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

JJF 1657-2017

**Calibration Specification for Falling-hammer Impact Force
Standard Equipment
(English Translation)**

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Table of Contents

Introduction (II)	
1 Scope (1)	
2 References (1)	
3 Terms (1)	
3.1 Lateral Movement Ratio (1)	
3.2 Impact Acceleration Peak Inhomogeneity (1)	
3.3 Effective mass (1)	
3.4 Shock Pulse Duration (1)	
3.5 Impact Acceleration Standard Kit (1)	
3.6 Dynamic Force Measurement Sets (1)	
4 Overview (2)	
5 Metrological characteristics (2)	
6 Calibration Conditions (2)	
7 Calibration Items and Calibration Methods (3)	
8 Expression of Calibration Results (7)	
9 Re-school interval (7)	
Appendix A Evaluation of Uncertainty in Calibration of Standard Equipment for Drop Hammer Impact (8)	
Appendix B Standard Equipment for Drop Hammer Impact Calibration Original Record (12)	
Appendix C Standard Certificate of Calibration for Falling Hammer Impact Standards (Page 15)	
Appendix D Measurement System Frequency Characteristics (16)	

9 Re-school interval (7)

Appendix A Evaluation of Uncertainty in Calibration of Standard Equipment for Drop Hammer Impact (8)	
Appendix B Standard Equipment for Drop Hammer Impact Calibration Original Record (12)	
Appendix C Standard Certificate of Calibration for Falling Hammer Impact Standards (Page 15)	
Appendix D Measurement System Frequency Characteristics (16)	

Introduction

This specification is based on the rules stipulated in JJF 1071-2010 "Rules for the preparation of national metrological calibration specifications".

This standard fully considered the national standard GB/T 20485.1-2008/ISO 16063-1 during the formulation process.

1998 "Method of Calibration for Vibration and Shock Sensors Part 1. Basic Concepts", JJF 1011-2006 Forces and Hardness Measurement Terms and Definitions", JJF 1156-2006 "Vibration Impact Speed Measurement Terms and Definitions" Language, symbol and definition; national standard GB/T 20485.13-2007/ISO 16063-13:2001 "Vibration and Impact Sensor Calibration Methods Part 13. Absolute Calibration Using Laser Interferometry, GB/T 20485.22-2008/ISO 16063-22:2005 "Method for calibration of vibration and shock sensors - Part 22. Calibration of impact comparison", JJG791-2006 Impact Force Acceleration Standard Device, JJF 1219-2009 Laser Vibrometer Calibration Standard the relevant calibration items, methods, and metering performances in the Fan.

This specification is the first release.

Falling Hammer Impact Standard Equipment Calibration Specification

1 Scope

This specification applies to the calibration of drop impact force standard devices.

2 references

This specification refers to the following documents.

JJG233-2008 Piezoelectric accelerometer JJG791-2006 impact force impact acceleration standard device JJG973-2002 Impact Measuring Instrument JJF 1219-2009 Laser Vibrometer Calibration Specifications GB/T 20485.1-2008/ISO 16063-1:1998 Vibration and impact sensor calibration method Part 1 Points. Basic Concepts GB/T 20485.13-2007/ISO 16063-13:2001 Vibration and shock sensor calibration method 13th Section. Laser Interferometry Absolute Calibration GB/T 20485.22-2008/ISO 16063-22:2005 Vibration and Shock Sensor Calibration Methods No. 22 Section. Impact Comparison Calibration for dated references, only dated editions apply to this specification; all undated references the latest version (including all amendments) applies to this specification.

3 Terms

3.1 Lateral movement than transverse movementratio the peak of impact motion in the plane perpendicular to the main direction of motion of the mass and the peak of impact motion in the main direction of motion Ratio.

3.2 Impact acceleration peak unevenness amplitudeuniformityofaccelerationpeak when the

mass blocks are subjected to impact excitation pulses in the vertical direction, the impact acceleration peaks and mid positions at different positions on the masses the maximum deviation between the acceleration peaks at the heart position.

3.3 effective mass

Acts on the sensitive surface of the force sensor and participates in the loading of all components with its own inertial force during the impact movement.

The sum of the quantities (including freefalling masses, attachment accessories, measuring sensors, etc.).

3.4 Impact pulse duration durationofshockpulse During the impact movement, the shock pulse amplitude is greater than 10% of the peak time of the shock pulse.

3.5 Impact Acceleration Standard Package shockaccelerationstandardmeasuringinstrument Composed of an impact acceleration sensor, a signal conditioner, and a data acquisition unit to perform the impact acceleration value Measurement and analysis of the impact acceleration measurement system.

3.6 dynamic force measurement kit dynamicforcemeasuringinstrument