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**LLOYD INSTRUMENTS LTD**

**UPGRADE NOTES**

**FOR NEXYGEN V2.0**

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# 1. INTRODUCTION

## **1.1 General**

This manual is supplementary to the Training Manual for NEXYGEN V1.1 Issue 1.0 part number 01/2819. The main concepts and operation of V2.0 is similar to V1.1 so this manual only covers the new features or significant changes to the existing features.

## **1.2 Software Compatibility**

The NEXYGEN software is now designed for use with the following machines:-

An **Easy Test Series** machine.

An **LR Series** machine which is fitted with EPROM's Version **V7.5** or later.

An **LRX/LF500/TA500** machine which is fitted with EPROMS Version **V2.11** or later.

An **MFI Model 10** fitted with EPROM **V1.6** or later.

**IT IS NOT POSSIBLE TO USE THE NEXYGEN SOFTWARE WITH ANY OTHER SERIES OF LLOYD INSTRUMENTS MACHINES.**

## **1.3 New General Features**

The new general features are listed below, noting that the features that are specific to the batch or the graph are listed separately in the next sections.

- 1 Quick Starter - One key press to run a test and report the results including Pass/Fail
- 2 Load and Extension Display on the Software Console
- 3 Numerical Questions or Tick Boxes Pre or Post Test
- 4 Previous Entry Selection of Pre or Post Test Answers
- 5 Support for a Mitutoyo Thickness Gauge
- 6 Setup Scheme linked to the Batch
- 7 New Batch selected by New NEXYGEN Batch Document
- 8 Support for the MFI model 10 and the Easy Test Series
- 9 Support for the Ondio Customisable Test Setup
- 10 An FSD Convertor to automatically view FSD files from WINDAP etc.

## **1.4 New Batch Features**

The new features of the batch are listed below:-

- 1 Pass/Fail Limits with Coloured Rows
- 2 Nominal Results - Use a selected row to create Pass/Fail Limits
- 3 Hide Selected Rows
- 4 Row Querying - Display Rows that meet Search Criteria
- 5 Single Test Report - Output Results and Graph for One Test
- 6 Output First Result in Column to Report
- 7 Automatically use the Last Template as a Report
- 8 Row Numbers and Go to Row

## **1.5 New Graph Features**

The new features of the graph are listed below:-

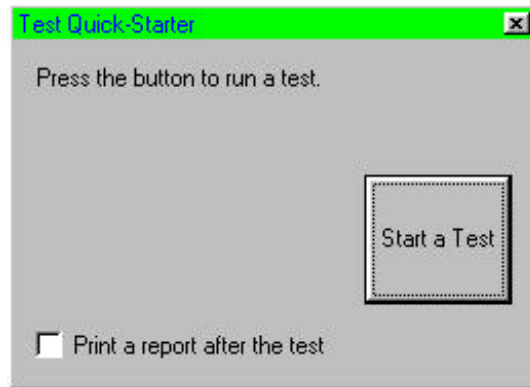
- 1 Reference Graph
- 2 Coloured Multiple Overlay Graphs
- 3 Clamp Graph Axes
- 4 Zoom to End of Graph - Display last 5 seconds of Test
- 5 Display Slope Lines on Graph
- 6 Reset Markers
- 7 Disable Printing of Graph Embedded Objects

These features are described in detail in the following sections.

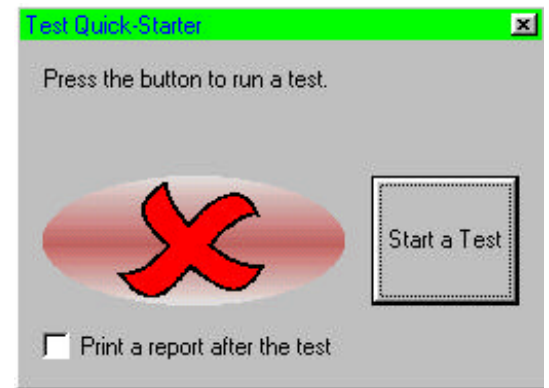
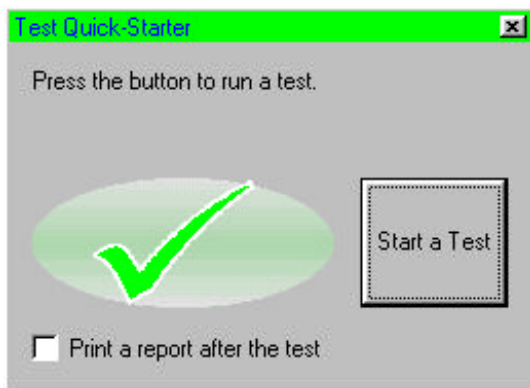
## 2. GENERAL FEATURES

### 2.1 Quick Starter

This feature automatically switches between the Batch and Graph windows before and after the test to reduce the number of mouse clicks and so reduce the test time. To use this feature, open a test batch as normal, select FILE then OPEN QUICK STARTER to display the screen shown below:-



To test the sample, fit the sample to the grips then click on the START A TEST button or press the Spacebar or the Enter key. If the **Test Setup** does not require any pretest information, e.g. sample dimensions etc., the graph screen will be displayed and the test will be performed. If the **Test Setup** does requires pretest information, the dialogue box will be displayed and the test will only be performed after clicking on the OK button. At the end of the test one of the screens shown below will be displayed:-

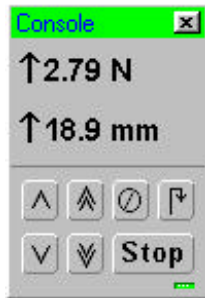


If Pass/Fail limits have not been defined, then the PASS screen (green tick) will always be shown. If the Pass/Fail limits have been defined, the sample status will be shown by the relevant post test screen. If a single row report (see later for details) has been selected on the Quick Starter, the report will be automatically printed at the end of every test.

When the Quick Starter is no longer required, click on the close box to exit it.

**2.2 Load and Extension Display on the Software Console**

The LR/LRX software console now has a facility to display the instantaneous load and extension values in either N, lbf, mm or in and this feature is also present on the new EZ console. To display the values, **RIGHT CLICK** on the console icon shown on the status bar then select VIEW, SHOW LOAD AND EXTENSION. There is also an option to select the console shape and the choices are SQUARE PANEL or FLAT PANEL as shown below:-



