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NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

JJF 1373-2012

Calibration Specification for Dynamic Elastic Modulus Measurement Instruments

动弹仪校准规范

(English Translation)

Issued on: December 12, 2012 **Implemented on: March 12, 2013**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine

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Introduction

In the present specification JJF 1071 "National Calibration Specifications writing rules", JJF 1001 "universal metering and fixed term Justice "and JJF 1059" Evaluation and Expression of Uncertainty in Measurement "as the basis of specifications developed series.

This specification primarily with reference to GB/T 50082-2009 "ordinary concrete long-term performance and durability test method standard Accurate "and DL/T 5150-2001" hydraulic concrete testing procedures "and compiled.

The specification for the first time to develop.

Calibration Specification for move

1 Scope

This instruction applies to move instrument (also known as dynamic elastic modulus analyzer) calibration.

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2. References

This specification refers to the following documents.

JJG233-2008 piezoelectric accelerometer JJG834-2006 Dynamic Signal Analyzer JJF 1001 common measurement terms and definitions JJF 1156-2006 vibration, shock, speed measurement terms and definitions GB/T 50082-2009 ordinary concrete long-term performance and durability test method standards DL/T 5150-2001 hydraulic concrete testing procedures 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 terminology and units of measurement JJF 1001-2011, JJF 1156-2006, GB/T 50082-2009 and DL/T 5150-2001 in the community and given the following terms and definitions apply to this specification.

Dynamic elastic modulus by the power law principle, according to elastic wave propagation velocity in the object of the modulus of elasticity measured.

Note: The dynamic modulus of elasticity can be divided into horizontal longitudinal dynamic elastic modulus and dynamic elastic modulus.

Lateral dynamic elastic modulus by the equation (1) is calculated.

Edt = kdtWL3f2/a4 (1) where.

Edt -- lateral dynamic elastic modulus, GPa;

a -- test block square cross-section side length, mm;

L -- test block length, mm;

W -- quality test block, kg;

f -- specimen resonance frequency of the lateral vibration, Hz;

kdt -- lateral dynamic elastic modulus calculation constants, kdt = 13.244 x 10-7.

Longitudinal dynamic elastic modulus by the equation (2) is calculated.

Edl = kdlWLf2/a2 (2) where.

Edl -- longitudinal dynamic elastic modulus, GPa;

a -- test block square cross-section side length, mm;

L -- test block length, mm;

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