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

JG/T 203-2007

Replacing JG/T 3034.1-1996; JG/T 3034.2-1996

**Methods for ultrasonic testing and classification of welds for
steel structures**

(English Translation)

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Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and definitions
4 General Requirements
5 Test block
6 Welding inspection
7 Pipe intersecting nodes and defect position determination method
8 Straight probe detection
9 Test results of quality grading
10 Welded joints repair testing
11 Technical file
Appendix A (Normative) CSK-ICj type test block shape and size
Appendix B (Normative) RBJ-1 type contrast test block shape and size
Appendix C (Normative) CSK-IDj type test block shape and size
Appendix D (Normative) Determination of transmission loss difference
Appendix E (Normative) Pipe joints intersecting point ultrasonic flaw detection method of geometric critical angle and correction factor
Appendix F (Normative) T-type and angle joints impermeability instructions depth detection
Appendix G (informative) ultrasonic flaw detection report, test results and flaw detection records

Foreword

This standard JG/T 203-2007 ("Ultrasonic testing of steel structures and quality grading method") includes the grid steel structure (pipe) welded joints and Construction steel (flat) structure of two broad categories of node ultrasonic flaw detection and quality grading method.

This standard from the date of implementation instead of JG/T 3034.1-1996 "welded ball joints welded steel mesh ultrasonic flaw detection and quality classification method" and JG/T 3034.2-1996 "Bolt ball joints welded steel mesh ultrasonic testing and quality grading method." With JG/T 3034.1-1996 and JG/T 3034.2-1996 compared to this version mainly revised the following.

- This standard Table 11 to Table 19 for the revised version of the newly added content (this standard 9.5 ~ 9.9);
- Increased pipe T (X), K, Y joints welded joints defect assessment and quality grading (7,9.5 of this standard);
- According to GB/T 11345-1989 "manual ultrasonic testing of steel welds and test results of the classification" to expand the detection thickness the lower limit of the scope of application; an increase of steel, forgings, castings assessment and quality grading (the standard 6.4 ~ 6.7,8,9.6 ~ 9.9);
- Supplementary welded joints detection ratio, follow the GB 50205 "Steel Construction Quality Acceptance Code," the mandatory provisions and GB 50202 "Construction foundation engineering construction quality acceptance criteria" to ensure the detection of testing quality (the standard 6.4.2, 6.4.15);
- According to international practice, only the probe in the refraction angle of the steel, eliminating the K value of the reference (the standard 4.4,6.2; the original standard 4.2);
- On the DAC curve, added the wall thickness of 8mm below, drawing a straight line method, easy to use on-site (6.3.3 of this standard);
- In the detection of technical supervision, provides for the establishment of a sound technical files (the standard 11.1 ~ 11.4).

This standard Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F is normative appendix G is an informative annex.

This standard is proposed by the Ministry of Construction standard quota research institute.

This standard by the Ministry of Construction Building Products and Components Products Standardization Technical Committee.

This standard is mainly drafted by. Suzhou Thermal Research Institute Co., Ltd.

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1 Scope

This standard specifies the test grid steel structure and its tubular joints and welded joints and pipe butt joints that pipe joints with oblique probe contact Method of ultrasonic flaw detection and quality assessment methods. Also provided for the construction of steel structures, including steel roof truss, lattice column (beam) steel components, steel Rigid Frames, Crane Beams, Welded H-Beams, Box-Shaped Steel Frame Columns, Beams, Truss or Frame Beams Welded Composite Components and Steel Building Structures, Point ultrasonic flaw detection, and the method of mass grading based on the results of ultrasonic flaw detection.

This standard applies to the base metal wall thickness of not less than 4mm, ball diameter of not less than 120mm, diameter of not less than 60mm welded hollow ball and tube Welded joints; base metal wall thickness of not less than 3.5mm, diameter not less than 48mm Bolt ball node rod and cone head or seal welded joints; branch pipe Pipe diameter of not less than 89mm, wall thickness of not less than 6mm, the local dihedral angle of not less than 30 °, branch pipe wall thickness than the diameter of 13% below the tube Ultrasonic Testing and Mass Classification of Welded Joints of Carbon Structural Steel and Low Alloy High Strength Structural Steel. Also suitable for castings, austenitic Tube and joint joints welded joints and pipe butt or weld pipe testing.

This standard is also applicable to the base metal thickness of not less than 4mm carbon structural steel and low alloy high strength structural steel butt welded joints Electroslag welding head, box-shaped components, T-joints, lap angle joints and other welded joints and steel plate, forgings, cast steel super Sonic detection. Also applies to square rectangular pipe joints, underground structural steel pipe piles, pre-tensioned prestressed pipe end of the welded joints and board Shell structure curvature radius of not less than 1000mm ring and the radius of curvature of not less than 1500mm longitudinal seam detection. Bridge engineering, hydraulic engineering Metal structure of the welded joint ultrasonic testing and the results of quality grading can also refer to the implementation.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. All dated references, which are subsequently owned Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to reach an agreement based on this standard research Whether you can use the latest versions of these files. For undated references, the latest version applies to this standard.

Ultrasonic testing of steel castings and methods for quality assessment GB/T 7233-1987
Steel welds - Manual ultrasonic flaw detection and classification of test results GB/T 11345-1989 GB/T 12604.1 Non-destructive testing - Ultrasonic testing GB 50202

Construction foundation quality inspection and acceptance code GB 50205 Steel
Construction Quality Acceptance Code JB/T 9214 A-type pulse reflection ultrasonic testing
system performance test methods JB/T 10062 ultrasonic testing with the probe
performance testing methods JB/T 10063 ultrasonic flaw detection with the standard test
block No. 1 technical conditions Technical code of construction steel structure welding

3 Terms and definitions

GB/T 12604.1 established terms and the following definitions apply to this standard.

Sampling frequency without software and other techniques.

Defects along the weld line parallel to the weld.