Square Panel

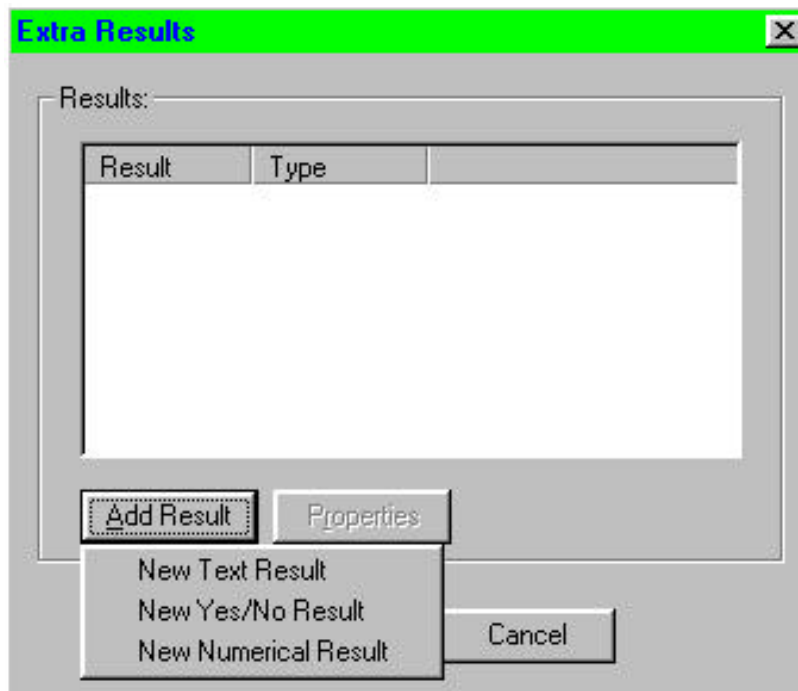


Flat Panel

**2.3 Pre or Post Test Numerical Questions or Tick Boxes**

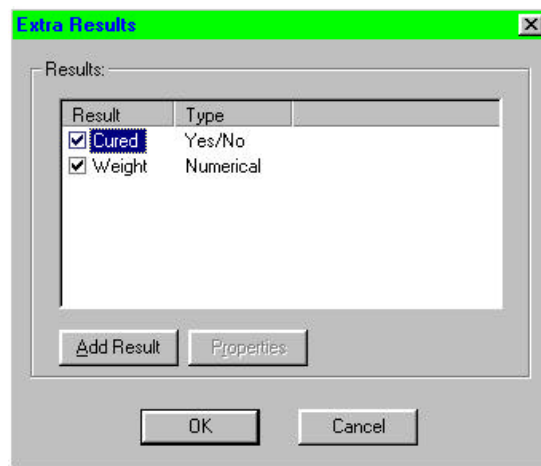
The Pre and Post Test Dialogue Box can now accept Numerical Inputs and Tick Boxes.

When defining a new question, the screen will appear as below:-

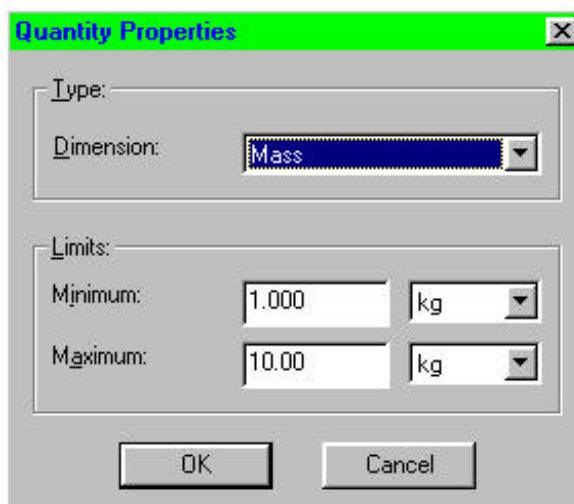


Select the required type of user input from the list which offers Text, Yes/No or Numerical.

The screen below shows 2 results, the first is a Tick Box and the second is a Numerical Value.

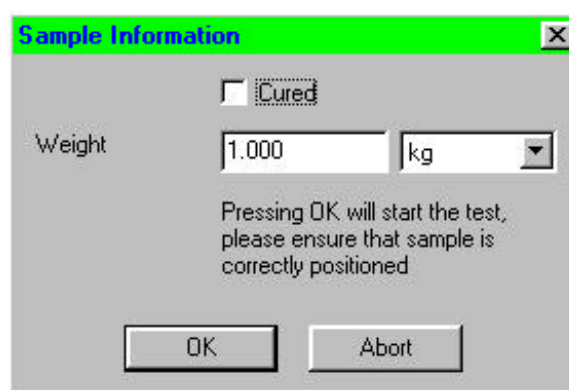


The numerical value can be formatted to accept the required units and also to restrict the user input values to a defined range. Select the numerical question then click on PROPERTIES to display the following screen:-



Select the required units and range from the drop down arrows.

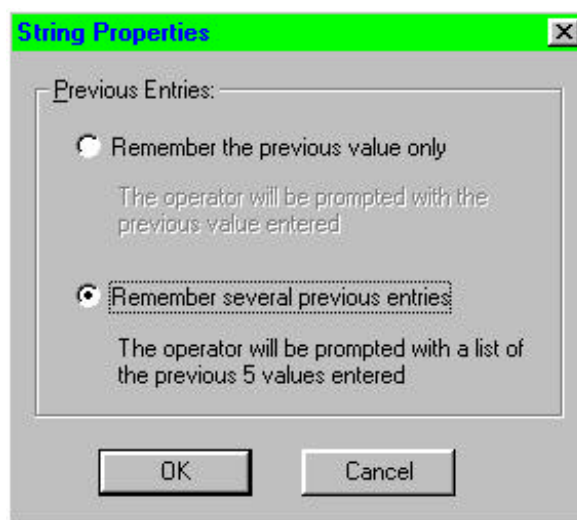
When the test is performed, the pretest dialogue screen will be as shown below:-



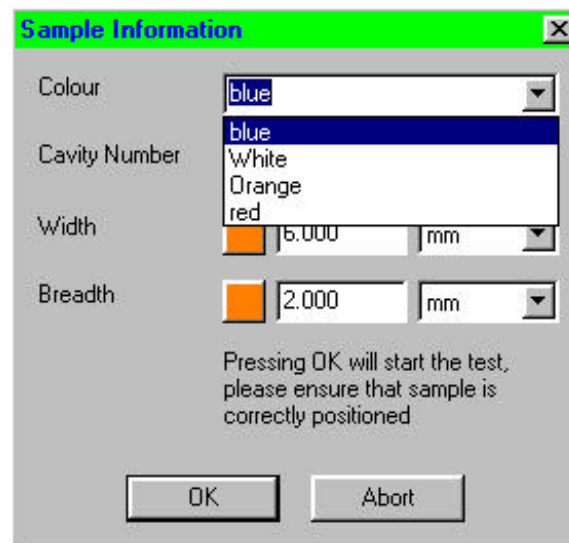
Select the Tick Box if appropriate then enter the sample weight, noting that the entered value can only be within the defined range.

**2.4 Previous Entry Selection of Pre or Post Test Answers**

The Pre and Post Test Dialogue Box can now store the last 5 Text entries for ease of selection. When a new Text question is defined, select the question then click on the PROPERTIES button to display the screen shown below:-

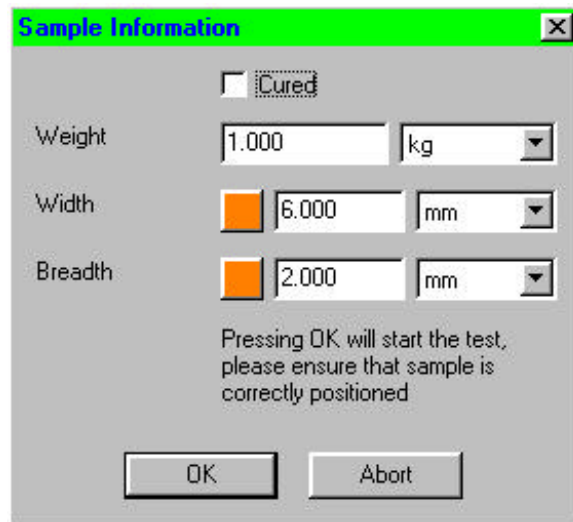


Select the option that is applicable to the test. If the option REMEMBER SEVERAL PREVIOUS ENTRIES is selected, up to the last 5 Text entries can be viewed by clicking on the drop down arrow as shown below:-

