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Welcome to the first issue of Instron Materials Testing Accessories e-newsletter

In this issue:

Product feature: New screw action grips with quick release jaw faces.

Application article: Are you aware of Compliance?

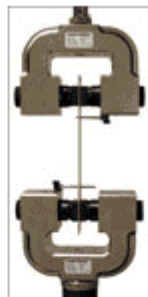
Introduction to Accessories Newsletter

The purpose of this new Instron communication feature is to provide the customer with new product or application information and articles of interest to materials testing. It will feature new product releases, applications articles and details on Instron product promotions. The newsletter will also act as a one-stop information centre allowing you access to the many different Instron products and support.

We would be delighted if you provided us with feedback or an interesting story in regards to materials testing using the link at the base of the newsletter.

Product Feature – Screw action grips

Screw action grips provide a very simple and efficient method for holding test specimens in a wide range of applications. The dual acting design means that jaw faces can be adjusted to accommodate different specimen thicknesses, this ensures that the line of tensile force remains concentric with the grip body. They can be equipped with a selection of interchangeable grip jaw faces in various sizes and choice of surfaces including smooth ground, rubber-coated and serrated.



2710-100 series of grips feature a unique snap-on jaw face attachment which makes changing faces extremely quick and simple and an optional specimen centering device.

Application article – Are you aware of compliance?

Any mechanical system subjected to a force will deform, however slightly. This applies equally to material testing systems. The load frame, load cell and grips of your system are not infinitely stiff and will deform slightly as force is applied to the specimen. This deformation is called compliance and can lead to significant errors in the results of certain types of test. Most material test systems measure crosshead or actuator displacement, and this is often used as a measure of specimen deformation. However, the displacement output recorded by the system is actually the sum of the system compliance and the specimen deformation. In many applications (such as tensile testing of plastics and elastomers) the system compliance is often very small when compared to the specimen deformation, and the error can be ignored.

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Where very precise measurements of specimen deformation are required, the use of extensometers avoids system compliance errors completely. But what can you do if the use of extensometers in your application is inconvenient or very difficult due to the test fixturing requirements or test environment? For these cases it is possible to make use of a feature available in Bluehill®, Merlin™, Series IX™ or Partner™ software called Compliance Correction.

The Compliance Correction feature allows system compliance to be subtracted from the load displacement data generated by the test system, leaving behind the deformation attributable to the specimen. This more accurate, corrected data can then be used for generating results.

Different compliance files can be stored for different test configurations, allowing great flexibility in applying the correction according to your application. Using this technique, it is possible to get significantly more accurate results from test runs without the aid of extensometers or other direct strain measurement methods.

It is especially useful for compressive tests on products and components such as gaskets, springs and assemblies. If you are an existing user of Bluehill, Merlin, Series IX or Partner, you can check to see if the version you have supports this feature. If not, then you can upgrade to the latest version. Contact your local office for details.

For more information on Accessories

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