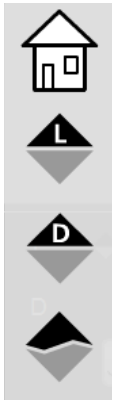
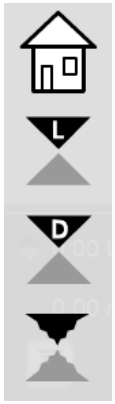
Test Builder Symbols

SAMPLE	Description
Sample Definition	Use to define your sample's physical characteristics. This is required in order to measure, calculate and display stress and strain results and your graph views are (σxε, σxT, or εxT). Use to specify sample shape, dimensions and whether or not you are using an extensometer. If no sample definition is created, your graph views are LxD, LxT or DxT.

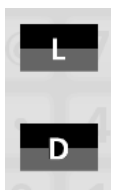


TENSION	Description
Go to Home	Positions the crosshead to the HOME position. The HOME position may be established manually (Set Home) or may be done programmatically but Setting Home in the Pre Test Step.
Go to Load Limit (L)	Positions the crosshead in a tensile direction (Pull) until it achieves this load value measured by the load cell.
Go to a Distance Limit (D)	Positions the crosshead in a tensile direction (Pull) until it achieves this distance value measured by the encoder.
Go to a Break Limit	Positions the crosshead in a tensile direction (Pull) until a break is detected. A break is detected when the measured load drops by a user-specified % amount after a maximum load is achieved and after a Minimum load was measured.



COMPRESSION	Description
Go to Home	Positions the crosshead to the HOME position. The HOME position may be established manually (Set Home) or may be done programmatically but Setting Home in the Pre Test Step.
Go to Load Limit (L)	Positions the crosshead in a compressive direction (Push) until it achieves this load value measured by the load cell.
Go to a Distance Limit (D)	Positions the crosshead in a compressive direction (Push) until it achieves this distance value measured by the encoder.
Go to a Break Limit	Positions the crosshead in a compressive direction (Push) until a break is detected. A break is detected when the measured load drops by a user-specified % amount after a maximum load is achieved and after a Minimum load was measured.

CYCLIC	Description
Cycle for a Count	Cycles the test between a range of Steps (first specified step and Last specified step) for a specified number of cycles, e.g. repeat Steps 2 thru 4 ten (10) times. At the end of the cycle count report the result(s). A Cycle Count has only one test run associated with it.
Cycle for Time Duration	Cycles the test between a range of Steps (first specified step and Last specified step) for a specified time duration, e.g. repeat Steps 2 thru 4 for 60 seconds. At the end of the cycle duration report the result(s). A Cycle Duration has only one test run associated with it.
Loop Steps	Cycles the test between a range of Steps (first specified step and Last specified step) for a specified count or time duration, e.g. repeat Steps 2 thru 4 ten (10) times for 60 seconds. At the end of the cycle count or duration report the result(s). A Loop reports a test run (with results) for each cycle. So if the Loop is for ten (10) cycles, you will have ten test runs and ten sets of results for each cycle.



HOLD	Description
Hold Load (L)	Holds the measured load from the previous step for a specified period of time.
Hold Distance (D)	Holds the measured distance from the previous step for a specified period of time.

DATUM	Description
 Set a Datum	Creates a datum within your test setup. The Datum step may be used to zero the Load or Distance within your test. Normally, a Datum step is the first step after your Pre Test.

PROMPTS	Description
 Ask Prompt	An Ask step may be added anywhere in your test setup. An Ask step will display a message and the user is required to provide a response before the step concludes. An Ask step requires the user to respond.
 Tell Prompt	A Tell step may be added anywhere in your test setup. A Tell step will display a message/prompt for the user for a specified period of time. A Tell step can serve as a reminder to perform a function.

Test Editing Symbols

EDITING	Description
 New Test Setup	Select to create a New Test setup. A test setup may be created using templates or using the Test Builder. Template test setups are Load Test, Distance Test, and Break Test.
 Edit a Test Setup	Select to Edit the specified test setup. The user must have security privileges to edit a test setup. Edit privileges lets the user change the sequence of test steps (add, delete, move) and the ability to change a step's individual attributes, e.g. limit, speed, exceptions, and whether or not to collect data.
 Copy a Test Setup	Select to Copy the specified test setup. A new test is created using the test setup steps and the steps' attributes. The user must have security privileges to copy a test setup.
 Rename a Test Setup	Select to Rename a specified test setup. The user must have security privileges to rename a test setup.
 Delete a Test Setup	Select to permanently Delete a specified test setup. The user must have security privileges to delete a test setup.
 Convert to Test Builder	When a test setup is created using a Template, the user may convert the template test into the Test Builder application. The Test Builder will provide the user with more flexibility to add steps to their test setup.