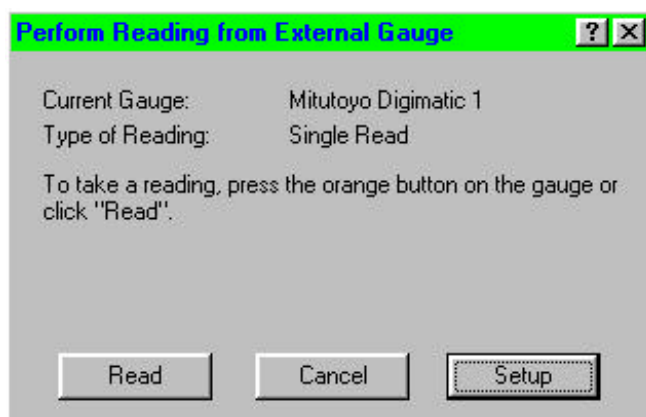


**2.5 Support for a Mitutoyo Thickness Gauge**

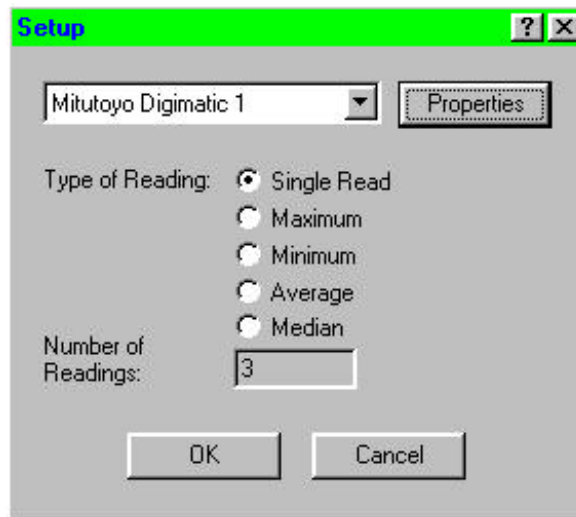
If the sample width or breadth (thickness) etc are requested from the pretest dialogue box, these dimensions can be automatically entered from a Mitutoyo Electronic Micrometer or Electronic Vernier Gauge if it is fitted with an MUX2 or MUX4 interface lead. The pretest dialogue box has orange buttons to select the gauge as shown below:-



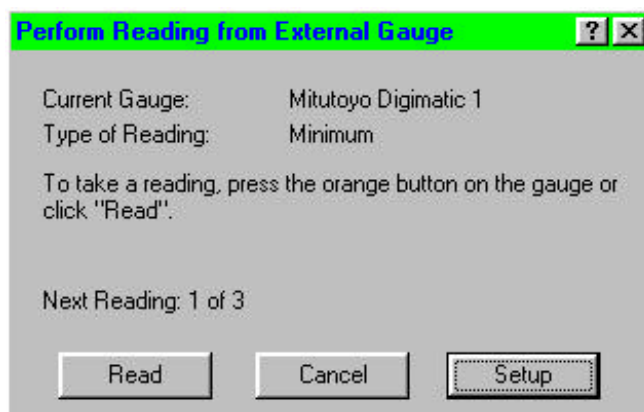
To measure the sample width or breadth (thickness), click on the relevant Orange button to display the screen below:-



The screen above shows the default action of taking a single measurement. If the gauge has not previously been used in this batch, click on the SETUP button to select the gauge options screen as shown below:-



Click on the PROPERTIES button then select the required COM port for the gauge. Select whether the system is to read a single measurement or the Maximum, Minimum, Average or Median of a specified number of readings. Click on the OK button to return to the read gauge screen. The screen below shows that the system is set to use minimum value of 3 measurements.



Measure the sample, using the Mitutoyo gauge, then transfer the reading to the software by pressing the orange button on the gauge or by clicking on the Read button on the screen.

## 2.6 Setup Scheme linked to the Batch

Whenever a sample is tested, the software console Setup Scheme is now saved with the batch. A warning will be given if a new test is started when a different setup scheme is selected.

## 2.7 New Batch selected by New NEXYGEN Batch Document

When a new batch is created, by **RIGHT CLICKING** on the desktop or within Explorer, the NEXYGEN option is now listed as a NEW NEXYGEN BATCH DOCUMENT.

**2.8 Support for the MFI model 10 and the Easy Test Series**

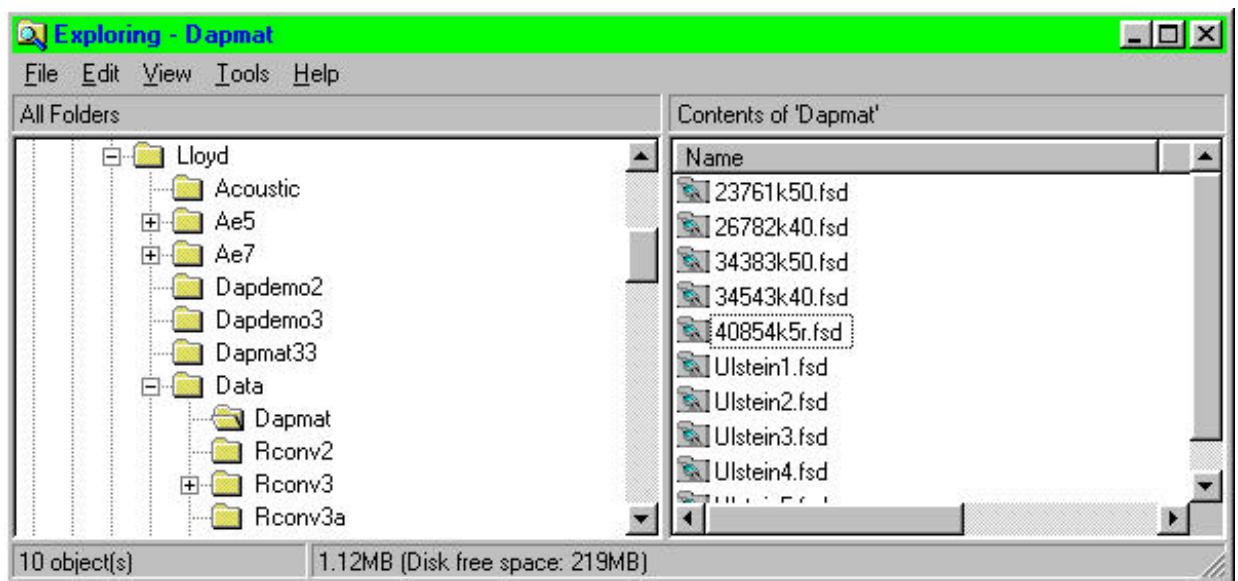
When NEXYGEN V2.0 is installed, there is a new option to install software consoles to operate with the latest equipment. The NEXYGEN MT (40/0658) includes the console for the Easy Test Series and the NEXYGEN MFI (40/0682) includes the console for a Davenport MFI model 10.

**2.9 Support for the Ondio Customisable Test Setup**

The "R Control" replacement software, called ONDIO, will **ONLY** operate **with NEXYGEN V2.0**. Ondio is a fully customisable Test Setup and is available separately from NEXYGEN.

**2.10 An FSD Converter to automatically view FSD files from WINDAP etc.**

When NEXYGEN is installed, a utility called FSD2BCH.EXE is also installed and is automatically registered by Windows 95/NT so that FSD files are listed with a Lloyd logo icon within Explorer etc. as shown below:-

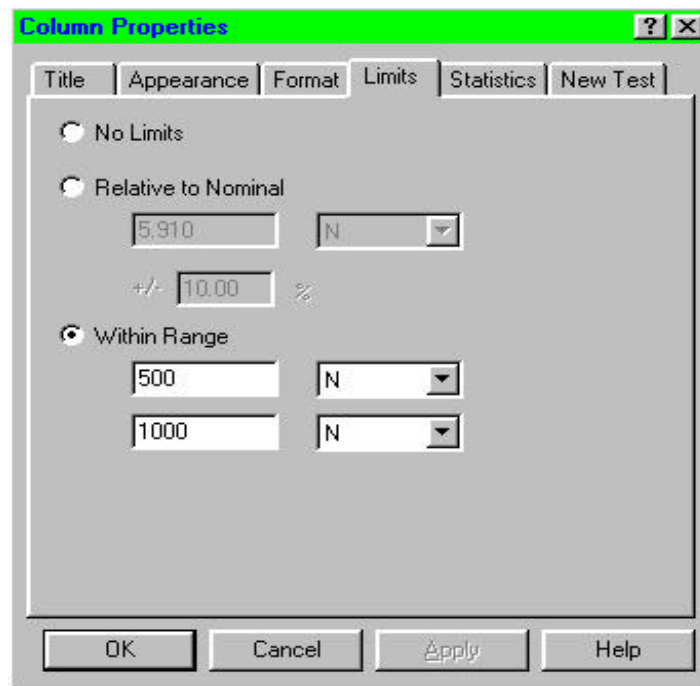


To view an FSD file, as produced by WINDAP or Windows R Control etc, **DOUBLE CLICK** on the file and the converter will automatically create a **NEW** batch file in the same directory. After the file batch file has been converted, NEXYGEN will automatically start and load the converted file ready for viewing. This provides a "seamless" conversion for existing data files which can then be combined into batches as required.

