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

GB/T 36234-2018

**Qualification testing of welders for fusion welding on titanium
and titanium alloys, zirconium and zirconium alloys**

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafting method to modify the use of ISO 9606-5.2000 "weld weld test fusion welding part 5. titanium and titanium alloys, zirconium

And zirconium alloy.

Compared with ISO 9606-5.2000, this standard has more adjustments in structure.

Appendix A lists this standard and ISO 9606-5.

2000 chapter number comparison list.

There are technical differences between this standard and ISO 9606-5.2000. Appendix B gives the corresponding technical differences and their causes.

Watch list.

This standard has made the following editorial changes.

--- The way of expressing the welding position and the approved range of the base metal has been adjusted to make it clearer, clearer, more reasonable and easier to use;

--- Delete the informative appendix ZA;

--- Added Appendix C (informative appendix) "Welder Qualification Certificate";

--- Added Appendix D (informative appendix) "Example of welder approval mark";

--- Added Appendix F (informative appendix) "Deferred parameters to be confirmed and traceable";

--- Added Appendix G (informative appendix) "Classification of Titanium and Titanium Alloys, Zirconium and Zirconium Alloys";

--- Modified the standard name.

This standard is proposed and managed by the National Welding Standardization Technical Committee (SAC/TC55).

This standard was drafted. Harbin Welding Research Institute Co., Ltd., Shanghai Special Equipment Supervision and Inspection Technology Research Institute, Shanghai installation Engineering Group Co., Ltd., Harbin Welding Technology Training Center.

1 Scope

This standard specifies the welder skill assessment method for fusion welding of titanium and titanium alloys, zirconium and zirconium alloys.

This standard applies to manual and semi-automatic welding operations.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2653 welded joint bending test method (GB/T 2653-2008, ISO 5173.2000, IDT)

GB/T 3323 metal fusion welding joints radiography (GB/T 3323-2005, EN1435.2003, IDT)

GB/T 3375 welding terminology

GB/T 5185 welding and related process code (GB/T 5185-2005, ISO 4063.1998, IDT)

GB/T 6417.1 Classification and description of metal fusion welded joints (GB/T 6417.1-2005, ISO 6520-1.1998, IDT)

GB/T 16672 definition of the working position inclination and rotation angle of the weld (GB/T 16672-1996, ISO 6947.1990,

IDT)

GB/T 18851.1 Non-destructive testing - Penetration testing - Part 1. General (GB/T 18851.1-2012, ISO 3452-1.2008,

IDT)

Guide for quality classification of arc welding joint defects of GB/T 19418 steel (GB/T 19418-2003, ISO 5817.1992, IDT)

GB/T 19866 Welding procedure specification and general principles of assessment (GB/T 19866-2005, ISO 15607.2003, IDT)

GB/T 19867.1 Arc Welding Welding Procedures (GB/T 19867.1-2005, ISO 15609-1.2004, IDT)

GB/T 26955 Metallic material weld macro and micro inspection methods (GB /26955-2011, ISO 17639.2003, IDT)

GB/T 27551 Metal material weld destructive test fracture test (GB/T 27551-2011, ISO 9017.2001, IDT)

Non-destructive testing of GB/T 32259 welds. Visual inspection of welded joints (GB/T 32259-2015, ISO 17637.2003,

MOD)

ISO /T R15608 Guide to the Classification of Welded Metal Materials
(Welding-Guidelinesformetalicmaterialsgrouping
System)

3 Terms and definitions

The terms and definitions defined in GB/T 3375 and GB/T 19866 apply to this document.

4.1 Overview

The following symbols and abbreviations may be used when filling out the welder qualification certificate.

4.2 Test piece

a --- weld calculation thickness;

BW---butt weld;

D --- tube outer diameter;

FW--- fillet weld;

P --- board;

t --- plate thickness or pipe wall thickness;

T --- tube;

z --- Solder foot size.

4.3 Welding materials

Nm---no filler metal;

Wm---with filler metal.