INSTRON

The difference is measurable®

DENTAL MATERIALS AND IMPLANTS

Instron - A Total Solution Provider

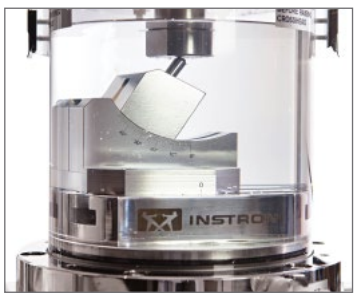
Reliability

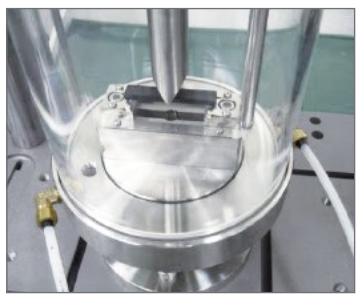
Ease of Use

Repeatability

Reduced Maintenance

Understanding the mechanisms of everyday processes, such as eating and cleaning, can help dentists and oral surgeons find the optimal methods for maintaining healthy teeth. In recent times, the use of dental implants has become an everyday occurrence and the complex loading of these needs to be established within the laboratory environment. Dental adhesives, amalgams, porcelains, polymers and ceramics undergo testing in vitro to determine their performance and suitability in a clinical situation. Dental implants are fatigue tested to determine their long term performance and ensure they will provide years of pain-free, useful service. Here are a small sample of our solutions for testing of dental materials and implants.





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Reliability

For over 75 years, Instron has designed and manufactured dependable materials testing systems. Instron's professional services team offers calibration and preventive maintenance to keep systems running for years. Despite test system robustness, Instron systems maintain the precision to measure micron-size displacements and gram-level forces.

Ease of Use

The patented stiffness based tuning reduces the time required to tune and simplifies the process by automatically calculating the optimum control gains. This gives the user repeatable and reliable results. In addition, WaveMatrix software offers a highly-visual environment with step-by-step method set up. Laboratories will therefore save time as the training is quick and easy.

Repeatability

ElectroPuls provides you with phenomenal data accuracy. Coupled with Instron Dynacell for reduction of intertial errors and patented "Stiffness Based Tuning", you can have confidence in your system for hassle-free testing. consistent, accurate results allow full validation to bring product to market.

Reduced Maintenance

With only a single-phase electrical connection to the wall, ElectroPuls systems are dynamic testing machines of the future that do not have the environmental impact of conventional servohydraulic technologies. That means no oil, no three-phase electrical power, no water-cooling supplies, no external acoustic attenuation systems, and no costly, complex maintenance routines.

Shear bond strength of dental adhesives to ISO/TS 11405

Alignment is critical for the successful measurement of tensile bond strength of dental materials to ISO/TS 11405

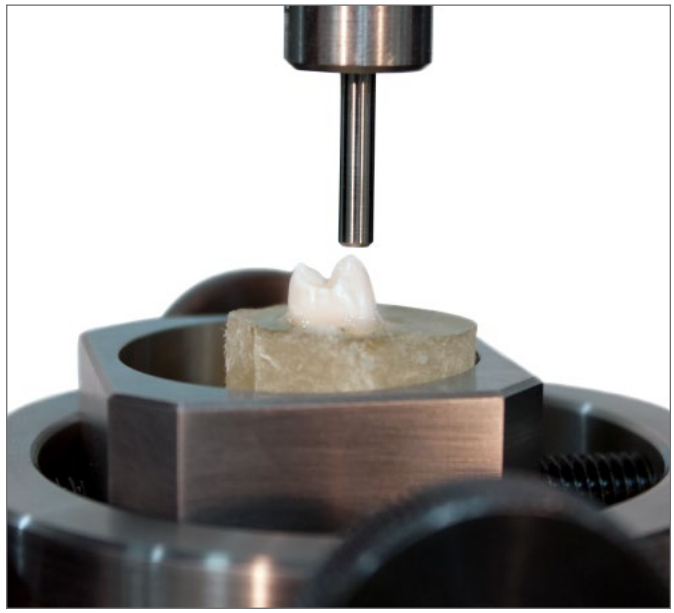
Flexural properties of dental ceramic materials for use in restorations and prostheses can be evaluated to ISO 6872

A custom 3-point flexure fixture with a temperature-controlled bath set up to meet the requirements of ISO 20795-1 and ISO 20795-2. These standards specify the requirements for denture and orthodontic base polymers and copolymers used in dental applications

A reliable test instrument and a specialised dental fixture are required to meet the full requirements of ISO 14801, Instron's latest design of the dental implant system is a solution to meet all of the requirements for ISO 14801 and is ideally suited for use with the ElectroPuls™ E1000 or E3000 test instruments

Dental implants are tested to ISO 14801 on ElectroPuls E3000 Dynamic Instruments to evaluate effects of fatigue

The most popular type of braces and brackets used to correct misaligned teeth are metal. Metal braces are typically made from Nitinol wire, tensile tested to ASTM F2516.



Individual teeth can be tested in compression to compare modulus values of healthy vs. diseased teeth.

Instron's instruments and technologies are used for various types of tests across many diverse medical sectors. The flexibility of Instron systems to adapt to numerous applications make our systems truly universal.

Designed from the ground up for touch, Instron's static testing software, Bluehill Universal, is easy-to-use, increases testing efficiency, and contains modular features that enable users to run the most complex tests.

With ISO 9001 accreditation, our goal is to provide the best ownership experience by delivering the highest quality products, expert support, and world-class service. Instron Connect provides users with a powerful communication platform via a secure connection between the Instron system at your facility and Instron's global technical support engineers. With Instron Connect, users receive faster remote technical support, reduce risk with schedule verification and preventive maintenance reminders, and are effortlessly able to keep up to date with the latest software features.

Medical Sectors

Visit our website to learn more about the different medical sectors we support: go.instron.com/bio

BIOMATERIALS & TISSUE ENGINEERING

ORTHOPAEDICS

DENTISTRY & DENTAL MATERIALS

IMPLANTABLE DEVICES

PHARMACEUTICAL

HOSPITAL & SURGICAL SUPPLIES

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