Product Information

testXpert R low cycle fatigue (LCF) testing software for the determination of short-term strength to ASTM E606

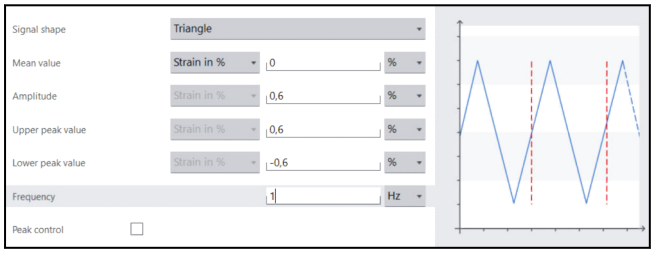
CTA: 204617

LCF test with triangular waveform and hysteresis recording

The testXpert Research low cycle fatigue (LCF) testing software is used for strain-controlled determination of the short-term strength of metals in accordance with ASTM E606. The set value is generally a triangular waveform with constant amplitude. Sine signals are also possible.

For investigations of creep and relaxation processes additional hold-times and trapezoid set-values can be specified.

CTA: 204357



Input mask for specifying set values

A suitable extensometer is required for strain control. The test is generally performed at elevated temperature.

CTA: 95314

Specimen plus extensometer in high-temperature furnace

PI837 0819

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Due to differing material behavior, softening or hardening, it is important for all hysteresis loops to be recorded at the beginning. The number of loops can be freely defined by the user.

It is not necessary to record every cycle in the area of the stabilized hysteresis. For this purpose the user can freely specify which cycles are to be recorded. Here, blocks of cycles or certain individual cycles can be configured.

CTA: 204359

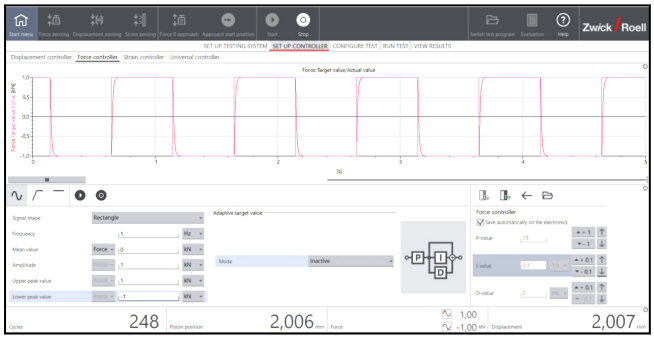
Input mask with presetting of cycle recording

Results per recorded hysteresis:

- Stress (minimum, maximum, average, peak-peak)
- Force (minimum, maximum, average, peak-peak)
- Strain (minimum, maximum, average, peak-peak)
- Plastic strain
- Elastic strain
- Young's modulus in tensile direction
- Young's modulus in compression direction
- Young's modulus ratio (tensile/compression)
- Cycle number
- Temperature

The controller PID settings, test-sequence parameters and results are stored together in one file. This information remains permanently available.

CTA: 204361



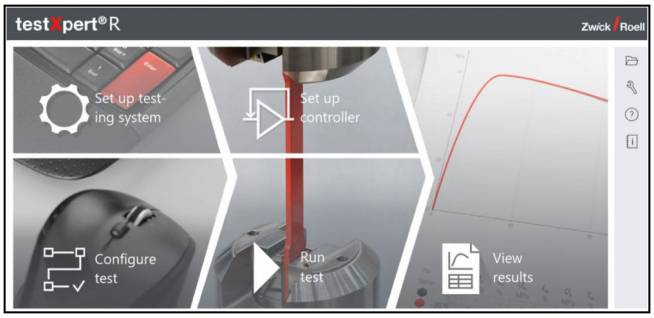
Input mask of control parameters

The design of all testXpert R test programs is workflow oriented and mirrors a lab's operating processes. This guides the user through the test with logical and traceable steps:

1. Set up testing system
2. Set up the controller
3. Configure the test
4. Run the test
5. View the results

This structure, as well as the software interface are almost identical to the software for static tests: testXpert III. Therefore the training requirements are minimized and laboratory personnel can operate diverse ZwickRoell machine types in a short time.

CTA: 204636



Start screen testXpert Research - workflow oriented design

All data at ambient temperature.

We reserve the right to make technical changes in the course of ongoing development.