

## POY and FDY control.

### FibreTQS

FibreTQS monitoring enables faults to be eliminated that would result in downgrades in downstream processes. This provides both substantial quality benefits and process cost reductions.

#### The FibreTQS advantage

FibreTQS Monitoring identifies all POY and FDY quality faults in real-time allowing the faulty packs to be segregated, but even more important, allowing the source of the faults to be identified and eliminated.

FibreTQS Monitoring offers substantial advantages over conventional off-line testing since the vast majority of quality faults that occur in downstream processes for POY and FDY are caused by short term or intermittent faults already present in the yarns themselves, but cannot be identified or prevented with off-line testing. The major sources of quality problems in these processes are:

#### Spin Finish

Short term variation seen as transient faults or high CV levels results in:

- Tension transient faults in the DTY process
- Dye shade variation in FDY

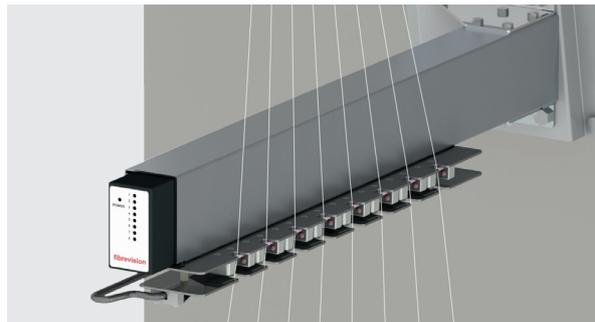
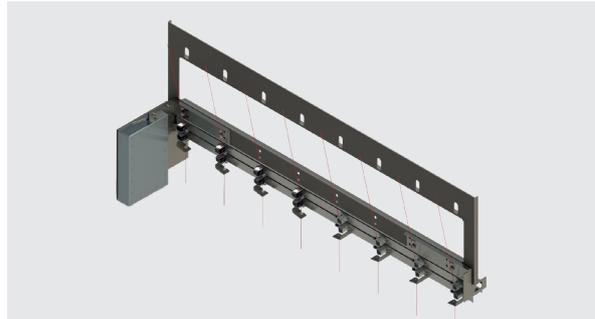
#### Mechanical Quality

Slubs and Broken Filaments result in:

- Tension Transients or End Breaks in the DTY Process
- Warping Stops and Fabric Quality problems in FDY

Low or variable interlace (entanglement) results in:

- High break rate in DTY
- High warping stops in FDY



#### FibreTQS sensors

For POY and FDY processes FibreTQS optical and spin finish sensors are normally fitted and provide measurement of all key parameters.

#### Spin finish sensors

Spin finish sensors are in the Quench zone (after the oil application guides), and measure spin finish mean level, short term variation and transient faults. The sensors are connected directly to interface electronics that are located in an IP68 enclosure located at the end of the sensor rail.

#### Optical sensors

Optical sensors are normally located in the winding area, and are mounted on an arm that incorporates the section electronics.

These sensors measure; interlace level (mean and variation), denier variation and slubs/broken filaments.

### FibreTQS section module

The FibreTQS sensors are connected to a FibreTQS section module which is normally located in an IP54 enclosure located in the optical sensor mounting arm. The FibreTQS section modules carry out data acquisition, signal processing, analysis and fault identification.

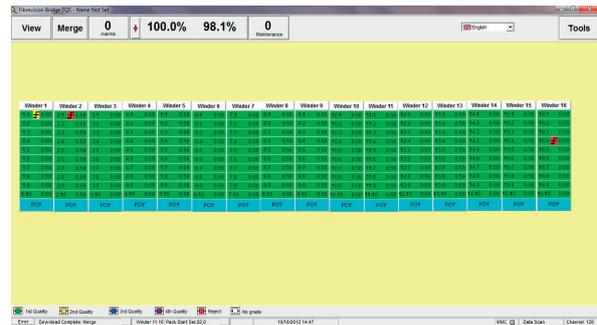
Each fault event is recorded and transient fault or slub data is captured with the event data for subsequent viewing. FibreTQS sections can be configured to operate with up to 12 threadlines and multiple sections are fitted to positions with larger numbers of threadlines.

### FibreTQS software

FibreTQS PC software provides a graphical display of the machine layout with a high degree of flexibility and an unlimited number of threadlines per machine or system.

The top level screen provides an overview of both threadline running status and quality grade by the colour of the package icons. Clicking on a winder icon displays details of the current readings and clicking on individual threadlines provides:

- Current readings
- Summary data for the package to date
- Details of off quality events
- Real time view graph
- Analysis tools to aid troubleshooting
- Quality reports from previous packages
- Access to historical trend data



### FibreTQS plant integration

Saurer FibreTQS offer a range of plant integration options for FibreTQS monitoring systems that offer substantial operational benefits and these include.

#### Multi machine controller (MMC)

Provides the facility to control multiple machines from a single computer as well as for multiple computers to view the status of single or multiple machines. A top level screen indicates the status of the machines installed, with the ability to click through onto the current displays for each machine, with full access current data. Merge settings can also be controlled from the MMC.

#### Data export

FibreTQS data is stored in a SQL database which can be queried by plant systems to extract data as required. Alternatively FibreTQS can export files to the local disc that can be imported into a data base.

#### Doff numbers

Doff numbers can be synchronised with plant numbers in a variety of ways.

These options will be quoted for specific installations and are subject to an annual maintenance charge for upgrades and support.