TST 2

LENZING INSTRUMENTS

THERMAL SHRINKAGE TESTER

Change of length and shrinkage force at specified temperatures are two dominant quality parameters for technical and industrial as well as for textile filament yarns.

TST 2 Thermal Shrinkage Tester determines the thermal shrinkage and/or the shrinkage force, which is built up in yarns or tapes being heated to a preset defined temperature for a specified period of time.
TST 2 also offers the possibility of dynamic tests, during which the behaviour of the yarn is observed being exposed to a temperature ramp. After cooling the samples down to ambient temperature, a measurement of the residual shrinkage or shrinkage force is also possible.

With **TST 2** up to 2 samples can be tested for thermal shrinkage and/or shrinkage force simultaneously in one test run.

The specially designed oventype heater protects the measurement from any ambient influence and together with the high resolution length measuring sensors and load cells it guarantees for stable testing conditions and highest accuracy and reproducibility of results.

After sample loading, the test is performed fully automatically, controlled by the computer without any operator influence.

During the test, the shrinkage behaviour of the yarn is graphically displayed on the connected PC. User friendly software allows for various standard settings as well as for individual configuration of the testing procedure. The software offers numerous possibilities for thorough results analysis.

TST 2 conforms to ASTM D4974, D5591 and EN 13844.

FILAMENT TESTING

The Testing Company

qualityaustria
SYSTEM CERTIFIED
ISO 9001:2008 No.00894/0

TST 2

THERMAL SHRINKAGE TESTER

Scope:
Automated determination of thermal shrinkage and shrinkage force according to ASTM D4974, D5591 and EN 13844.

Method:
Up to 2 samples are heated to a certain temperature for a specified period of time or they are exposed to a temperature ramp. Either the samplesóchanges in length and/ or the forces built up in the samples are monitored via the connected computer. Since the instrument is computer controlled, all test parameters are easily set and stored corresponding to different tested materials. Therefore once the test configuration is set, the operator just needs to prepare the samples onto the measuring sensors and the whole test takes place automatically.

This is time saving and since any operator influence on the test is avoided, reproducible and most accurate test results are obtained. Furthermore, the operator can easily program the **TST 2** to perform testing sequences according to individual requirements. This includes settings such as temperature ramps with hold times, tests with different pretension weihts during the test cycle and much more.

With **TST 2** you do not only achieve a length difference or shrinkage force as a result. During the test, the entire behaviour of the heated filament is recorded. This gives you the unique opportunity to check production irregularities more in detail and it provides a sophisticated tool for research and development.
The oven movement takes place automatically and is controlled by the computer. Thus the heating period is surveyed exactly and the operator does not need to stay close to the instrument for tests with residual shrink measurement.

Testing temperature:
From 45 °C to 300 °C

Heater length:
250 mm

Temperature distribution:
Constant temperature distribution of ± 2 °C in at least 80 % of the heater length

Range of shrinkage length:
From - 500 % to 99 %
Accuracy: ± 0.1 %

Range of shrinkage force:
1 - 2000 cN
(other ranges on request)
Accuracy: < 0.2 %
Calibration: with 10 N weight

Max. sample width:
1.3 mm

Pretensioning:
With pretension weights, from 0 to 500 cN possible (depending on linear density of sample)

Control system:
Personal computer with WINDOWS® based software for controlling the test procedure and evaluation of test results

Power supply:
230 / 115 VAC ± 10 %,
50 / 60 Hz, 1800 W

Dimensions:

Height:	320 mm
Width:	480 mm
Depth:	500 mm
Weight:	approx. 200 kg

Options:
- Fast cooling by means of air pressure
- Fine adjustment of pretension
- Pneumatic clamps

Technical data and pictures are subject to change!

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Textechno textile testing technology