Textechno
textile testing technology

COVAFIL+
Capacitive Evenness Tester for Filament Yarn

COVAFIL+
Capacitive evenness tester
for filament yarn

The mass variation is one of the important quality parameters of filament yarn. Textechno's new COVAFIL+ with its revolutionary capacitive sensor design and a high-speed yarn twister achieves all requirements on an effective and reliable quality control system.

The concept to operate the COVAFIL+ either as a stand-alone unit or in combination with Textechno's well-proved filament yarn testers DYNAFIL ME and COMCOUNT gives highest testing efficiency and flexibility, as - apart from tensile strength and elongation - all relevant yarn parameters can be determined with one test system, only.

COVAFIL+
Capacitive evenness tester for filament yarn

Technical Data

Test methods

- Measurement of mass variation with constant twist, speed, and pretension (standard test)
- Measurement of mass variation with variable twist and constant speed
- Measurement of mass variation with pretension and constant twist[1,2]
- Measurement of linear density (in combination with COMCOUNT[3])
- Preparation of samples with known mass, e.g. for spin finish measurements[3]

System components

- Yarn tensioner or optional positive yarn feeder
- Adjustable yarn guides for optimum yarn position in capacitive sensor
- Capacitive sensor with integrated electronics
- High-speed yarn twister
- Yarn feed system by godet

Optional components and devices

- Positive yarn feeder for controlled yarn tension, tension range 1…100 cN
- COMCOUNT automatic linear-density tester, yarn transport by laboratory air
- Automatic sample collector with exchangeable magazines (20 positions)
- DYNAFIL ME universal filament yarn tester for combined draw-force, shrinkage, or crimp testing (see separate leaflet)

TESTCONTROL System

- State-of-the-art WINDOWS®-PC with flat screen
- WINDOWS® 7 or XP operating system
- Open and documented data structure for easy data transfer and backup
- Batch file for automatic data transfer[1]
- Allows use of WINDOWS®-compatible printers, including network printers

Automatic package changers

- Automatic package changer model SM with two positions
- Automatic package changer model SE with 20 positions
- Both models can splice on the running yarn for optimum reliability and throughput

Cabinet

- Textechno Aluminium cabinet on castors
- Dimensions HWD: 1680/ 680/ 650 mm
- Weight: approx. 120 kg (without COMCOUNT) approx. 180 kg (with COMCOUNT and automatic sample collector)
- Lacquer finish: RAL 9006/5002

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[1]Test method available on request

[2]In connection with optional positive yarn feeder

[3]Optional equipment

Sensor with Twister

Further technical data

- Linear-density range: 10 to 4000 dtex,
  other ranges on request
- Yarn speed: 1 to 400 m/min (attainable
  speed depends on twister
  speed)
- Power consumption: 230 V, 50 (60) Hz,
  approx. 2 A
- Compressed-air
  supply: 5 bar, 150 l/min
  (depending on settings)

Description of Results and Data

Statistics

Values displayed or printed

- Mean value (average)
- Median*
- Standard deviation s
- Coefficient of variation Cv
- Confidence range (95%)
- Minimum value
- Maximum value

Graphics

Mass/length-diagram

- Sensitivity scale adjustable
  from ±1% to +1000%/-100%
- Length scale adjustable from 1 to 10000 m
- Cut lengths: normal plus 9 freely programmable
  cut lengths from 0.01 to 1000 m including
  half-inert and inert
- Optional 3D diagrams*

Spectrogram

- Max. Wavelength: 1/5 of tested yarn length
  160 Channels, more channels on request
- Optional 3D spectrograms*

Variance-length curve

- Cut lengths from 2 cm to 1000 m
- Optional 3D variance length curve*

Data storage

Data storage

- Full measured data are stored on the hard disk
  of TESTCONTROL System. Data structure is
  documented

Parameter storage

- All settings, Group- and Test-parameters are
  stored on hard disk

* in preparation

Backup

- Data and parameters can easily be copied to
  backup media, network devices etc. by means of
  MS WINDOWS-function
- Backup function can be automated

Data transfer

- Data structure is open and documented. Data
  can be transferred to LIMS-, Quality-, and other
  data base systems

General

Languages

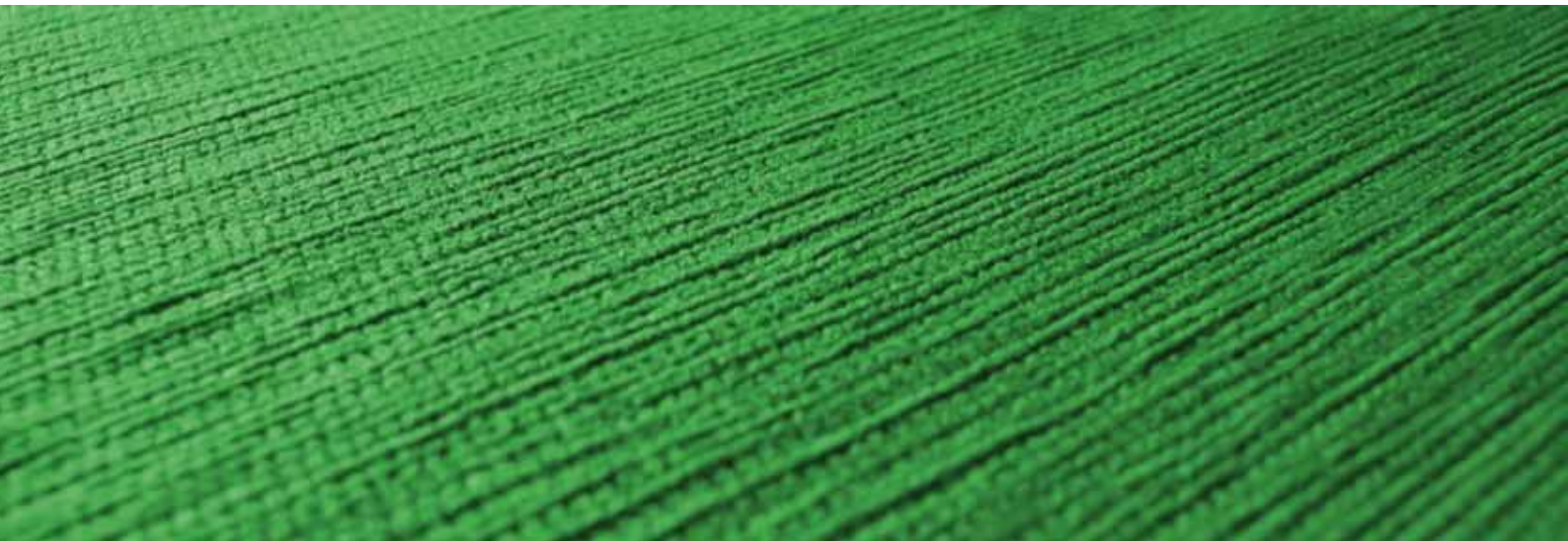- German, English, Chinese,
  other languages on request

Units

- Linear density: dtex, den, tex,
  other units on request
- Speed: m/min, other units on request

Testing time

- 5 seconds to 12 minutes,
  longer times on request

The above technical contents can be subject to changes
by Textechno.

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