Issue 42

# Materials Testing Accessories Newsletter

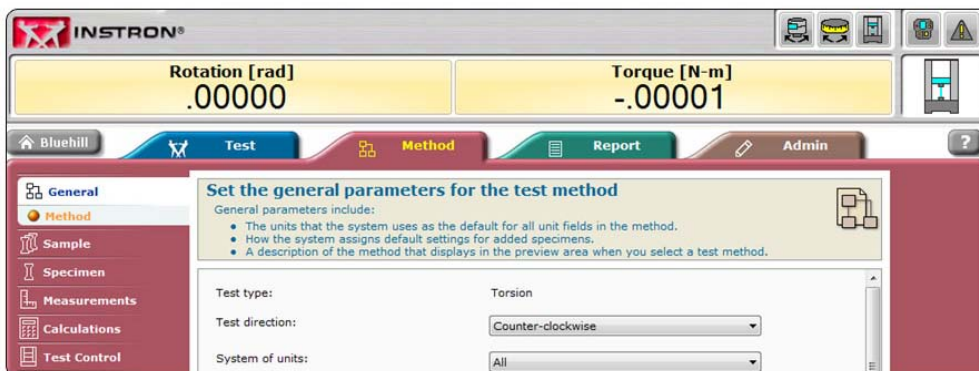## In this Issue: Bluehill® 3 – Adding More Capability

### New Static Platform Support

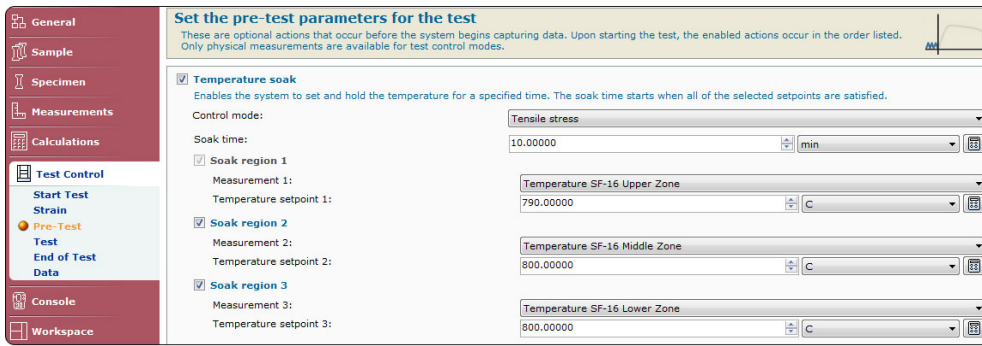Bluehill 3 is now available for 8800 and ElectroPuls™ static testing applications.



### New Bluehill 3 Test Type

Setting up a torsion test is now possible in the Bluehill 3 interface.



### High-Temperature Applications

Lab operators now have the ability to set three independent set-points for the three zones of an SF-16 furnace. Using flexible temperature set-points exposes the specimen to more uniform heating throughout the duration of the test.
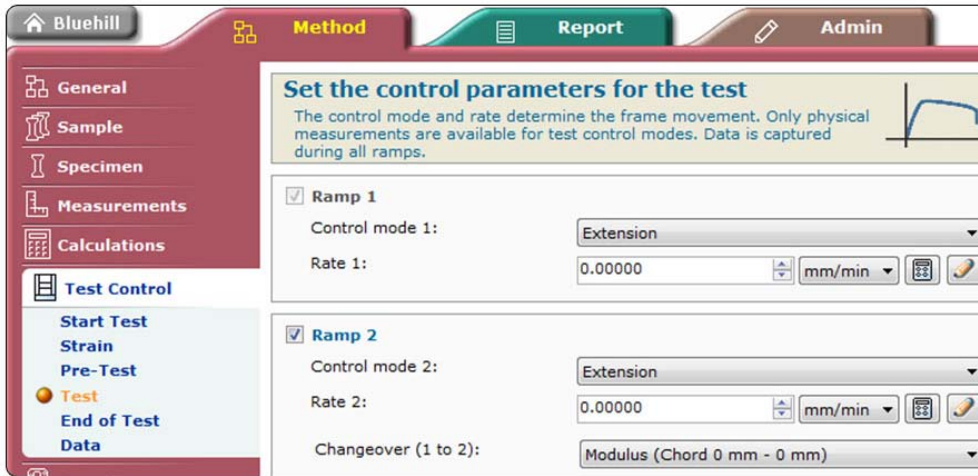
## Metals Applications

<u>Feature</u> - New results for Coefficient of Correlation and standard deviation of modulus calculations according to the latest recommendations of ISO 6892.
<u>Benefit</u> - Identify the quality variations in your material by reporting new correlation coefficient and standard deviation for the modulus line fit.
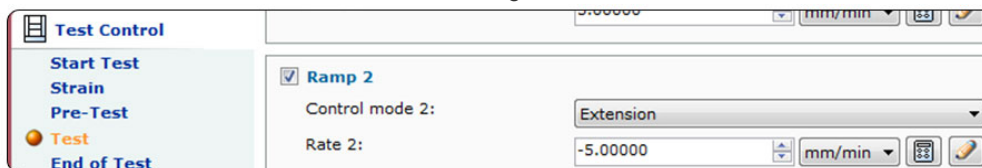
<u>Feature</u> - Automatic ramp (and control mode) change after determination of specimen modulus.
<u>Benefit</u> - Helpful in ISO 6892 Method B, it removes the guess work for when to switch ramps for a stress controlled metals tests. Now you can set the Modulus calculation as the trigger for ramp switchover.



