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

GB/T 34630.5-2017

**Friction stir welding -- Aluminium and its alloys -- Part 5:
Quality and inspection requirements**

搅拌摩擦焊 铝及铝合金 第5部分：质量与检验要求

(English Translation)

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Table of Contents

- Preface
- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Quality requirements
- Appendix A (Normative) Acceptance Guide

Foreword

GB/T 34630 "friction stir welding aluminum and aluminum" is divided into five parts.

- Part 1. Terms and definitions;
- Part 2. Welding joint design;
- Part 3. Welding operators skills assessment;
- Part 4. Welding procedure procedures and assessment;
- Part 5. Quality and inspection requirements.

This section GB/T 34630 Part 5.

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

This section uses the redrafted law Amendment uses ISO 25239-5:2011 "Friction stir welding aluminum Part 5. Quality and inspection Seeking "(English version).

This part of ISO 25239-5:2011 and the main technical differences and the reasons are as follows.

--- On the normative references, this section made a technical difference with the adjustment to adapt to China's technical conditions, adjust the situation Concentration reflected in the second chapter "Normative references", the specific adjustments are as follows.

- The international standard quoted in ISO 25239-5:2011 should be replaced by the corresponding standard in our country.

- Increased reference to GB/T 3375, GB/T 3323, GB/T 32080, GB/T 6417.1;

- ISO 17636 has been deleted.

--- According to our standard preparation requirements to delete the ISO 25239-5:2011 4.1;

references cited references have also made adjustments;

--- Appendix A test and inspection methods added UT, RT, PT non-destructive testing methods, to supplement the impermeable defect code, the surface Description of trench imperfections, test methods, and acceptance criteria.

This section also made the following editorial changes.

--- The standard name was changed to "friction stir welding aluminum and aluminum alloy Part 5. Quality and inspection requirements";

--- Removed the international standard reference.

This standard by the National Welding Standardization Technical Committee (SAC/TC55) and focal point.

This standard was drafted unit. Shanghai Aerospace Equipment Manufacturing Plant, the car in Qingdao Sifang Locomotive Co., Ltd., Institute of Mechanical Science Harbin Welding Institute.

The drafters of this standard. Feng Komatsu, Zhao Huihui, Zhang Tiehao, Guo Li Jie, Su Guoyou, Jia Hongde, Zhang Jing, Zhao Yushan.

Friction stir welding aluminum and aluminum alloy Part 5. Quality and inspection requirements

1 Scope

GB/T 34630 provisions of this part of aluminum and aluminum alloy friction stir welding quality and inspection requirements.

This section applies to aluminum and aluminum alloy friction stir welding.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2651 Tensile test method for welded joints (GB/T 2651-2008, ISO 4136:2001, IDT)
GB/T 2653 bending test method for welded joints (GB/T 2653-2008, ISO 5173:2000, IDT)
GB/T 2654 welding joint hardness test method (GB/T 2654-2008, ISO 9015-1:2001, IDT)
GB/T 3323 metal fusion welded joints radiography GB/T 3375 welding terminology GB/T 6417.1 metal fusion welding head defects classification and description (GB/T 6417.1-2005, ISO 6520-1:1998, IDT) GB/T 9445 non-destructive testing personnel qualification and certification (GB/T 9445-2015, ISO 9712:2012, IDT) GB/T 11345 Weld nondestructive testing ultrasonic testing technology, testing level, assessment (GB/T 11345-2013, ISO

17640.) 2010, MOD) GB/T 18851.1 non-destructive testing penetration testing Part 1. General (GB/T 18851.1-2012, ISO 3452-1:2008, IDT) GB/T 27551 Metallic materials weld fracture test fracture (GB/T 27551-2011, ISO 9017:2001, IDT) GB/T 27552 weld metal destructive testing of micro-hardness test of welded joints (GB/T 27552-2011, ISO 9015-2:2003, IDT) GB/T 32080 Nondestructive testing limited application nondestructive testing personnel qualification (GB/T 32080-2015, ISO 20807.

2004, MOD)

GB/T 32259 Weld non-destructive testing Weld joint visual inspection (GB/T 32259-2015, ISO 17637:2003, MOD) GB/T 34630.1 friction stir welding aluminum and aluminum alloy - Part 1. Terms and definitions (GB/T 34630.1-2017, ISO 25239-1:2011, MOD) Friction stir welding aluminum and aluminum alloys - Part 3. Skill assessment of welding operators (GB/T 34630.3-2017, ISO 25239-3:2011, MOD) GB/T 34630.4-2017 Friction stir welding aluminum and aluminum alloys - Part 4 - Welding procedure specification and assessment (GB/T 34630.4-2017, ISO 25239-4:2011, MOD)

3 Terms and definitions

GB/T 3375 and GB/T 34630.1 defined terms and definitions apply to this document.