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**Verification Regulation for Acoustic Detector
(English Translation)**

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7.5 Verification cycle (8)

Appendix A Example of Uncertainty Analysis (9)

Appendix B Verification certificate page format (11)

Appendix C Format of the verification result page (12)

Acoustic detector verification procedure

1 Scope

This procedure applies to the first verification, subsequent verification and in-use inspection of the acoustic wave detector.

2 Citations

This procedure refers to the following documents.

GB/T 3223-1994 "Water acoustic transducer free field calibration method" GB/T 3947-1996 "Acoustic terminology" GB/T 12604.1-1990 "Non-destructive testing of non-destructive testing" GB/T 17252-1998 "Characteristics and measurements of ultrasonic piezoelectric transducers below 100 kHz" JJF1001-1998 General Terms and Definitions JJF1059-1999 "Measurement and Expression of Measurement Uncertainty" JJG 185-1997 "500Hz~1MHz measuring hydrophone" JG/T 5004-1992 "Concrete ultrasonic detector" CECS02.88 "Detecting concrete strength by ultrasonic rebound comprehensive method" CECS21.2000 "Ultrasonic method for detecting internal defects of structural concrete" when using this procedure, care should be taken to use the current valid version of the above cited documents.

3 terms and units of measure

3.1 Ultrasonic testing (ultrasonic detection and measurement) Methods and techniques for inspecting or determining the non-acoustic properties of materials using ultrasound.

3.2 Near field length (near field length) the distance between the last sound pressure maxima on the main axis and the wafer surface.

3.3 far field (far field) in a free field, the sound field in which the instantaneous sound pressure from the sound source is in phase with the instantaneous particle velocity.

3.4 first wave (first wave) the acoustic wave detector emits an acoustic pulse signal through a medium (air, liquid, solid) and then transmits the transducer. Among the received signal waveforms, the first signal is significantly different from noise. The first wave should have a complete cycle with positive peaks and negative peaks.

3.5 Transducer resonance frequency (sound projector resonance frequency) the far-field reference distance of the transmitting transducer in the direction of the specified axis, excited by a sweep signal having a constant voltage amplitude the frequency response

function of the transmitted voltage signal is received at the receiving acoustic signal, and the frequency at the maximum value.

3.6 Receive sensitivity (receiving sensitivity) the acoustic wave detector is adjusted to the optimal receiving state, and the intelligent instrument refers to the requirement that the first wave reaches a certain quantitative value.

The minimum received signal, the digital instrument refers to the minimum signal that enables the counter to close, three times for analog instruments