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**NEXYGEN™ PLUS**  
**Materials Testing Software**  
*for Lloyd Instruments™ EZ and PLUS Series*  
*Testing Machines*

**Quick Start Guide**



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## ICONS



### **WARNING**

The raised hand icon warns of a situation or condition that may lead to personal injury or death. Do not proceed until the warning is read and thoroughly understood. Warning messages are shown in bold type.



### **DANGEROUS VOLTAGE**

The lightning icon warns of the presence of an uninsulated dangerous voltage within the product enclosure that might be of sufficient magnitude to cause serious shocks or death. Never open the enclosures unless you are an authorized and qualified LLOYD INSTRUMENTS' service personnel. Never open any enclosure when power is connected to the system or its components.



### **CAUTION**

The exclamation point icon indicates a situation or condition that may lead to equipment malfunction or damage. Do not proceed until the caution message is read and thoroughly understood. Caution messages are shown in bold type.



### **NOTE**

The note icon indicates additional or supplementary information about the action, activity or concept. Notes are shown in bold type.

## CAUTION

**HIGH FORCES ARE OFTEN INVOLVED WITH THE MATERIAL TESTING PROCESSES.**

**MACHINES ARE POWERED BY MAINS SUPPLY VOLTAGE**

**CLASS 1 PRODUCT, MUST BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTH CONNECTION**

**DO NOT POSITION THE EQUIPMENT SO THAT IT IS DIFFICULT TO OPERATE THE DISCONNECT DEVICE (MACHINE MAINS INLET SOCKET)**

**IF THE EQUIPMENT IS USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED**

**TO MAINTAIN ALL ASPECTS OF THE SPECIFICATION, ONLY LLOYD INSTRUMENTS APPROVED ACCESSORIES CONNECTIONS AND COMPONENTS SHOULD BE USED**

**STRICTLY ADHERE TO ALL SPECIFIED SAFETY PROCEDURES**

**READ THIS MANUAL BEFORE USING THE MATERIALS TESTING MACHINE.**

## **General Safety**

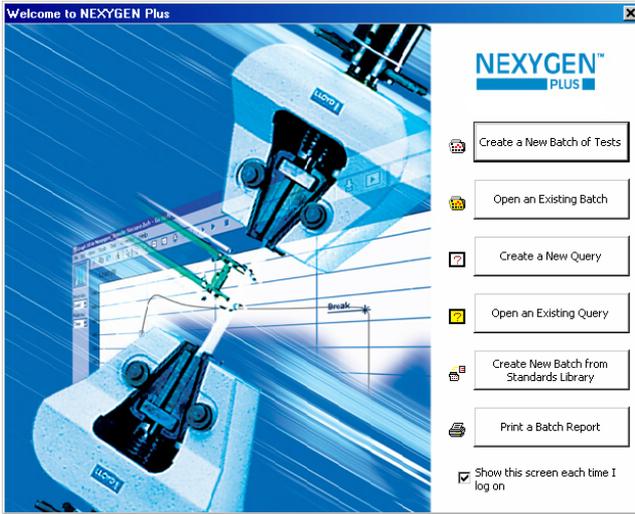
General safety precautions must be followed when using this AMETEK product. Failure to observe precautions and warnings may result in damage to the equipment, or injury to personnel.

It is understood that safety rules within companies vary. If a conflict exists between the material contained in all AMETEK User's Guides and the rules of a company using an AMETEK product, the more stringent rules should take precedence.

## 1.0 CREATING A TEST FILE

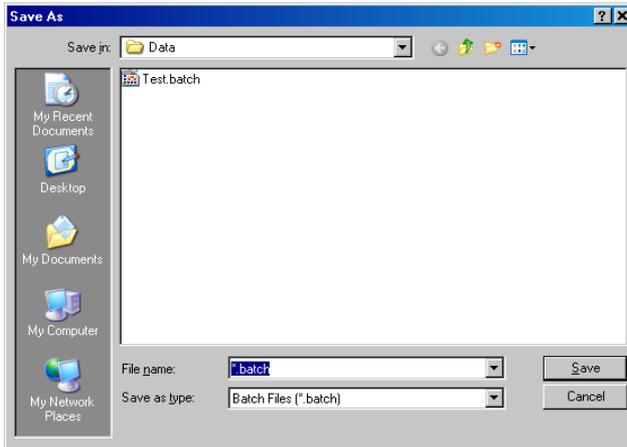
### 1.1 CREATING A TEST FILE

Click on the CREATE A NEW BATCH OF TESTS button on the Welcome screen shown below:



