



MECHANICAL TEST: Endurance Testing and Measurements

Overview

The Technology Hub at NextFlex offers monotonic and cyclic mechanical reliability testing for folding and stretching with custom data processing using Python and MATLAB.

Endurance Testing

Yuasa Endurance Testing Machine (DLM111LH) with Tension-Free Folding for both continuous folding and stretching testing

| SAMPLE REQUIREMENTS | TEST CAPABILITIES |
|---------------------|---|
| WIDTH – <210 mm | Bending Angle – 0-180° |
| LENGTH – 100-245 mm | Bending Radius – 0-50 mm |
| | Reciprocating Distance – 0-±120 mm |
| | Cycling Speed – 10-90 cycles/min. |
| | Length of Test (# of cycles) – User input or until sample failure |

Yuasa Endurance Testing Machine (ET137A002-002) with Stretching Tester for cyclic stretching and elongation to failure with continuous force and position logging

Electrical Measurements

| SAMPLE REQUIREMENTS | TEST CAPABILITIES |
|---------------------|---|
| WIDTH – <105 mm | Travel Distance – max. 100 mm |
| LENGTH – 120-260 mm | Stretching Speed – 1-120 mm/sec. |
| | Stretching Force – max. 1500 N |
| | Testing Mode (target) – Constant length Constant load |
| | Length of Test (# of cycles) – User input or until sample failure (Elongation to failure or cyclic testing) |

Hioki RM3534-02 Multimeter: Multi-channel, periodic in-situ electrical measurements during mechanical tests with 10 channel connectors

Keysight DAQ970A Multimeter: Multi-channel, continuous in-situ electrical measurements during mechanical tests with support for both two point and four-point configurations with 20 Channel Multiplexer and up to 450 channels/second switching rate

For more information, contact NextFlex at info@nextflex.us.