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

GB 4990-1985

Replacing GB/T 4990-1995

**Alloy wires of extension and compensating cables for
thermocouples**

热电偶用补偿导线合金丝

(English Translation)

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Foreword

This standard replaces GB/T 4990-1995 "thermocouple compensation wire alloy wire." this standard compared with GB/T 4990-1995, in addition to editing the text on the revised format, the main difference is.

--- Thermal electromotive force by the international temperature scale ITS-90 requirements were modified;

--- Thermal emf tolerance Modify ASTM E230-2003 provisions of the standard;

--- Alloy wire diameter 1.37mm modify 1.38mm, 1.76mm revised to 1.78mm;

--- Resistivity units of $\mu\text{ohm} \cdot \text{m}$;

--- Reference pure platinum wire require modification average resistance temperature coefficient in the temperature range of $0\text{ }^{\circ}\text{C} \sim 100\text{ }^{\circ}\text{C}$ should ≥ 0.003920 ;

--- Modify standard not lower than second-class standard mercury thermometer or a standard platinum resistance thermometer;

--- Adds multi-point switch, the reference junction thermostat test equipment and its requirements;

--- Increased insertion depth reference terminal inside the thermostat should be not less than 200mm requirements.

Appendix A of this standard is a normative appendix, Appendix B is an informative annex.

The standard proposed by the Machinery Industry Federation.

The standard instrument functional materials by the National Standardization Technical Committee (SAC/TC419) centralized.

1 Scope

This standard specifies the thermocouple compensation wire alloy wire product classification, technical requirements, test methods, inspection rules, marking, packaging and the like.

This standard applies to indexing number is S, R, K, compensation wire alloy wire N, E, J and T thermocouple with use (hereinafter referred to as alloy wire).

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 228 metal materials at room temperature tensile test method GB/T 1598 platinum and rhodium 10 - platinum thermocouple wire, platinum and rhodium 13 - platinum thermocouple wire, platinum and rhodium 30 - 6 platinum and rhodium thermocouple wires GB/T 2614 nickel-chromium - nickel silicon thermocouple wire GB/T 2903 copper - copper-nickel (constantan) thermocouple wire GB/T 4989 thermocouple compensation wire GB/T 4993 nickel-chromium - copper-nickel (constantan) thermocouple wire GB/T 4994 iron - copper-nickel (constantan) thermocouple wire GB/T 6146 precision resistance alloys Resistivity Test Method GB/T 17615 Ni-Cr-Si - Ni-Si-Mg thermocouple wire

3.1 Terms

GB/T 4989 and established the following terms and definitions apply to this standard.

3.1.1

Compensation wire alloy wire alloywiresofextensionandcompensatingcables Constitute compensation wire conductor or a metal alloy wire.

3.2 Symbol

S --- showing tolerance for precision thermoelectric properties of the alloy wire;

G --- represents general use compensation wire alloy wire;

H --- represents ovenproof compensation wire alloy wire.

4.1 Product varieties, specifications and code

Product code, breed alloy wire, alloy wire codes and specifications as shown in Table 1 and Table 2.

4.2 Alloy wire use classification, tolerance level

Alloy wire into general use by the use of temperature and heat use. Press tolerance is divided into two different thermoelectric properties of precision and general level. Grading See the technical requirements and classifications.

4.3 Alloy wire nominal chemical composition

The name of the chemical composition of the alloy wire as shown in Table 3.