COTTON TESTING

In production of spun yarns an effective quality control of fibres, slivers, rovings, and yarns serves to secure material properties as well as optimal spinning machine settings. With the new Cotton Control Line Textechno supplies quality control systems and know-how for the entire spinning process from one source.

TEXTECHNO Cotton Control Line

In order to control the quality of the semi- and final products in a cotton spinning mill manufacturing 100% cotton or blended yarns (cotton/man-made fibre blends), several testing devices are necessary in the textile physical laboratory to test the most important parameters, like

- Linear density (count) on slivers, rovings, and yarns;
- Force- and elongation properties on yarns;
- Unevenness on slivers, rovings, and yarns;
- Imperfections on yarns, as well as
- Twist values on yarns.

In addition to the above parameters also hairiness and weak spots on yarns are playing an important role to characterize the quality of the final product.

The Textechno Cotton Control Line offers all necessary testing devices for a textile testing laboratory of a cotton spinning mill to cover the above testing tasks:

- Count Analyzer TEXCOUNT, with YARN REEL and WRAP REEL for preparation of sliver-, roving-, and yarn samples;
- Evenness & Hairiness Tester COVATEST to test unevenness on slivers, rovings, and yarns; optionally for determination of imperfections and hairiness on yarns;
- STATIMAT ME+ for testing force, elongation, and tenacity on yarns, or
- STATIMAT DS for testing force, elongation, tenacity, evenness, and imperfections on yarns;
- DYNAJET Plus for testing weak spots on yarns, and
- TWIST TESTER 2 for testing the twist values on all types of yarns.

The testing devices are suitable for all yarn types, i.e. ring spun yarns, compact yarns, air-jet yarns, and open-end yarns. They can be used for 100% cotton yarns as well as blended yarns, such as Cotton/Polyester-, Cotton/Viscose- or Polyester/Viscose yarns.
WRAP REEL TT

The electric desktop device WRAP REEL TT creates sliver- and roving samples of a desired length for linear-density testing. The wrap reel is equipped with a pre-selection counter, a holder for roving packages, a pressing roll, and a cutter.

YARN REEL TT

The electric YARN REEL TT prepares yarn hanks of a pre-defined length. The instrument is equipped with an electronic pre-selection counter for setting the desired yarn length. The standard version is supplied with 5 reeling positions, 10 reeling positions can be supplied on request.

Count Analyzer TEXCOUNT TT

As a simplified alternative to the AUTOCOUNT option of the STATIMAT series, the TEXCOUNT system is suitable to determine the linear density of slivers, tops, rovings, and all kind of yarns. The system utilizes an electronic balance with a resolution of 1 mg, which connects either to the TEST-CONTROL system of a STATIMAT tester or to a separate PC. The linear-density result of the yarn sample is directly transferred into the STATIMAT database for an accurate tenacity determination. For sample preparation a yarn reel (yarns) or wrap reel (slivers and rovings) is required.
COVATEST
Evenness Tester for Slivers, Rovings, and Staple Fibre Spun Yarns

With the COVATEST Textechno provides a perfect testing instrument to determine mass variations in slivers, rovings, and in the staple fibre spun yarns. Based on the well-proved capacitive measuring principle the mass irregularity along the sample is analyzed including a mass spectrogram. Optionally the COVATEST can be equipped with a Hairiness Module, which utilizes a modern optical sensor with LASER illumination.

Screen during measurement
TWIST TESTER TT

This is a semi-automatic device for the determination of the twist number on yarns, threads, and rovings. The tester operates in both directions, “S” and “Z”. It utilizes the untwisting method, un- and re-twisting method, as well as the SCHUTZ method for OE yarns. The test results are provided in T/m. The device is equipped with an automatic „0“ point detection, LC display for showing the test results, and a printer. The gauge length can be set between 5 and 50 cm. Optionally to the integrated printer the tester can be linked to a PC system.

Weak-Spot Tester DYNAJET PLUS

The DYNAJET PLUS detects weak spots on the running yarn at test speeds up to 1000 m/min. Within the test section the yarn is subjected to a constant tensile force. The level of this tensile force can be freely selected in order to simulate actual manufacturing process conditions. In case of yarn rupture the tester stops immediately for subsequent automatic- or manual rethreading. In the latter case it is possible to collect the broken yarn ends, which enables to analyze whether yarn breakages were due to bad raw material or due to defects of the spinning process.
Automatic Tensile Tester for Yarns
STATIMAT ME+  

The STATIMAT ME+ is Textechno’s standard automatic tensile tester for yarns operating on the principle of constant rate of extension (CRE), with interchangeable load cells with a force-measuring range up to 1,000 N, and a package changer for maximum 50 positions. Optionally the application range can be extended by a LEA testing kit, fabric clamps, as well as further clamps for testing the cohesion force of slivers and rovings. In all test methods the STATIMAT ME+ meets the requirements of all important national and international standards.

By connecting the count analyzer TEXCOUNT as well as loading Textechno’s DATA MANAGEMENT SOFTWARE DMS on the TEST-CONTROL system of the STATIMAT ME+, the tester can act as the Central Testing Station of the complete yarn laboratory. The Data Management Software DMS for assessing, storing, and statistical evaluation of measured data is simplifying the day-by-day quality assurance and allows to manage all measured test results of the yarn laboratory. Further characteristics of the DMS are the easy integration into any existing LAN environment, simple adaptation of individual demands, and easy acquisition of data from separated instruments by manual input.
The STATIMAT DS represents the perfect, integrated testing solution for the most important yarn quality parameters – tenacity, count, and evenness – in one instrument, which fits to the needs of both the spinning- and weaving/knitting industry. Due to this high degree of automation it guarantees a fast return of investment. The three tests on each package presented by the package changer for 24 yarn ends are performed in succession without any operator interference. Optionally it is possible to test capacitive unevenness and yarn count in one test run, which enables to relate the results of both measurements to the same tested yarn length.

The test report contains all individual results as well as a statistical evaluation of all yarn parameters including thin places, thick places, and nepes. The measurement results correspond to all commonly known cotton statistic compilations.

The application range of the STATIMAT DS can be extended by using interchangeable load cells with a force-measuring range up to 1.000 N as well as other sample holders for tensile tests on fabrics, yarn skeins for LEA tests, adhesion force tests on slivers and rovings, and other sample forms.

In combination with the data management software DMS the STATIMAT DS also can act as the central- or master station for managing all measured data.
THE TEXTECHNO GROUP

Your reliable partners for quality improvement