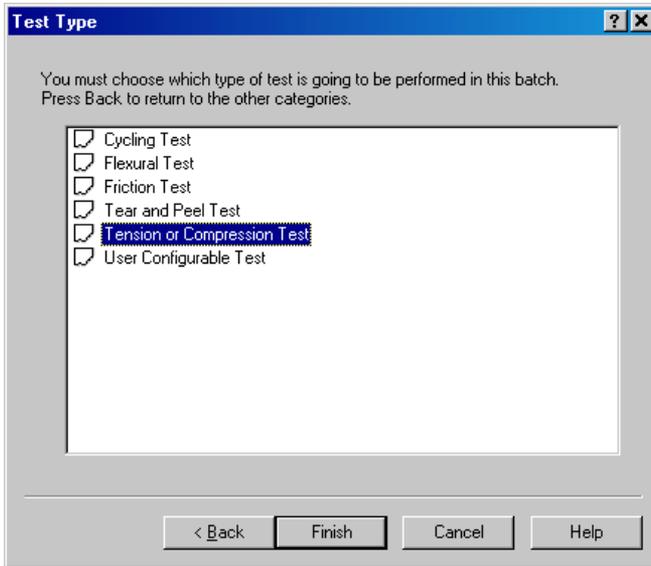
**NOTE:** If the Welcome screen is not displayed, it can be displayed by clicking on the icon on the toolbar.

A SAVE AS dialog will be displayed as shown below:



Enter the required name for this test file noting that the file can be saved in any location, e.g. a networked folder.

Click on the SAVE button to display the TEST TYPE screen shown below:



Decide which TEST TYPE is required using the criteria below:

### 1.2 CYCLING TEST

The Cycling Test can be used for:

- Cycling between Load / Stress Limits
- Cycling between Extension / Strain Limits
- Cycling between Different Types of Limits
  
- Single Cycle or Multiple Cycles
  
- Fixed Number of Cycles
- Cycle for a Time Period
- Cycle until the Sample Breaks

### 1.3 FLEXURAL TEST

The Flexural Test can be used for:

- 3 Point Bend or 4 Point Bend
  
- Stop at Defined Load
- Stop at Defined Bending Stress
- Stop at Defined Extension
- Stop when Sample Breaks



#### **1.4 FRICTION TEST**

The Friction Test can be used for:

- Friction or Insertion / Extraction
- Stop at Defined Extension
- Stop at Defined Time
- Stop when Sample Breaks

#### **1.5 TEAR AND PEEL TEST**

The Tear and Peel Test can be used for:

- Tear / 90 Degree Tear / 180 Degree Tear
- T Peel / 90 Degree Peel / 180 Degree Peel
- Climbing Drum
- Stop at Defined Extension
- Stop at Defined Propagation
- Stop at Defined Time
- Stop when Sample Breaks

#### **1.6 TENSION OR COMPRESSION TEST**

The Tension or Compression Test can be used for:

- Pull to Break
- Pull To Limit
- Pull for a Time Duration
- Compress to Break
- Compress To Limit
- Compress for a Time Duration
- Apply a Constant Load – Creep Test
- Measure Sample Relaxation e.g. Foam Test
- Measure Rubber Modulus
- Measure Ring Stiffness

#### **1.7 USER CONFIGURABLE TEST**

The User Configurable Test can be used for:

##### MULTI-STAGE TESTING

- Specialised Preconditioning before test
- Stop at Defined Extension
- Stop at Defined Propagation
- Stop at Defined Time
- Stop when Sample Breaks

Select the required TEST TYPE then click on the FINISH button.

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This action will automatically create the Test File then display the TEST CONFIGURATION screen similar to the example screen shown below:

**General Purpose Tension/Compression Test**

Basic Settings | Sample Height | Sample Area | Limits | Results

Test Direction  
Direction: Tension

Preload/stress  
 Use a preload/stress.  
Preload/stress: 5.6 N  
Preload/stress Speed: 21 mm/mir

Test Speed  
 Extension rate: 100 mm/mir  
 Load rate: 50 N/min  
 Stress rate: 10 MPa/s

Automatically zero at the start of the test  
 Load only  
 Extension only  
 Load and Extension  
 Return to zero extension at the end of the test

Pre-Test Questions   
Post-Test Questions   
Preconditioning   
Test Options   
Test Automation   
Video Capture   
DAQ Device   
Machine Settings