Display View Symbols

VIEW RESULTS	Description
 Graph View	Choose to display your graph in the main window. The graph is a depiction of the test run. When a Sample Definition step is used, graph views are σxε, σxT, or εxT. If no Sample Definition is used, graph views are LxD, LxT, or DxT.
 Split Graph Data View	Choose for a combination view that displays the graph trace on top and the data table beneath the graph view. You may adjust the size of the graph by positioning the middle divider bar up/down (window shading).
 Data Table View	Choose to display your results (coefficients) in the main window as a table. Coefficients and numerical results are organized and displayed in a spreadsheet format.
 Standard View	Choose this format when you only want to view the data table without Statistics or Tolerances. When Standard view is selected, the data table of your coefficients are all that are displayed.
 Statistics View	Choose to display the following statistics for the coefficients specified for your test run: Mean, Maximum, Minimum, Range, Standard Deviation, Six Sigma. Cannot be used with the Tolerance view.
 Tolerance View	Choose to display tolerance information for your results. Tolerance limits may be used on any/all coefficients. The Tolerance view displays the Limits used to designate your tolerance range. A tendency graph is displays showing the measured result in relationship to the tolerance limits. Out-of-tolerance results display in red.

Analysis Tool Symbols

	TOOL	Description
	Annotation	Used to add an annotation (note) to the graph view. You may have multiple annotations and display in different colors. And you can use leader lines to point to annotation to a specific location on your graph.
	Point Tools	Use to select implicit points along your graph data stream. There are different Point Types that may be used to measure, calculate and display coefficients on your graph trace.
	Point (Limit)	Used to measure, calculate and display an implicit point on the graph trace's data stream. May be used based on either y-axis or x-axis and on any graph type (σxϵ, σxT, or ϵxT).
	Point (Intercept)	Used with the Modulus Tool. The Modulus Tool must be used first so that a modulus line is created. Using the modulus line, the Point Intercept can measure, calculate and display a coefficient anywhere along the modulus line. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Point (Offset Yield)	Used with the Modulus Tool. The Offset Yield Point measures, calculates and displays the offset yield point based on an offset you specify from the modulus line. The default value is 0.2%.
	Modulus Tools	Used to find the moduluss on your graph trace. Moduluss may be either positive (moving up) or negative (moving down). Moduluss are often used in conjunction with other tools to find special coefficients, e.g. Point Intercept, Break Rate. There are different types of Modulus Tools- each using a special algorithm to measure, calculate and display a modulus type.
	Modulus (Fit)	This algorithm type locates the modulus within the scope range you specify. This algorithm finds the greatest modulus using segmented data along the graph trace. Sometimes referred to as Automatic Modulus. Finds the modulus using 16 segments of data while the modulus continues to rise proportionally. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Modulus (Maximum)	This algorithm type locates the modulus within the scope range you specify. It differs from the Modulus Fit algorithm since it uses all the data along the graph trace data stream instead of segmented data. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Modulus (Two Point)	This algorithm type locates the modulus between two points you specify on your graph trace. Sometimes referred to a Segment Modulus or Chord Modulus. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Modulus (Tangent)	This algorithm type locates a modulus based on an implicit point on your graph trace. Since a point can't be used by itself to create a line segment on which to find a modulus, a Leg Length must also be specified. The Leg Length may be up to 100 points. Based on the Leg Length value, a line segment is drawn on either side of the tangent point. The modulus is then measured, calculated and displayed by this segment. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Peak & Valley Tools	Used with graph traces that exhibit peaks and valleys typically associated with peel tests or coefficient of friction graphs. There are different types of Peak & Valley measurements. Selecting above the graph will active the Peak measurements, while selecting below the graph trace will activate the Valley measurements.
	Numbered	The Numbered algorithm is used to find the maximum peak or valley within a specified scope range and that meet a specified sensitivity. Selecting above the curve will report the peaks data, while selecting below the curve will report the valleys data. Sensitivity is a percentage of the measured load value. May be used on any graph type (σxϵ, σxT, or ϵxT).
	Average	The Average algorithm averages the peaks or the valleys within your scope segment. Selecting above the curve will measure the average of peaks while selecting below the curve will measure the average of valleys. The peak average is calculated by adding the highest value with each peak and dividing by the number of qualified peaks. The valley average is calculated by adding the lowest value with each valley and dividing by the number of qualified valleys.
	Count	The Count algorithm determines the number of peaks or the number of valleys. Selecting above the curve will measure for peaks, while selecting below the curve will measure for valleys. Peaks and valleys are determined based on the scope segment and the sensitivity you specify.
	Min/Max/Average Tools	One of the more commonly used analysis tools is the Min/Max/Avg tool. It often used to measure the maximum stress or load values, or to measure the average of all data points within a scope segment. The Min/Max/Avg tool may be used with load, distance and time.
	Maximum	The Maximum algorithm is sometimes called the peak, but it should not be confused with peak when using peak & valleys. The Maximum algorithm is the greatest value of a variable within the data stream for a scope segment. Select above the graph trace to find the Maximum result. The scope segment may be the entire test duration or a segment within the duration. May be used on any graph type (LxD, LxT, or DxT).
	Minimum	The Select below the graph trace to find the Minimum result. The Minimum algorithm is the lowest value of a variable within the data stream for a scope segment. The scope segment may be the entire test duration or a segment within the duration. May be used on any graph type (LxD, LxT, or DxT).
	Average	The Average algorithm calculates the average result for all of the data points within the scope range. The average load or distance may be calculated.

