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

GB/T 10066.5-2014

Replacing GB/T 13535-1992

**Test methods for electroheat installations -- Part 5: Plasma
equipment for electroheat and electrochemical applications**

电热装置的试验方法 第5部分：电热和电化学用等离子体设备

(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 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).

In addition to the Part 12 standards are set using the corresponding IEC standards.

This section GB/T Part 510 066 should be the first part and with the use of GB 5959.5.

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

This section instead of "Standard Test Method for plasma electric equipment" GB/T 13535-1992, compared with the latter mainly technical changes are as follows.

- Full text of the "standard" to "this part", according to GB/T 1.1-2009 orchestrated;
- The "plasma gun" with "plasma torch";
- Scope covers the induction plasma torch, no longer suitable for welding, cutting and welding equipment;
- Deleted the size, mobility, noise and radio interference measurement reference documents;
- Delete no longer applicable definition plasma welding, cutting, etc., delete "pilot arc power," "overlay power" is defined, add "plasma Daughter "" hot plasma "" heating, "" plasma torch "and several other terms and definitions, modify other terms definition;
- Standard structure changes. The body composition of the plasma torch, power, and cooling the working gas components and equipment for the control unit as a whole into a plasma torch system, and then were based on ignition and the presence of the

chamber/reactor plasma torch system Equipment and systems are classified, respectively, the provisions to which they apply test and measurement, and GB/T 13535-1992 The torch Test and measurement system components and devices on the same level;

--- No longer test power plant characteristics of the entire device, leaving only the measured potential and other connections;

--- Delete "pilot circuit characteristic" test (see 1992 edition 5.2);

--- Increase in sound level measurement, as well as toxic products, explosion hazard identification requirements;

--- Remove the powder feeding and wire feeding rate unevenness measurement (see the 1992 version 5.5.1f, 5.5.2c);

--- Remove plasma torch discharge measuring concentrations of toxic compounds (see 1992 Version 5.6.7);

--- Increasing adjustment mode test;

--- Increase the ripple factor, coolant resistivity, average enthalpy, measured thermal radiation;

--- Spraying apparatus for measuring the increase in material properties of the liquid;

--- Delete the overlay arc operating characteristics (see 1992 edition 5.7);

--- Increase the "Reference drawings" (see Chapter 6);

--- Add "normative Annex A";

--- Add "informative Appendix B";

--- Add "Normative Annex C";

--- Increase the "References." this section uses the translation method is equivalent to using IEC/T S60680.2008 "Test methods for electroheat and electrochemical devices using plasma" (1st edition).

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

--- GB/T 10066.1-2004 Test methods for electric equipment - Part 1. General section (IEC 60398:1999, MOD) for ease of use, the IEC/T S60680.2008, this section made the following editorial changes.

--- Standard name by the name is changed to "electric and electrochemical test methods for equipment used in the plasma." 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, Metallurgical Engineering Technology Center, the State Quality Supervision and Inspection Center Furnace, Shaanxi Province electric engineering and technology research center.

1 Scope

Test methods specified in this standard GB/T 10066 apply to.

a) thermal plasma torch systems.

--- Arc plasma system;

--- Induction plasma system.

b) using a thermal plasma torch system means.

--- Spraying equipment;

--- Solid, liquid and gaseous charge heating and chemical treatment equipment.

Standard Test Method for plasma torch for welding, cutting and allied processes specified in GB/T 15579.7-2005 in.

The purpose of this section is to make the determination of thermal plasma torch systems and use of one or more devices (or equipment) plasma torch system is mainly Test methods and conditions of standardization parameters and technical characteristics.

All tests specified in this part apply to every incomplete type of equipment it covers. Therefore, it is necessary for a particular plasma Daughter torch system or device to which it applies selection trials. This choice is valid in this section.

Security systems and devices or equipment a) and b) the requirements see GB 5959.5.

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 60398:1999 Common test methods for electrical industrial apparatus (Industrialelectroheatinginstalations-General testmethods)

3 Terms and Definitions

GB/T 2900.23-2008 defined and the following terms and definitions apply to this document.