

Instron® Professional Services | Impact Calibration - Pendulum



Many tests performed on pendulum impact systems must adhere to International testing standards that include materials test method and testing laboratory competence requirements. The verification and calibration of your pendulum system ensures your testing (and laboratory) is in compliance to these standards. A calibrated pendulum impact system will also provide confidence that you are reporting accurate, traceable, and repeatable results.

Instron® recognises that Impact testing machines can come in a variety of designs to provide test results across a wide range of application standards and methods, including:

- Plastics, composites, metals testing
- ISO, ASTM, and EN standards
- Capacities from 0.5 - 900 J
- Compound, 'C'-shaped, 'U'-shaped hammers
- Manual or automatic hammer lift
- Analogue or digital scales
- Manual or automatic specimen insertion centering
- Software controlled versions with either local or remote console controls

International Standards for pendulum impact testing either include a calibration/verification procedure or will refer to the relevant/associated verification standards, describing them as indispensable or a normative document. These standards set out performance requirements that the testing system must conform to and seek confirmation that the machine is considered suitable for impact testing. For instance, a popular referenced standard

for Plastics testing is ISO 13802 (Verification of Pendulum Impact Testing machines), whereas for Metals, ASTM E23 (Standard Test Methods for Notched Bar Impact Testing) includes the verification process within the content of the document.

To help you conform to your test standards, Instron can provide an initial consultation to better understand the requirements necessary for your laboratory and to deliver the right verification service for your system. We also offer a design and manufacture service for any additional jigs or fixtures that may be required to meet your specific need for Instron and non-Instron systems.

Instron's accredited Impact Pendulum verification and calibrations services conform with:

Plastics

ISO 13802, ISO 179, ISO 180, ISO 8256, ISO 9854, ISO 7628, ASTM D256, ASTM D6110, ASTM D1822

Metals

ISO 148, ASTM E23



Calibration Certificates are individually issued following verification. These detail proof of measurement traceability and can be used in the event of an audit. They meet national and international standards to provide you with confidence that your testing results are accurate and repeatable. Ultimately, they reduce potential exposure to risk and any unnecessary costs.

Your certificate is a statement of how well your system is performing, including evidence of the calibration, frequency of calibration, and the system's conformance with the materials testing standards. These calibrations are in conformance to the international standard for the materials being tested and are completed by an Instron qualified engineer in accordance with a UKAS accredited procedure.

Our processes are audited and accredited by independent accreditation bodies, including UKAS and NVLAP. They are internationally recognized and accepted by all members of the International Laboratory Accreditation Cooperative-Mutual Recognition Arrangement (ILAC-MRA). UKAS is also a signatory to European co-operation for Accreditation (EA) and International Accreditation Forum, Inc. (IAF).

When choosing an impact verification provider, it is essential to determine that the provider demonstrates the capabilities to carry out a quality service conforming to the verification standards, and for your additional assurance are independently audited by the relevant regulatory body.

Trust Instron to deliver a sound verification service for your business. Contact your local office or discuss with your visiting Instron engineer – we are here to help you.

Learn More

Visit our website to learn more about the need for and requirements of materials testing equipment verification and the full range of capabilities Instron can provide to address your specific needs. Links to the detailed scope of our accreditations can always be found within the "About Us/Calibration" or calibration services section of www.instron.com.



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Instron® has a global infrastructure that is local to you and remains committed to being the leader in mechanical testing instrumentation. To find an office local to you, visit go.instron.com/locations

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ImpactCalibration_BrochureV1

CUSTOMER DETAILS:		MACHINE DETAILS:	
FOR:	Instron	MANUFACTURER:	CEAST
LOCATION:	Coronation Road High Wycombe Buckinghamshire United Kingdom	MACHINE MODEL:	7614.000
CONTACT:	John Smith	SERIAL NO.:	24210
EMAIL:	john.smith@instron.com	DESCRIPTION:	Pendulum Ceast 7614 with integrated digital display.
		Striker model:	7600.004
		Striker s/n:	094
		Pot. Energy:	4 J
		Support model:	7610.131
		Support s/n:	N/A
		Vice s/n:	

SCOPE AND RESULTS OF CALIBRATION:

The machine above has been calibrated, as defined by the calibration type, to the requirements of the ISO 13802:1999, using certified measuring & gauging equipment.

Instron procedure N203. Includes inspection and dimensional checks of the frame, pendulum, striker, supports and energy indicator of the impact testing machine. In accordance with ISO 13802:1999. The results of these checks, including the energy readings taken to calculate the losses due to friction, are detailed in the Results section below.

BASIC FRAME CHECKS	BEARING CHECKS	PENDULUM & IMPACT LENGTH CHECKS	POTENTIAL ENERGY CHECKS	ENERGY vs ANGLE CHECKS	STRIKER CHECKS	SUPPORTS CHECKS
PASS	PASS	PASS	PASS	PASS	PASS	PASS

Calibration software version: V20131201

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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