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

GB/T 10066.3-2014

Replacing GB/T 10066.2-2004; GB/T 10066.3-2004

**Test methods for electroheat installations -- Part 3: Induction
channel furnaces and induction crucible furnace**

电热装置的试验方法 第3部分：有心感应炉和无心感应炉

(English Translation)

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Foreword

GB/T 10066 "Standard Test Method for electric apparatus" has 13 sections.

--- Part 1. General section (GB/T 10066.1-2004, IEC 60398:1999, MOD);

--- Part 2. Induction Channel Furnace (GB/T 10066.2-2004, IEC 60396:1991, MOD);

--- Part 3. coreless induction furnace (GB/T 10066.3-2004, IEC 60646:1992, MOD);

--- Part 31. high frequency induction heating apparatus of the generator output power measurement (GB/T 10066.31-2007, IEC 61922.

2002, IDT);

--- Part 4. Indirect resistance furnaces (GB/T 10066.4-2004, IEC 60397:1994, NEQ);

--- Part 5. electric and electrochemical device using a plasma (GB/T 10066.5-2014, IEC/T S60680.2008, IDT);

--- Part 6. Determination of industrial microwave heating apparatus of power output (GB/T 10066.6-2008, IEC 61307:2006, IDT);

--- Part 7. Electric apparatus having an electron gun (GB/T 10066.7-2009, IEC 60703:2008, IDT);

--- Part 8. ESR furnaces (GB/T 10066.8-2006, IEC 60779:2005, IDT);

--- Part 9. High-frequency dielectric heating apparatus determination of power output (GB/T 10066.9-2008, IEC 61308:2005, IDT);

--- Part 10. Direct electric arc furnace (GB/T 10066.10-2005, IEC 60676:2002, MOD);

--- Part 11. submerged arc furnace (GB/T 10066.11-2005, IEC 60683. 1980, MOD);

--- Part 12. infrared heating means (GB/T 10066.12-2006).

We will continue to develop other parts as needed.

This section GB/T Part 310 066, and should be GB/T Part 110 066 used in conjunction.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 10066.2-2004 "Standard Test Method for electric devices - Part 2. Induction Channel Furnace" and GB/T 10066.3-2004 "Standard Test Method for electric devices - Part 3. coreless induction furnace." According to IEC 62076:2006, this section also merge the existing GB/T 10066.2-2004 and GB/T 10066.3-2004 two , Major technological changes are as follows.

a) increasing the term 7, amendments and supplements term 11, as follows.

- Determined induction furnaces or coreless induction furnace means (see 3.1);
- No furnace sensor (see 3.4);
- Grooved sensors (see 3.7);
- Heart-type sensors (see 3.9);
- Furnace main circuit (see 3.12);
- Power supply (see 3.13);
- Compensation circuit input current (see 3.19).

Modify the following terms are defined.

- Crucible induction coil (see 3.5);
- Closed core (see 3.10);
- Cover --- cooling groove sensor (see 3.11);
- Input power of the furnace main circuit (active or apparent power S P) (see 3.15);
- Furnace main circuit power factor (see 3.16);
- Means or a part of the rated electrical parameters (see 3.17);
- Compensation circuit power (see 3.20);
- Furnace power (see 3.24);
- Minimum capacity/charge (see 3.27);
- Total furnace capacity/charge (see 3.28);
- Burden final temperature (see 3.32).

b) in 4.2.2 thermal test project, add e) "determined induction furnace charge nominal effective measure"; the original "cooling circuit flow Test "included in item 4.2.1 Cold test (mandatory); the original" cooling medium (water) temperature measurement "Force project to optional Project; deleting the original d), e), i) and j) (GB/T 10066.2-2004).

c) 5 test and measurement methods, the new 5.8 "Determination of the nominal effective

charge Gnu"; precision measuring instruments 5.6 modify by "Shall not be less than 1.0" to "shall not be less than 1.5"; deleting the original 5.6 "compensation circuit power and power factor measurement", 5.7 "furnace Determination of sub-power and power factor "and 5.11" Burden of temperature measurement. "

d) Modify the Supplementary Appendix A, the power supply in A.2 example, the new "IV three-phase power for a plurality of sensors and the furnace configuration Same II. "

e) Added Appendix B "List of symbols used in this section." this section uses the translation method identical with IEC 62076:2006 Test side "of industrial electric induction furnace and means determined coreless induction furnace law".

Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 2900.83-2008 Electrotechnical terminology of electrical and magnetic devices (IEC 60050-151:2001, IDT);

--- GB 5959.1-2005 Safety of electric devices - Part 1. General requirements (IEC 60519-1:2003, IDT);

--- GB 5959.3-2005 Safety of electric devices - Part 3. induction and conduction heating and induction melting apparatus means Particular requirements (IEC 60519-3:2005, IDT);

--- GB/T 10066.1-2004 Test methods for electric equipment - Part 1. General section (IEC 60398:1999, MOD).

In order to facilitate and regulate the use of standards in the art, the relative IEC 62076:2006, this section made the following editorial changes.

a) modify the standard name is "Test methods for electroheat installations - Part 3. determined induction furnaces and coreless induction furnace", the English name of the corresponding modify;

b) with the leftover mark "f" instead of "F".

This part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Electric Equipment Industry Standardization Technical Committee (SAC/TC121) centralized.

This section is drafted. Xi'an Institute Ltd. furnace, National Quality Supervision and Inspection Center, China Metallurgical Furnace Engineering Technology Center, Shaanxi Province electric engineering and technology research center.

1 Scope and purpose

GB/T 10066 apply to this section for the melting, thermal insulation and industrial determined by induction heating furnace and coreless induction furnace consisting of

Electric apparatus.

The purpose of this section is to enable determination of the basic parameters and technical characteristics of the type described above composed of electric furnace means Test Method Standard Normalized.

In addition to this section 4.2.1 a), b), c) safety tests given project, and the remaining pilot projects are not mandatory and binding. for Characterization and evaluation of the performance of the furnace can be chosen as a pilot project from the listed items; may be added to the pilot project, but should be covered by the Furnace manufacturers and users agreed.

2 Normative references

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

GB/T 2900.23-2008 Electrotechnical terminology industrial electric equipment (IEC 60050-841:2004, IDT) IEC 60050-151 International Electrotechnical Vocabulary - Part 151. Electrical and magnetic devices (International Electrotechnical Vocabulary - Part 151. Electrical and magnetic devices) IEC 60519-1 Safety of electric devices - Part 1. General requirements (Safety in electroheating installations - Part 1. General requirements) IEC 60519-3 Safety of electric devices - Part 3. Particular requirements for induction and conduction heating and induction melting apparatus means (Safety in electroheating installations - Part 3. Particular requirements for induction and conduction heating and induction melting installations) IEC 60398:1999 General methods of industrial electric installation (Industrial electroheating installations - General test methods)

3 Terms and Definitions

GB/T 2900.23-2008, IEC 60050-151, IEC 60519-1 and IEC 60519-3 and as defined in the following terms and definitions Meaning applicable to this document.

Note: The definition of terms from 3.12 to 3.24, see also Appendix A graphical symbol described in Appendix B.

Determined induction furnace or electric coreless induction furnace means electroheating installation with an induction channel furnace or induction crucible furnace Means determined by the induction furnaces or coreless induction furnace and its operation required the use of electrical and mechanical equipment thereof.

Note: The electrical equipment includes an auxiliary circuit, control system and all electrical components, including the furnace main circuit in the power supply isolation device after the conductors and the open Closing means.