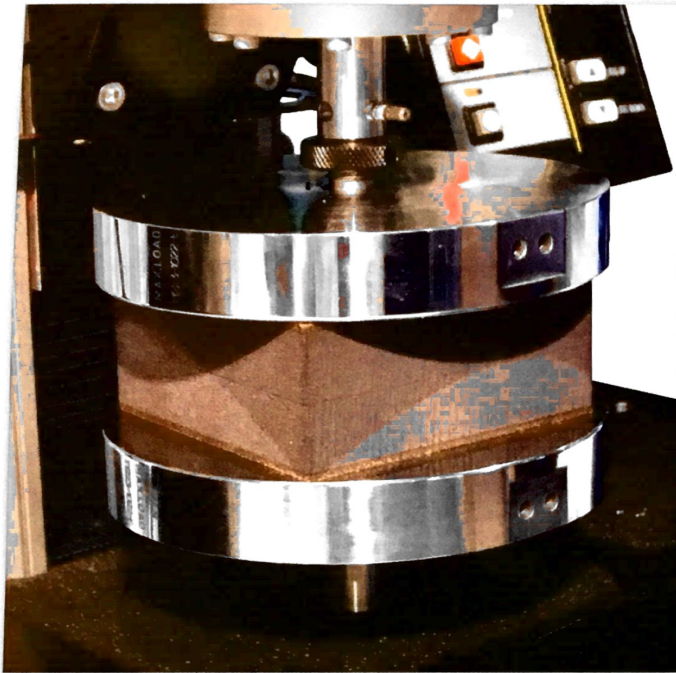


Compliance Correction



What is 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 testing 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's 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.

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.

Compliance Correction

The Compliance Correction feature allows system compliance to be subtracted from the load displacement data generated by the testing 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 your system to use the latest software products. Contact your local office for details.