### 3. BATCH FEATURES

#### 3.1 Pass/Fail Limits with Coloured Rows

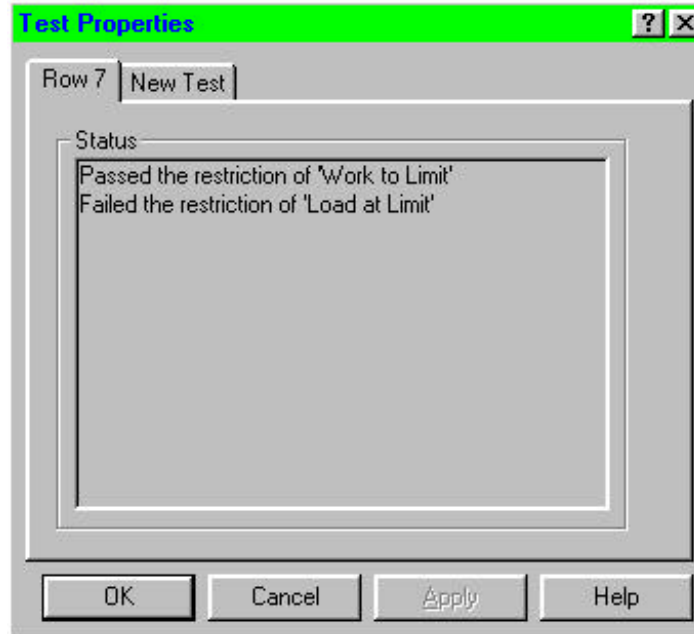
The Pass/Fail feature colours the test rows in Red or Green depending upon whether that test passed or failed. The Pass/Fail checking can be made on ANY measured value or ANY pre/post test numerical entries. To define the Pass/Fail limits for a single parameter, e.g. Maximum Load, **RIGHT CLICK** on the Maximum Load column, select PROPERTIES then LIMITS to display the screen shown below:-



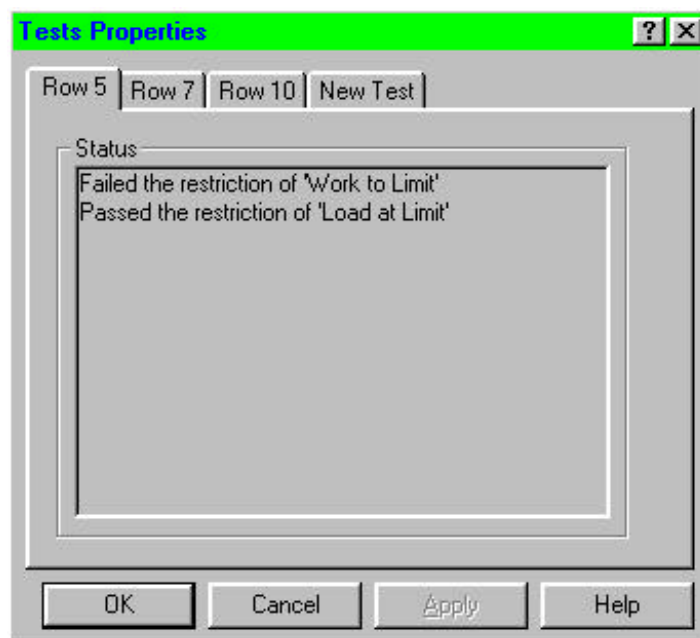
Select WITHIN RANGE then enter the range of values that will define a Pass, e.g. the Maximum Load must be at least 5N but no more than 10N. If other parameters are to be used to determine whether the sample has Passed, define the limits for these parameters. When ALL the required parameters have been selected, select VIEW then SHOW PASS/FAIL STATUS to display the batch with the coloured rows.

	Date	Time	Work to Limit	Load at Limit
4	17/09/1...	08:02:30	0.17924 J	5.892 N
5	17/09/1...	09:12:14	0.18087 J	5.860 N
6	17/09/1...	09:12:48	0.17844 J	5.845 N
7	17/09/1...	09:13:26	0.14153 J	4.554 N
8	17/09/1...	12:28:33	0.17929 J	5.826 N
9	17/09/1...	13:05:06	0.17834 J	5.824 N

If more than one Pass/Fail parameter has been defined, e.g. Load at Limit and Work to Limit, the sample will fail if any of the parameters are out of range. To check which parameter or parameters caused the sample to fail, select the row then **RIGHT CLICK** on the row to display the screen shown below:-



More than one row can be quickly checked by selecting the required rows then **RIGHT CLICKING** on any of the selected rows to display the screen shown below:-

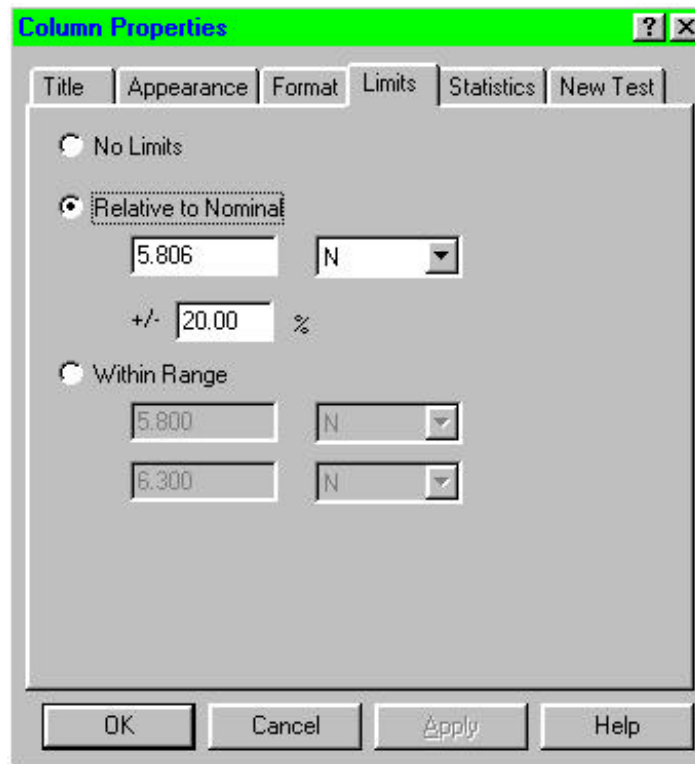


The Pass/Fail status of each row can now be easily checked by selecting each row from the row tabs at the top of the screen.

To hide the Pass/Fail colours from the batch, select VIEW then SHOW PASS/FAIL STATUS. To restore the Pass/Fail colours, reselect VIEW then SHOW PASS/FAIL STATUS. To REMOVE the Pass/Fail limits from ALL the columns, select EDIT then CLEAR PASS/FAIL LIMITS. Note that the limits CANNOT be easily restored once this option has been used.

