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

GB 15579.3-2014

**Arc welding equipment -- Part 3: Arc striking and stabilizing
devices**

弧焊设备 第3部分：引弧和稳弧装置

(English Translation)

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Foreword

Part 3 of this chapter are recommended, the rest are mandatory.

GB 15579 "arc welding equipment" is divided into 13 parts.

- Part 1. Welding power sources;
- Part 2. Liquid cooling systems;
- Part 3. Arc and Arc Stabilisation Unit;
- Part 4. Periodic inspection and testing;
- Part 5. Wire feeders;
- Part 6. Load limits for manual metal arc welding power source;
- Part 7. torch (gun);
- Part 8. Welding and plasma cutting system gas path means;
- Part 9. Installation and Use;
- Part 10. Electromagnetic compatibility (EMC) requirements;

--- Part 11. Electrode holders;

--- Part 12. Coupling devices for welding cables;

--- Part 13. Welding clamp.

This is Part 3 GB 15579's.

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

This section uses the translation method is equivalent to using IEC 60974-3:2007 "welding equipment - Part 3. Arc and Arc Stabilisation Unit." this part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Welding Standardization Technical Committee (SAC/TC70) centralized.

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1 Scope

This part of GB 15579 specifies safety requirements for industrial or professional stable arc and arc welding and similar devices used in the process.

This section applies to an independent and stable arc ignition device. The arc and stable arc device can be placed inside or outside the welding power source.

Note 1: The typical similar processes such as plasma arc cutting and spraying.

Note 2: This section does not include electromagnetic compatibility (EMC) requirements.

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 15579.1-2013 welding equipment - Part 1. Welding power sources (IEC 60974-1:2005, IDT) GB 15579.7-2013 welding equipment - Part 7. torch (gun) (IEC 60974-7:2005, IDT)

3 Terms and Definitions

GB 15579.1-2013 and GB 15579.7-2013 defined and the following terms and definitions apply to this document.

Ignition unit arcstrikingdevice in the superimposed voltage to ignite the welding arc circuit means.

Arc Stabilisation Unit arcstabilizingdevice in the welding circuit in order to maintain the arc voltage superimposing means.

Arc voltage arcstrikingvoltage Superimposed on the no-load voltage of the voltage to ignite the arc.

Stable arc voltage arcstabilizingvoltage Superimposed on the arc voltage of the voltage to sustain the arc.

Arc time arcstrikingperiod Duration of arc voltage is superimposed on a no-load voltage.

4 Environmental conditions

Chapter 4 should be consistent with GB 15579.1-2013 provisions.

5.1 Test conditions

Shall comply with the provisions of 5.1 GB 15579.1-2013.

5.2 Measuring Instruments

Measuring instrument accuracy or precision requirements.

a) electrical measuring instruments. 0.5 ($\pm 0.5\%$ of full scale), insulation resistance and dielectric strength measurement exceptions for measuring insulation Precision resistance and dielectric strength of the instrument does not require, but shall be tested for accuracy problems;

b) temperature measurement devices. $\pm 2K$;

c) high voltage probe. $\pm 5\%$.

Compliance 5.3 components GB 5.3 shall comply with the provisions of 15579.1-2013.

5.4 Type inspection

GB 5.4 shall comply with the provisions of 15579.1-2013. In addition, the following additional requirements.

The method of ignition and stable arc rated peak voltage of 11.1 shall be prescribed measurements, the test sequence for the type test project mechanical requirements in any convenient order tests before the project.

This section of the other types of inspection items can be performed in any convenient order.

5.5.1 External and stable arc extinguishing device

Each external arc and stable arc installation should be in the following order by the following routine tests.

- a) general visual inspection (see GB 15579.1-2013 3.7);
- b) protection circuit continuity (see Chapter 10, and, where applicable, see GB 15579.1-2013 10.4.2);
- c) Dielectric strength (see GB 15579.1-2013 6.1.5);
- d) high voltage circuit test. according to manufacturer's instructions, in the high-pressure circuit operating voltage is applied to verify the integrity of the insulation;

NOTE: No-load voltage and reflux cable, either ground or isolation will affect the operating voltage.

- e) general visual inspection (see GB 15579.1-2013 3.7).

5.5.2 Built-in arc and arc stabilizing means

For each built-in arc and arc stabilizing devices, welding power should be together in any convenient order the following routine tests.

- a) high voltage circuit test. according to manufacturer's instructions, in the high voltage circuit operating voltage is applied to verify the integrity of the insulation.

NOTE: Connect load voltage and return cables, whether grounded or isolation, will affect the operating voltage.

6.1.1 General

GB 6.1.1 shall comply with the provisions of 15579.1-2013.

6.1.2 CLEARANCE

Shall comply with the provisions of 15579.1-2013 GB 6.1.2 and adds the following requirements.

The minimum clearances high voltage devices should meet the requirements in Table 1.

Compliance check. visual inspection and measurement.

6.1.3 Creepage distance

Shall comply with the provisions of 15579.1-2013 GB 6.1.3 and adds the following requirements.

The minimum circuit stable arc and arc creepage distances shall comply with the provisions in Table 1.