FRACTURE TECHNOLOGY

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FTA NLFT Release Notes

v3.18.00

2331 Topaz Drive / Hatfield, PA 19440
Phone: 800-219-9095 / Fax: 800-219-9096
FTAsupport@labtesting.com / **www.fracturetech.com**

LABORATORY TESTING INC.
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Test Setup

- The labels for the COD and stroke channels have been updated from Disp to COD and Stroke to remove ambiguity.
- If a zero is entered for Stroke Calibration Factor, the software would send a full-scale command upon hitting Run. A validation check has been added that will not allow a value of zero in the Stroke Calibration Factor field.
- When loading the test setup screen, the software will prompt for the Specimen ID and the storage location where the .log .raw and .in5 files will get stored.
- Previously if a file (e.g. a .par file) was loaded from another folder, the storage path would be changed to that folder. The storage path is now maintained.
- For an SE(B) specimen, Pin Spacing is now replaced with Bend Fixture Span and is synchronized with Span to Width Ratio such that the span can be explicitly stated.
- Limit Load has been replaced by P_m. E1820-17a specifies specimens to be loaded such that P_m is reached within 0.3 to 3.0 minutes. Limit Load is no longer included in the standard.
- The ability to perform compliance unloads as a percentage of max load has been added.

Test Execution

- The load displacement screen has been updated to allow it to be resized and rescaled.
- The Status screen has been updated to allow K rate or load rate to be displayed. The formatting has also been improved.
- The J-Δa plot has been updated to be resizable.

Analysis - General

- When loading an .in5 or .in6 file, the software will also prompt to load the .raw file
- SOW/Pin spacing relationship is updated to be consistent with the testing software
- Negative compliance results are now automatically filtered out of the analysis
- Can analyze in Metric or English units by changing a variable in the analysis worksheet
- Improved the exception handling for loading files so that invalid fields will not crash the software

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Analysis – E1820

- Analysis is updated to be in compliance with E1820-17a
- Validity checks and evaluation of all criteria are provided explicitly
- The Load-displacement curve is reported
- Added an .rwp file to the output, which is the same format as the .raw file but applies filters from the Load-Disp Data tab.
- A benchmark dataset ASTM DS1 is provided as a sample dataset, including the .raw and .in6 file. The J_{Ic} analysis falls within the required tolerance.
- Validity criteria are still assessed but marked as 'N/A' for tests terminating with instability when final crack length requirements are not met (ASTM E1820-17a §9.1.4 and §9.1.5).
- Algorithm changed to conform to §A9.6.5 – i.e. the points are selected starting from the last point to the first point in the test. All points before the first point that falls to the left of the 0.15mm exclusion line are not included in the polynomial fit.
- Performs limited analysis to §A9.7 and §A9.8 (calculates values but validity criteria are not assessed).

Analysis – E399

- Analysis file recreated to be consistent in appearance with analysis.
- Includes the Slope Determination by Analysis of Residuals ("SDAR") algorithm to allow automatic determination of slope.
- Validity requirements have been updated to be fully consistent with E399-17

Relegated

- Due to the large updates to E1921 and the NLFT analysis, an E1921 analysis worksheet is not currently supported.

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