### 3.2 Nominal Results

A "Reference Sample" can be used to define the Pass/Fail limits. Test the sample then click on the row to select the test. Select EDIT then USE AS NOMINAL RESULTS. This will select ALL of the numerical columns and will set their limits to the value specified by the Reference Sample and use a tolerance of +/- 10 %. If any row has to have a different tolerance, or is not to be checked, **RIGHT CLICK** on the required column, select PROPERTIES then LIMITS to display the screen shown below:-



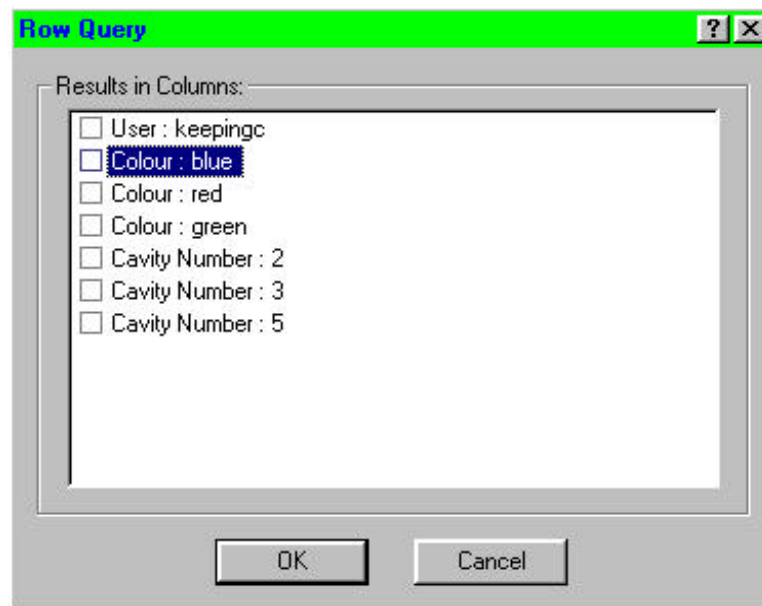
Select RELATIVE TO NOMINAL then enter the required tolerance, e.g. 20%.

### 3.3 Hide Selected Rows

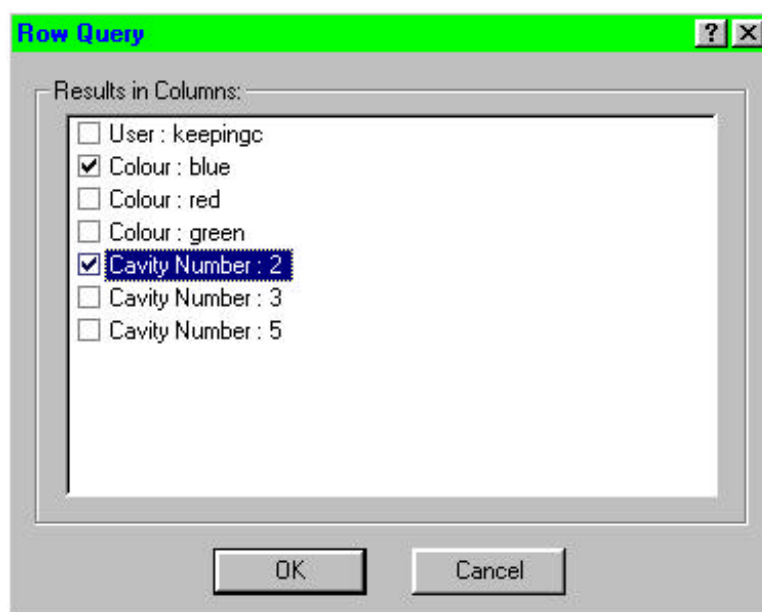
The batch table normally displays ALL the tests and the Statistics are calculated on ALL the displayed rows, i.e. the complete batch. If some rows are to be **temporarily** removed from the statistics, this can be achieved by hiding them using the Hide Selected Rows feature. Select ALL the rows that are to be hidden by holding down the CTRL key then clicking on every row to be hidden, e.g. all the failed rows. Select VIEW then HIDE SELECTED ROWS to display a modified batch where the statistics will be calculated only on the displayed rows. To restore the batch to normal, select VIEW then SHOW ALL ROWS.

### 3.4 Row Querying

The batch table normally displays ALL the tests and the Statistics are calculated on ALL the displayed rows, i.e. the complete batch. If the statistics of a **SMALL** number of rows is required, these rows can be selected by using the Query feature which searches the text stored in the pre/post test text entries, Date and User columns. Assume that a batch contains additional columns labelled Colour and Cavity Number. To search for specified text, e.g. blue samples, **RIGHT CLICK** on the Colour column, select PROPERTIES, QUERY then tick to INCLUDE THIS COLUMN IN ROW QUERIES. If other columns are to be used for searching, e.g. Cavity Number, select the column for use in queries. When ALL the required columns have been selected, select VIEW then ROW QUERY to display the dialogue box shown below:-



To display the blue samples produced by cavity number 2, select the two items shown below:-



To display the blue and red samples produced by cavity number 2, also select the red box under the blue box. To display ALL the blue samples, turn off the column marked Cavity Number. To redisplay ALL the rows, select VIEW then SHOW ALL ROWS.

### **3.5 Single Test Report**

A Word report can be printed that contains the data and graph for one test by selecting the row then selecting REPORT then PRINT ROW REPORT. The graph will be inserted at the end of the report **UNLESS** the required location is specified by a **<Graph>** command in the report text.

### **3.6 Output First Result in Column to Report**

When a Word report is created, the data options were **<Maximum>**, **<Minimum>**, **<Mean>**, **<Translation>**, **<Values>** etc. A new option **<First>** is now provided which can be used in standard text where the value is the same for ALL the data. For example, to report the average maximum load during a days work, the report text could say,

**The average maximum load of the samples tested on <FIRST Date> was <MEAN Maximum Load>.**

When the report is run, the text will change to

**The average maximum load of the samples tested on 26/10/1998 was 678.9N**

(where the date and average values are taken from the batch).

### **3.7 Automatically use the Last Template as a Report**

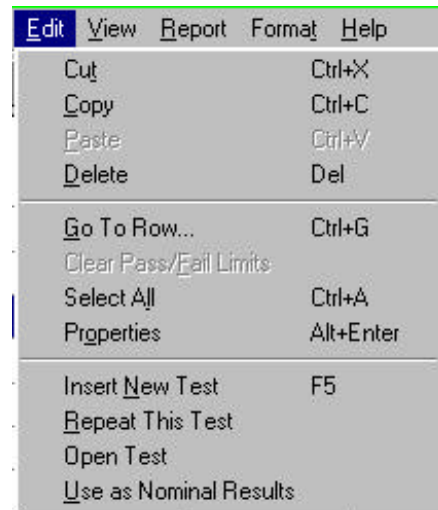
The NEXYGEN software is supplied with pre-defined reports for use with **Microsoft Word**. Every **TEST SETUP** is supplied with a Full Report and some **TEST SETUP's** are supplied with additional reports depending upon the behaviour of the sample. Whenever a report is to be produced, the list of reports can be viewed by selecting REPORT then PRINT BATCH REPORT AS. However, for ease of use, the LAST report used for THIS batch will be automatically used if REPORT then PRINT BATCH REPORT is selected or the Word Icon is clicked on the toolbar.

### **3.8 Row Numbers and Go to Row**

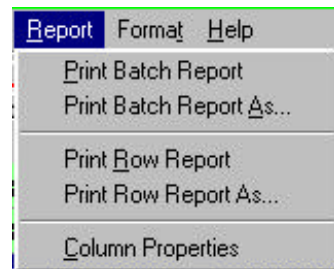
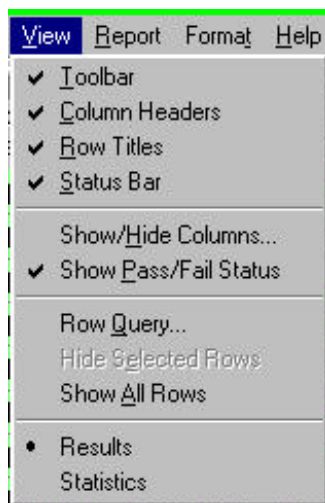
The rows are now numbered according to the number of times that a test is started and this can be used to uniquely identify each sample. Note that if a row is deleted, the rows will NOT be renumbered because the samples will no longer be referenced to the row number. If a particular row is to be viewed in a large batch, the row can be displayed by selecting EDIT then GO TO ROW.