## Test Control

The addition of negative rates for all ramps and test types allows the operator to achieve crosshead direction reversal even in tests that are not using TestProfiler.



… and lots more including: method settable crosshead return rate; fastener, tube and pipe geometries; line intersection calculation; and percent of maximum stress for detecting the break point in the Non-proportional elongation (EN /ISO standard) calculation.
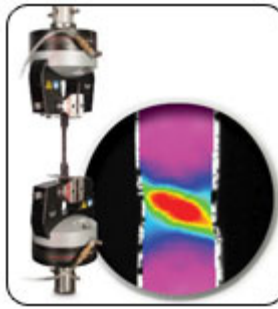
## TrendTracker™

The TrendTracker plugin for Bluehill automatically exports Bluehill results to the TrendTracker database at the end of the test. The plugin includes a Batch Export feature that migrates years of existing Bluehill 2 and Bluehill 3 results into the database, making the data searchable overnight.



## Digital Image Correlation (DIC) Software

DIC Replay is a 2D, self-contained software package that consumes images and calibration data saved by Instron's Advanced Video Extensometer (AVE) and works in a post-processing mode. It provides a

clear visualization of full field strain measurements through color-coded maps. The user interface leverages the same tabbed style and graphical design of Bluehill.

Standard features Include:

- Full-field Axial and transverse strain and displacement maps for visualizing materials properties over the full surface.
- Virtual strain gauges and extensometers remove the need to know where to initially place them to ensure the required data is recorded
- Plot generation and export allows for further results analysis and reports
- Synchronization with Bluehill test data (load, position, etc.)- synchronization removes the concern over data integrity

Three modes of operation:

- Post-processing DIC
- Real-time strain through AVE
- Mixed modes

DIC Replay is available with new or existing AVE's as a software upgrade.

### 5900 Advanced Performance Option

5900 Advanced Performance Option extends data rates up to 2.5 kHz and 0.5% load cell accuracy up to an industry-leading 1/1000th of the load cell capacity. Automatic strain rate control adapts to system compliance as the test proceeds, and simplifies the test setup workflow for standards such as ISO 6892.

### Bluehill Pre-Configured Methods

Bluehill 3 now comes with an industry set of pre-configured methods. Each application-based module provides a comprehensive platform for measurement, test control, and report creation. Material application modules include pre-configured methods and supporting documentation that cover a variety of internationally recognized industry standards. Application include (but are not limited to) Metals, Plastics, Composites, Textiles, Elastomers, Adhesives, Biomedical, and for those of you that test all kinds of materials, a full suit. Once the software has been installed and your operators are trained, your testing system will be ready to run in accordance to many international industry standards.

### TestProfiler

TestProfiler allows you to create custom test control sequences (profiles) with a simple, user-friendly interface. Complex cyclic test sequences are readily created by using TestProfiler's waveform building blocks (triangles, ramps and holds). Your test method is graphically displayed as you create it and standard Windows$^®$ tools (cut, paste, copy, delete) can be used to quickly create or modify virtually any complex test sequence. Test results can be independently assigned to individual test blocks and the graphical display of test results can be filtered to show only the blocks (cycles) of interest.

### Analysis Module

The Analysis Module provides users additional flexibility for data analysis above that available in the standard application modules of Bluehill 3. Analysis provides the ability to replay a previously tested sample using any test method. Test methods may be set up and saved with different calculations and results for quick generation of commonly reported results.

### TestCam

The TestCam Video Recording & Playback option provides engineers and quality professionals with a video record of how the test was conducted and how the specimen failed. By recording the test from start to finish using almost any USB video recording device, the user can replay the test or use a scanning cursor to select particular points of interest while viewing of the associated test video frame. The video can be stored and sent electronically. It does require DirectX compatible video capture system (such as a webcam) with USB cable and camera mounting.

## More Information on Bluehill Software

## Visit the Bluehill User Community Blog

**Related Links**

- For more information on Bluehill visit our website or our Bluehill Community Blog
- Sixth Edition of the Accessories Catalog for Materials Testing is now available!
- Missed previous issues of the Accessories Newsletter? Catch up at the Instron Library.
  Follow the link and select "Newsletter" as the Document Type
- Visit our Testing Solutions to find technical tips relevant to your testing application.

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