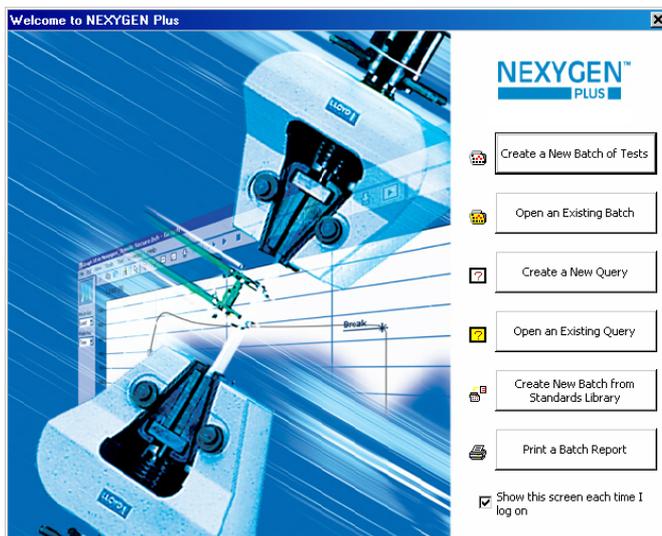
OK  
Cancel

The actual screen displayed depends upon the selected TYPE OF TEST but the options for each type of test are similar to the example Tension/Compression screen shown above.

## 2.0 PERFORMING A TEST

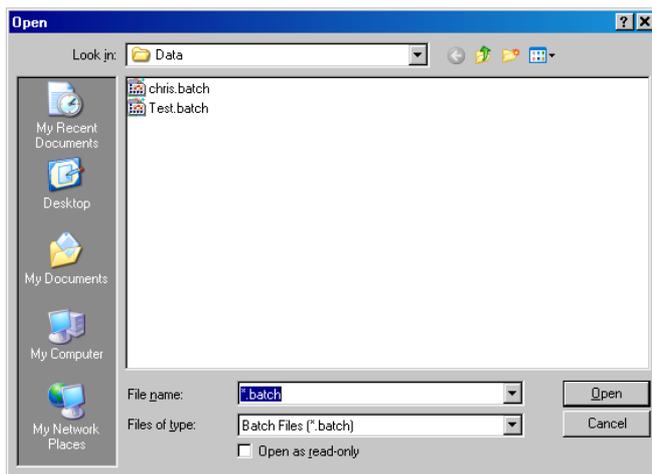
### 2.1 PERFORMING A TEST

Click on the OPEN AN EXISTING BATCH button on the Welcome screen shown below:



**NOTE:** If the Welcome screen is not displayed, it can be displayed by clicking on the icon on the toolbar.

An OPEN dialog will be displayed as shown below:

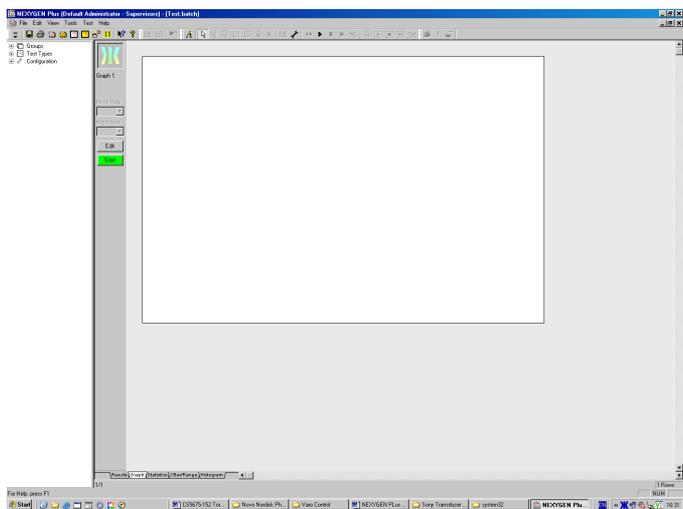


Select the required test file then click on the OPEN button.

**NOTE:** The above steps do not have to be performed if the test is run immediately after the test file has been defined as shown in the previous section.

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The graph screen will be displayed as shown below:



Click on the green START TEST button at the left hand side of the graph to start the test.

The materials testing machine will move to perform the selected type of tests then the results will be calculated and stored in the data table.

To view the data table, click on the RESULTS tab at the bottom of the screen.

To return to the graph screen, click the GRAPH tab at the bottom of the screen.

To save the test file, select FILE, SAVE from the main menu.

***For further information regarding the many features of the program, please refer to the comprehensive on-line help.***



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