

Welcome to the Instron® Materials Testing Accessories Newsletter

In This Issue: Biomedical Applications – Part 1 of 2

Accessories for Biomedical Applications

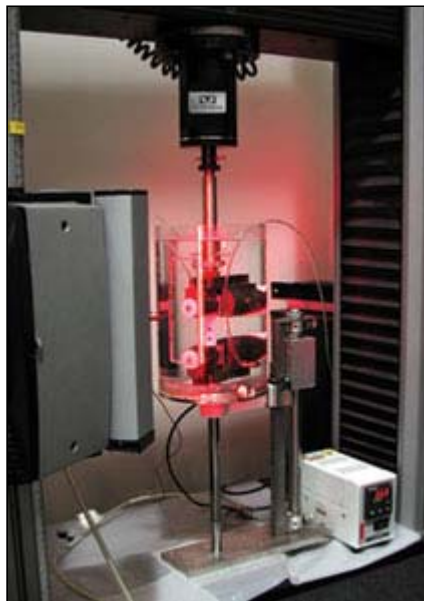
Our global team of biomedical applications specialists and professional engineers delivers turnkey solutions for orthopaedics, biomechanics, biomaterials, medical devices, and dental testing. We work closely with scientists and manufacturers worldwide to develop innovative and specialized [BioPuls™](#) solutions.

The BioPuls solutions are the most advanced biomedical solutions for the challenges presented by our customers. With such diversity in demands from native tissues (such as collagen), to shape-memory alloys (such as nitinol), to the most complex multi-axial simulation of spinal segments, we ensure that our systems and products are best fit for the needs of individual customers, and provide many years of superior life-long performance.

[Advanced Video Extensometer \(AVE\) Marking Techniques for Soft Tissue Testing](#)

Extensometers are used to accurately measure the deformation of a material under mechanical loading. Due to the fragile nature of biological soft tissues, such as fascia, skin, and intestinal lining, a non-contacting extensometer is the ideal solution for measuring tensile strain in these specimens.

The AVE uses a high-resolution digital camera and advanced real-time image processing to make precise axial and transverse (optional) strain measurements on test specimens. Because these test specimens are soft, moist and vary in color, the challenge in acquiring strain data lies in the marking technique.



[Tensile Testing of Thin-Walled Surgical Tubing with a Long Travel Extensometer](#)

Surgical tubing is used in a wide variety of applications, such as drains, feeding tubes, irrigation and surgical procedures, and therefore comes in many shapes and sizes. The mechanical performance of the material used is critical, as failure could seriously endanger a patient. Tensile tests are frequently performed in product development and quality control in order to evaluate properties of a material's strength and strain at break.



Contact Us

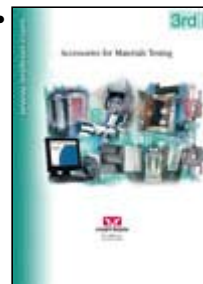
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3rd Edition of the [Accessory Catalog](#) is now available!

Future Events

For a list of upcoming shows that Instron will be attending, please visit the [Events](#) page of our website.

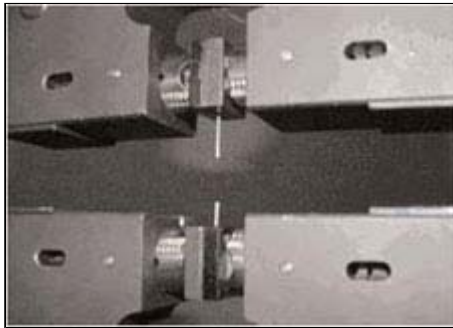
[Tensile Testing Of Surgical Sutures Using Straight-Pull and Knot](#)

Sutures are used in a variety of different surgical procedures to close wounds and aid in tissue healing. They are manufactured from a variety of different absorbable and non-absorbable materials, and may be a single filament or braided, with or without coating. Tensile strength is a critical measure of performance during and after surgical procedures. The strength of different knotting techniques must also be evaluated. The test method must determine breaking strength and corresponding elongation and adhere to FDA guidelines. Precise, consistent and reliable measures of strength and strain are essential for product development and quality control.



[Tensile Testing of Hypodermic Needle](#)

Use of a hypodermic needle is the most direct method for administering medication. The medication is usually injected intramuscularly, where there is a rich supply of blood vessels, or intravenously, allowing the medication to be absorbed into the blood stream and begin acting almost immediately. Hypodermic needles are usually manufactured out of stainless steel, and the material and design must be tested to evaluate the needle's maximum tensile strength and yield strength. The challenge in testing these tubular devices is in gripping the specimen without causing premature failure in the grip face.



[Residual Seal Force Measurement of Parenteral Vials](#)

Parenteral products contained in vial package systems require a robust seal at the interface between the glass vial and the elastomeric closure to prevent contamination and product leakage. The seal is established in the manufacturing process, but must withstand a variety of handling, processing, and storage conditions.



For more information about biomedical applications and suggested solutions, please visit the [Biomedical Testing Solutions](#) section of our website.

For more information on Accessories, visit us [on the web](#), submit an [online request](#), or call us at +1 800 473 7838 (US only) or +44 1494 456815 (Europe only)

Are you testing something a little different? Do you think more people should know about it? Would you like to submit an article for possible publication in the Instron accessories newsletter? If so, please [submit your story](#).

What do you think? Tell us!



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