



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

**GB/T 41136-2021**

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**Resistance welding equipment - Transformers - Integrated  
transformer-rectifier units for welding guns operating at 1 000  
Hz**

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### foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is identical to ISO 22829:2017 "1000Hz transformer with built-in rectifier for transformer-integrated welding guns for resistance welding equipment:

Press":

The Chinese documents that have a consistent correspondence with the international documents normatively cited in this document are as follows:

---GB/T 8366-2021 Mechanical and electrical requirements for resistance welding machines (ISO 669:2016, IDT)

--- GB/T 25301-2021 General technical conditions for resistance welding equipment transformers applicable to all transformers (ISO 5826: 2014, IDT)

---GB/T 5465:2-2008 Graphical symbols for electrical equipment - Part 2: Graphical symbols (IEC 60417DB:2007, IDT)

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

### 1 Scope

This document specifies additional requirements for single-phase inverter resistance welding transformers with built-in rectifiers for direct current welding in ISO 5826:

This document applies to transformers mainly used for welding tongs with an operating frequency of 1000Hz and a rated input voltage of 500V or other electrical

pressure value:

If this document is not revised, the requirements of ISO 5826 also apply:

## 2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

ISO 669 Resistance welding Mechanical and electrical requirements for resistance welding equipment (Resistance welding-Resistance welding

equipment-Mechanical and electrical requirements)

ISO 5826 Resistance welding equipment transformers General specifications applicable to all transformers (Resistance welding equip-

ment-Transformers-General specifications applicable to all transformers)

ISO 17677-1 Resistance welding vocabulary part 1: Spot, projection and seam welding (Resistance welding-Vocabulary-

Part 1: Spot, projection and seam welding)

IEC 60417:2002 Graphical symbols for equipment (Graphical symbols for use on equipment)

## 3 Terms and Definitions

Terms and definitions defined in ISO 669, ISO 5826 and ISO 17677-1 and the following terms and definitions apply to this document:

3:1

DC output current output DC current

$I_{2d}$

The effective value (RMS) of the DC current at the output of the transformer-rectifier unit:

3:2

working time on time

$t_s$

Time to apply current:

#### **4 Power supply of the transformer-rectifier unit**

The rated input voltage should be provided by the inverter, the inverter should provide a rated voltage with a frequency of 1000Hz, and its waveform should be adapted to the transformer

characteristics of the rectifier-rectifier unit:

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