TST LITE

LENZING INSTRUMENTS

THERMAL SHRINKAGE TESTER

Thermal shrinkage of synthetic yarns such as tire cord, filament yarns, or tapes is unavoidable when exposed to heat. Unexpected shrinkage can lead to production disruptions, deviations from quality standards, or performance issues in composites. To prevent raw material waste, machine downtime, and customer complaints, reliable and precise data on shrinkage behavior is crucial.

With accurate and reproducible measurement results, coupled with convenient and ergonomic handling, Lenzing Instruments' **TST LITE** meets the essential needs of consistent testing. The device focuses on the essential core functions required for a reliable and standardized assessment of thermal shrinkage in yarns and tapes, offering an ideal solution for laboratories and production environments where efficiency and cost awareness are key. Engineered in line with Lenzing Instruments' high standards, **TST LITE** complies with **ASTM D 4974, D5591** and **EN 13844**, ensuring comparability and traceability of test results.

In **TST LITE**, after sample positioning, the sample carrier is manually guided into the preheated oven to initiate the test. This simple setup offers a dependable alternative in settings where full automation is not a requirement. Once the sample carrier is in place, the measurement itself runs automatically with shrinkage continuously recorded under controlled thermal conditions. This concept ensures consistent and objective results with minimal operator intervention. The compact, fully enclosed oven unit enables testing of one single yarn sample under controlled conditions, free from external thermal influences. An intuitive touch display provides at-a-glance information on temperature, test time and results. Additional features, such as an acoustic end-of-test signal and memory for the last 25 test results ensure a smooth and user-friendly testing experience.

TST LITE is the choice for users seeking a streamlined and cost-efficient solution without compromising on measurement quality or compliance with international standards.

FILAMENT TESTING

The Testing Company

TST LITE

THERMAL SHRINKAGE TESTER

Scope:
Automated determination of thermal shrinkage in yarn or plastic tape as percentual change in length according to ASTM D4974, D5591 and EN 13844 .

Method:
Preferred test duration and temperature are preset via a touch display. The yarn or tape is clamped with its free end resting on the length measurement wheel. Defined pretension is accomplished by means of pretension weights. After manual sliding of the sample carrier into the preheated oven, the measurement starts automatically. An acoustic signal and the digital display indicate the expiry of the set testing time and alerts the operator to retract the oven and uncover the sample.

Results:
The shrinkage value after the predefined test time and the value at sample release are indicated on the touch display. The last 25 measurement values are stored.

Testing temperature:
RT - 300 °C (max. value)

Heater length:
250 mm

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

Temperature measurement:
Thermocouple Fe/CuNi

Relative change of shrinkage length:
-99 % to 500 %

Change of length measurement:
By incremental encoder; 8.192 increments per rotation (6.2 µm)

Max. sample width:
25.4 mm

Cycle time:
0. - 99.9 min

Pretensioning:
With easily clamped and combined pretension weights, (depending on sample titer (dtex/den))

Resolution:
Temperature (display): 0.1 °C
Shrinkage length: 0.1%

Control unit:
Industrial PLC

Safety:
Full compliance with CE safety- and machine guidelines

Power supply:
230/115 VAC ± 10 %
50/60 Hz, 900 W

Dimensions:

Length:	550 mm
Width:	470 mm
Height:	400 mm
Weight:	20 kg

Optionally available:

- Pretension weights from 0.1- 500 g
- Automatic single result export to USB flash drive
- Automatic time-based shrinkage data storage to USB flash drive

Technical data and pictures are subject to change.

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