### 3.9 Menu Items

A list of the **modified** menu items is shown below:-



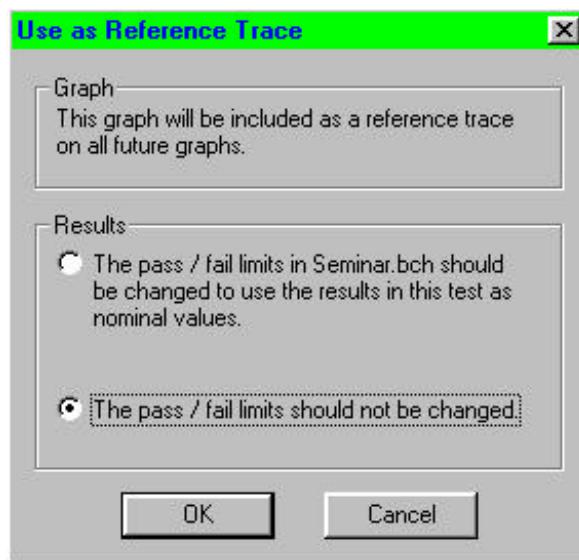
Note that the EDIT option of OPEN TEST will change to OPEN TESTS TOGETHER when multiple rows have been selected as described in the Graph features section.



## 4. GRAPH FEATURES

### 4.1 Reference Graph

A "Reference Sample" can be used to display the expected graph, together with the current test graph, during subsequent tests. Test the sample then when the test has finished, select EDIT then USE AS REFERENCE TRACE to display the dialogue box shown below:-



The graph trace can also be used to set the Pass/Fail limits and if this option is selected, ALL of the numerical columns will have their Pass/Fail limits set to the value specified by the Reference Sample with a tolerance of +/- 10 %. If any parameter has to have a different tolerance, or is not to be checked, **RIGHT CLICK** on the required column, select PROPERTIES then LIMITS to display the screen as shown in section 3.2

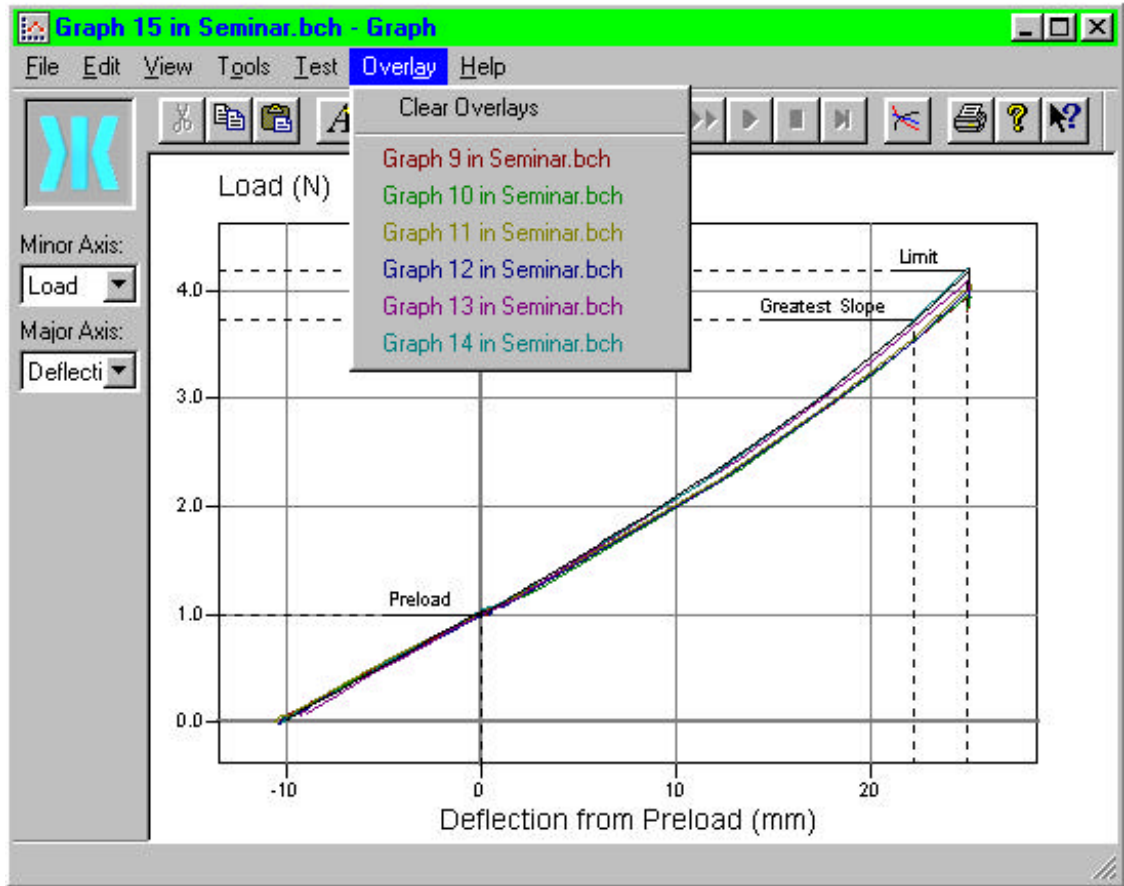
If the reference trace is no longer required, select EDIT then CLEAR REFERENCE TRACE.

### 4.2 Coloured Multiple Overlay Graphs

A new feature to allow easy overlaying graphs is now available in the BATCH. Select ALL the rows whose graphs are to be shown together by holding down the CTRL key then clicking on each row to be shown, e.g. all the failed rows. Select EDIT, OPEN TESTS TOGETHER then confirm the action to display all the traces overlaid on the same graph. The OVERLAY menu item, or the Overlay Icon, displays a coloured legend indicating which row corresponds to which test. To view one of the secondary tests individually, click on the required test in the OVERLAY menu.

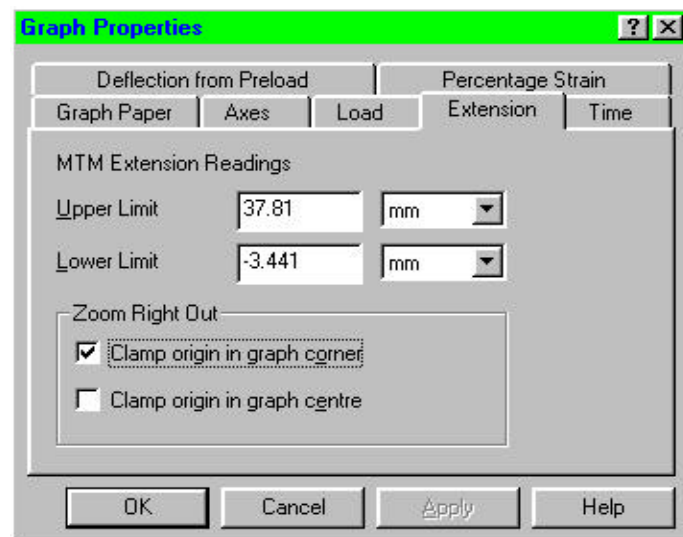
Note that the graph can be saved with all the overlays, but as the overlays can be produced at any time and saving the overlays increases the file size, this is usually not recommended. Therefore, an option to CLEAR OVERLAYS is provided on the OVERLAY menu and will also be offered when exiting the graph screen.