Analysis Tool Symbols

	TOOL	Description
	Work Tool	Work or sometimes referred to as energy, is a characteristic of resilience or the ability of the material being tested to absorb energy. The Work algorithm calculates the area beneath the load-distance curve.
	Delta Tool	The Delta tool is used to measure or compare the differences between two variables. These variables can be load or distance. The Delta tool is ideal for creep and relaxation testing or on applications where you simply want to measure the change within a scope range.
	Break Tools	Break testing identifies when the material fractures or ruptures and provides a curve that can be used to identify the maximum load or distance prior to the break event. Break tools are used to find the point where a break occurred using two methods: % Drop after a maximum or using a load change rate using a slope.
	Break (% Drop)	The % Drop method first looks for the maximum load first. Once the maximum load is determined, the algorithm next looks for a % drop in load. So, if the maximum load was measured as 100N, and the load dropped to 80N, that is a 20% drop in load.
	Break (Rate)	The Break Rate algorithm looks at the slope along the load-distance curve to determine the break point. The Break Rate represents the slope used to find the break point along the curve. The Break Rate is the load/distance rate on the curve. A Break Rate of 10.000 will look for the point after the maximum load where the rate of 10N/mm occurs.
	Multi-Run Tools	The Multi-Run mode performs as a graphical statistical analysis by comparing runs to one another using the graph and special Multi-Run graph analysis tools. With the Multi-Run tools selected, you can now perform the following: • Find the Delta between multiple runs • Find the Minimum results between multiple runs • Find the Maximum results between multiple runs • Find the Average result between multiple runs
	Delta	The Multi-Run Delta is used to measure, calculate and display the delta between the graphs of multiple test runs using the run with the greatest value and the run with the lowest value. You may measure the delta based on load or distance.
	Minimum	The Multi-Run Minimum tool for multiple run analysis is used to find the test run with the lowest value from all data streams of all runs that are displayed together.
	Maximum	The Multi-Run Maximum tool for multiple run analysis is used to find the test run with the greatest value from all data streams of all runs that are displayed together.
	Average	The Multi-Run Average tool for multiple run analysis is used to find the average of all test runs that are displayed together.
	Formula Tool	The Formula Tool lets you create arithmetic, trigonometric and logarithmic expressions.

Control Symbols

	CONTROLS	Description
	Normal Mode	Choose to setup your system in Normal mode (Load x Distance). When in Normal mode, the crosshead position indicator is displayed as D.
	Height Mode	Choose to setup your system in Height mode (Load x Height). Height mode requires the user specifies a datum using the automatic datuming procedure. Test setups that will use Height mode, must have the system in Height mode BEFORE they create the test setup. When in Height mode, the crosshead position indicator is displayed as H.
	Jog Speed	Choose between Slow and Fast jog speed when you select the Jog Speed symbol. When the pointer is displayed to the left, the jog speed is slow. When the pointer is displayed to the right, the jog speed is fast.
	Load Cell	The Load Cell symbol displays the full scale capacity of the current load cell connected to the test frame. Select the Load Cell symbol to display the model number, serial number, calibration information and view the sensor's overload history.
	Extensometer	When an extensometer is specified in the Sample Definition step, the Extensometer symbol is displayed. Indicated below the symbol is the full scale strain capacity for the sensor. Select the symbol to display the sensor's model number, serial number, calibration information and gauge length.
	Share (Export)	The Share symbol is used for manual exporting of data, results and graph images. The available export options vary depending on the display type you are viewing. You may display raw data, results, bit map image of your graph or you can export data to a clipboard for use with Word, Excel, etc.