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**INDUSTRY STANDARD OF THE
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JJF 1447-2014

**Calibration Specification for Ultrasonic Flaw Detectors by
Time-of-Flight Diffraction
(English Translation)**

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Introduction

This specification is based on JJF 1071-2010 "National Calibration Specifications writing rules," the preparation of requirements and coding format written.

This specification GB/T 23902-2009 "Non-destructive testing - Ultrasonic examination Diffraction technical inspections and assessment Price method "in the equipment requirements of the more important indicators made the measurement performance requirement that the inclusion of metering performance deficiencies Depth, height defect, length and the like on the surface of several blind test content. And referring to "weld NDT - Super Health Laboratory - the use of time of flight diffraction technique (TOFD) of "(ISO 10863-Welding-Useoftime-of-flightdif-fractiontechnique (TOFD) fortestingofwelds) of the time of flight diffraction method flaw detector, probes, scanning the encoder apparatus and a comprehensive evaluation.

This specification is the first release.

Time of flight diffraction method ultrasonic flaw detector calibration specification

1 Scope

This standard applies to the use of ultrasonic time of flight diffraction method (time-of-flight diffraction, TOFD) Principle Ultrasonic flaw detector (hereinafter referred to as detectors) calibration.

2. References

This specification references the following documents.

JJF 1001-2011 common measurement terms and definitions JJF 1034-2005 acoustic measurement terminology and definitions GB 3102.7-1993 Quantities and units of acoustics GB/T 3947-1996 Acoustics Terminology GB/T 12604.1 Terminology for nondestructive testing Ultrasonic testing GB/T 23902-2009 NDT testing and evaluation methods - Ultrasonic examination Diffraction GB/T 27664.1-2011 performance and test NDT ultrasonic testing equipment - Part 1. Apparatus NB/T 47013.10 pressure equipment Non-destructive testing - Part 10. Ultrasonic testing time of flight diffraction method for dated references, only the dated edition applies to this specification; undated reference documents Member, the latest edition (including any amendments) applies to this specification.

3 Terms

JJF 1001-2011 and JJF 1034-2005, GB/T 12604.1 and JB/T 4730.1 ~ 4730.6 Definition the following terms and definitions apply to this specification.

- 3.1 Time of flight diffraction method (TOFD) timeofflightdifraction, TOFD [NB/T 47013.10,3.2] Utilization Deficiency endpoints diffracted wave signal defect is discovered and an ultrasonic flaw detection method for determination of size.
- 3.2 TOFD image TOFDimage TOFD scanning data of two-dimensional display, A scan signal from the scan collected during continuous mosaic.
- 3.3 lateral wave [NB/T 47013.10,3.5] Sonic the same group between two TOFD probes on a flat or curved surface of the shortest path propagation.
- 3.4 back reflection wave backwalecho [NB/T 47013.10,3.6] from the transmitting probe through the bottom surface of the reflector to the receiving ultrasonic probe.
- 3.5 Probe center spacing (PCS) probecenterseparation, PCS [NB/T 47013.10,3.7] Two from the probe point probe incident between a group.
- 3.6 Probe Delay Ultrasonic propagation time in the probe wedge.
- 3.7 defect depth flawdepth [NB/T 47013.10,3.9] End-to-surface distance scanning defect.