A graph showing 7 overlaid traces is shown below:-

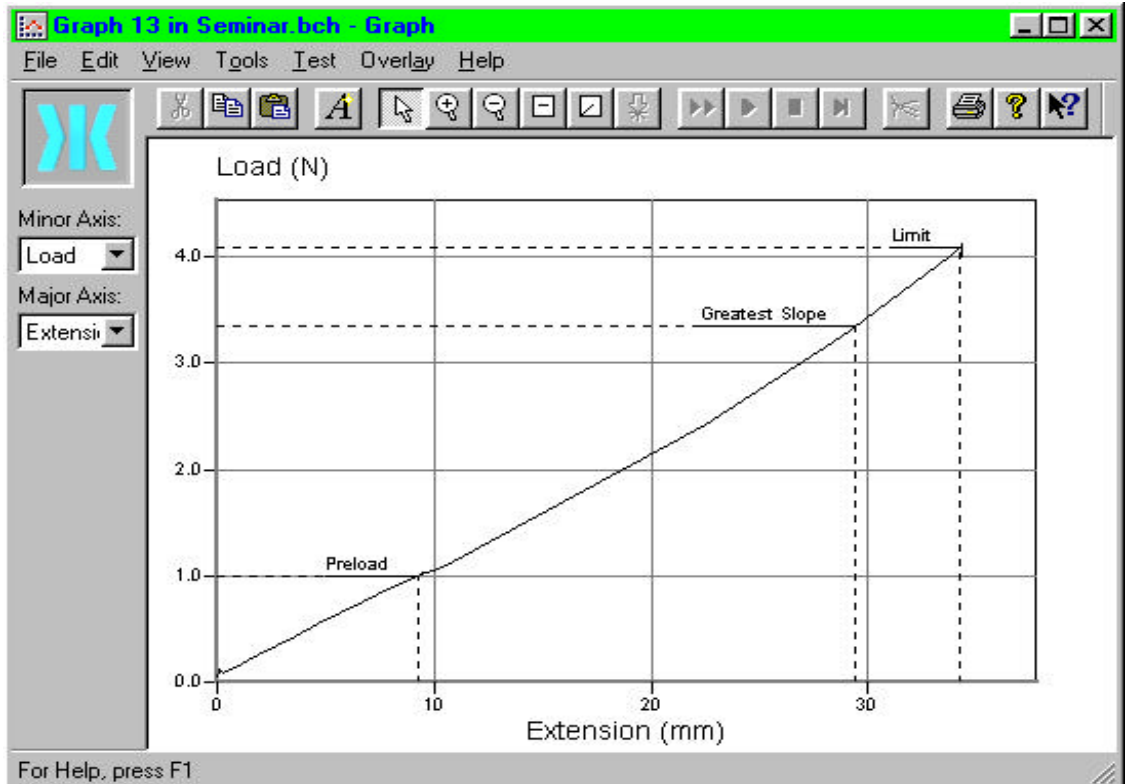


### 4.3 Clamp Graph Axes

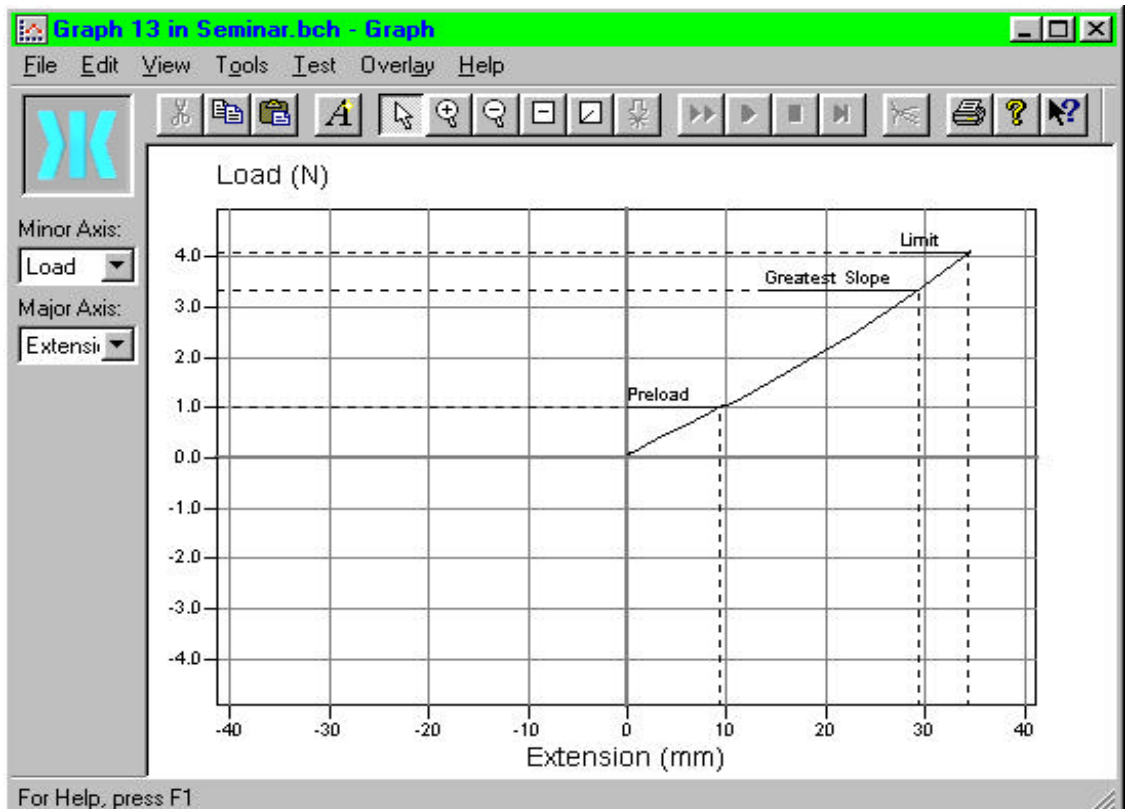
When a single test graph is displayed and the automatic option of ZOOM RIGHT OUT is selected, the trace is displayed with the maximum range and the axes showing a small negative part of the graph. The graph can be displayed without this negative region by **RIGHT CLICKING** on the graph, then selecting **PROPERTIES**. Select the required axis then click on **CLAMP ORIGIN IN GRAPH CORNER** as shown below:-



Set both axes to perform the required clamping then press the HOME key or click the ZOOM RIGHT OUT Icon to display the graph as shown below:-

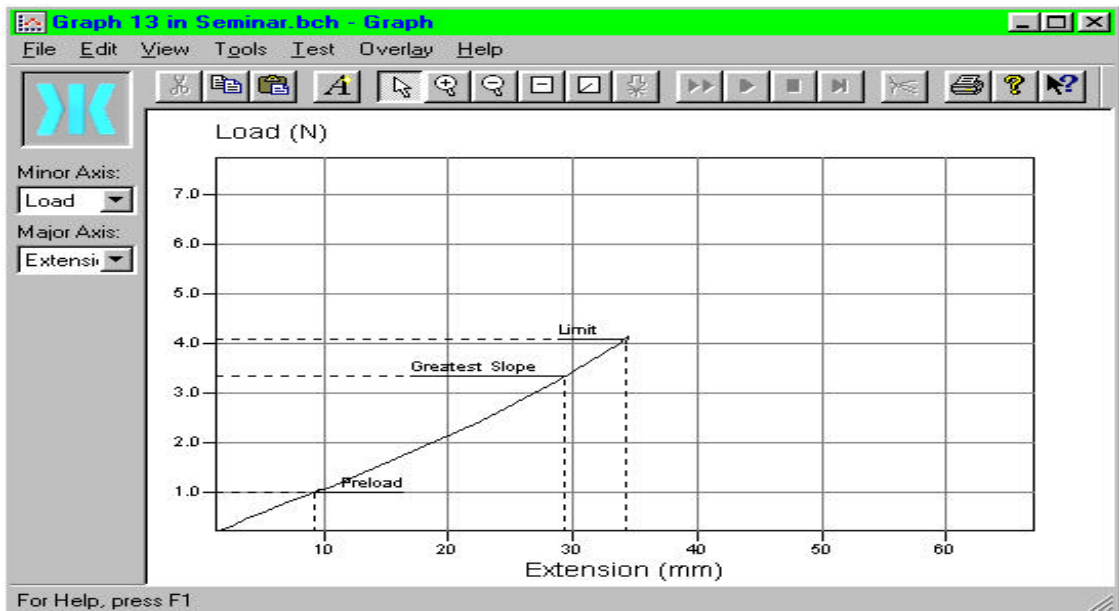


If the origin is required in the centre of the graph, for Cycle Through Zero tests, select CLAMP ORIGIN IN GRAPH CENTRE to display the graph as shown below:-



