6 chemical composition classifications, according to domestic use needs;
- ADD the 27 chemical composition classifications, according to ISO 14341.2010;
- DELETE the requirement related to the diffusible hydrogen content of the deposited metal.

This standard uses the redrafting method, to revise and adopt ISO 14341.2010 "Welding consumables - Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels - Classification".

Compared with ISO 14341.2010, this standard has more structural adjustments.

Appendix A lists the comparison of changes between this standard and ISO 14341.2010.

There are technical differences between this standard and ISO 14341.2010. Appendix

B gives a list of corresponding technical differences and their reasons.

This standard also makes the following editorial changes.

- CHANGE the name of the standard to "Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels";
- ADD the Appendix C (informative) Comparison of welding electrode models.

This standard was proposed by AND shall be under the jurisdiction of the National Welding Standardization Technical Committee (SAC/TC 55).

The drafting organizations of this standard. Harbin Welding Research Institute Co., Ltd., Tianjin Jinqiao Welding Consumables Group Co., Ltd., Shanghai Atlantic Welding Consumables Co., Ltd., Tianjin Bridge Welding Consumables Group Co., Ltd., Shanghai Welding Equipment Co., Ltd., Shandong Solide Welding Consumables Co., Ltd., Jiangsu Zhongjiang Welding electrode Co., Ltd., Wuhan Iron Anchor Welding Material Co., Ltd., Kunshan Jingqun Welding Material Technology Co., Ltd., Harbin Welding Institute Huatong (Changzhou) Welding Co., Ltd., Baoji Petroleum Steel Pipe Co., Ltd. (National Oil and Gas Pipe Engineering Technology Research Center).

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This standard replaces the standard previously issued as follows.

- GB/T 8110-1987, GB/T 8110-1995, GB/T 8110-2008.

Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels

1 Scope

This standard specifies the types, technical requirements, test methods, re-inspection, supply technical conditions of wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels.

2 Normative references

The following documents are essential to the application of this document. For the dated

documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

3 Models

The welding electrode model is divided according to the mechanical properties of the deposited metal, the state after welding, the type of shielding gas, and the chemical composition of the welding electrode. Refer to Appendix C, for the comparison of solid welding electrode models between this standard and other relevant standard.

4 Technical requirements

The chemical composition of welding electrode shall comply with the requirements in Table 4.

The acceptance level of X-ray detection of weld seam shall comply with Level 2, which is specified in Table 1 of GB/T 37910.1-2019.

5 Test method

The surface quality of the welding electrode is in accordance with the provisions of GB/T 25775. Any part of the welding electrode is visually inspected.

6 Re-test

When any one of the tests fails, the item shall be re-tested, using double quantity of specimens. For chemical analysis, re-test only those elements that do not meet the Classification of chemical

7 Technical conditions of supply

The supply technical conditions are in accordance with the provisions of GB/T 25775 and GB/T 25778.

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