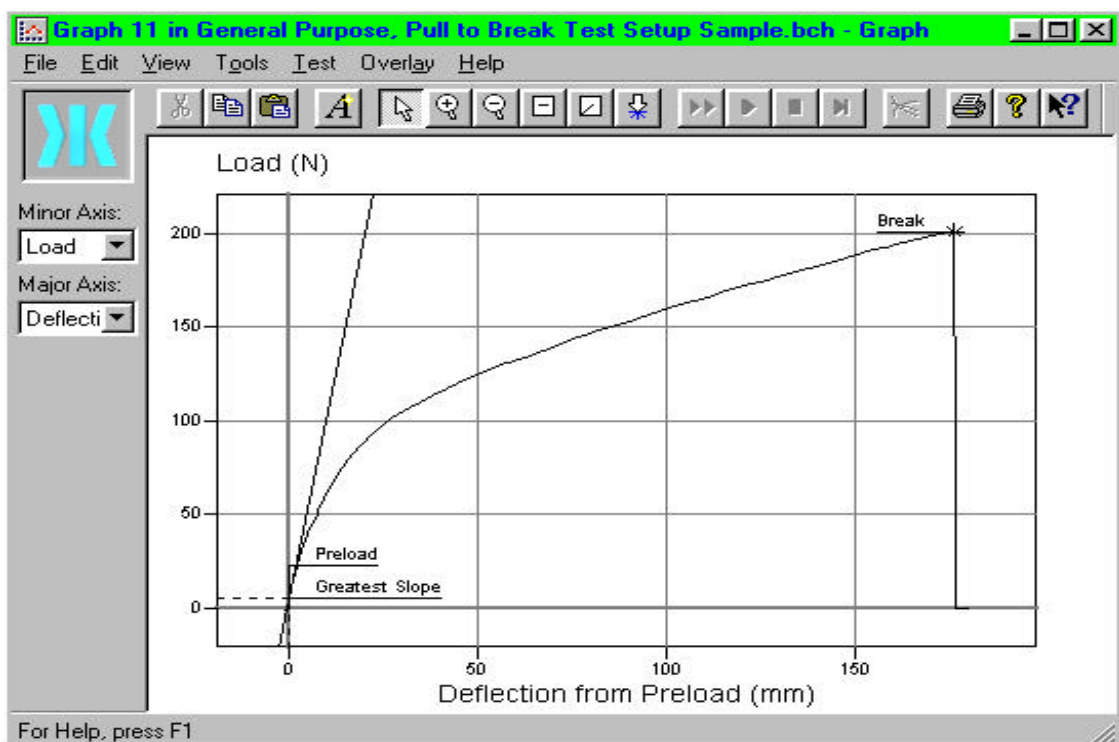
#### 4.4 Zoom to End of Graph - Display last 5 seconds of Test

If a long duration test is being performed, using a time axis, the trace may not appear to be moving because the time duration is very long, e.g. 1 hour. The last 5 seconds of the trace may be viewed by pressing the END key or clicking on the ZOOM TO END Icon as shown below:-



#### 4.5 Display Slope Lines on Graph

Some Setups calculate the Modulus and these graphs now display the modulus diagonal line on the graph as shown below. To hide this modulus line, select VIEW then EXTRA LINES.



#### 4.6 Reset Markers

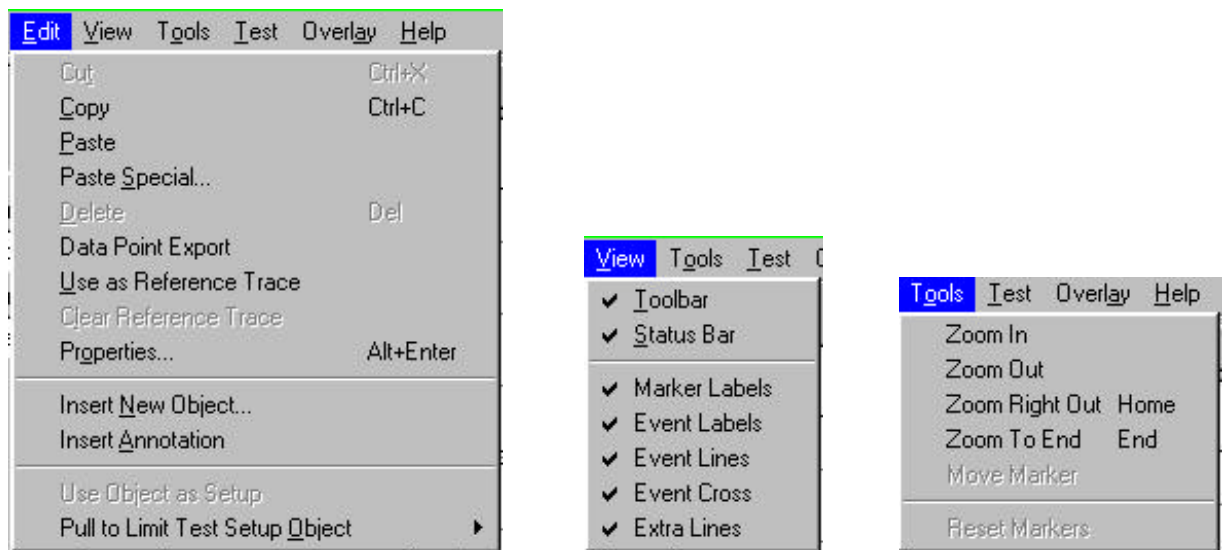
If the Setup displays some markers, e.g. General Purpose Creep Test, then these markers may be moved to select the required region of the graph. However, if the markers are accidentally set to an incorrect position, they may be reset to the CALCULATED position by selecting TOOLS the RESET MARKER.

#### 4.7 Disable Printing of Graph Embedded Objects

Whenever a graph is printed, either using FILE PRINT from the graph screen or by using REPORT on the batch screen, the embedded objects can be omitted or printed as required. The embedded objects are the Test Setup, any Annotations or any other pictures etc. that the user may have copied onto the screen. To omit an object from the printout, **RIGHT CLICK** on the object then select INCLUDE WITH REPORT.

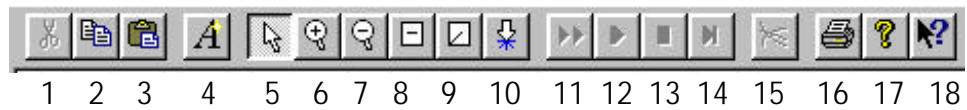
#### 4.8 Menu Items

A list of the **modified** menu items is shown below:-



#### **4.9 Toolbar Options**

The toolbar allows several commonly used functions to be accessed.



These toolbar functions are:-

- 1 Cut to Clipboard
- 2 Copy to Clipboard
- 3 Paste from Clipboard
- 4 Insert Annotation - Create a Note on the Graph
- 5 Selecting - Normal Mouse Cursor
- 6 Zoom In
- 7 Zoom Out
- 8 Zoom Right Out - Best Fit to Graph
- 9 Zoom to End - Display last 5 seconds of Test
- 10 Move Marker
- 11 Advance Test
- 12 Start Test
- 13 Abort Test - Emergency Use ONLY
- 14 Stop Test
- 15 Overlay Legend
- 16 Print Graph
- 17 Help About
- 18 Interactive Help