

Measure Carbon Fiber Damage and Processability

The **EddyCus® inline TOW** is a sensor specifically designed for the **non-contact** and continuous measurement of **carbon fiber tows** and **UD-tapes**.

The online tow tester measures the **inner fiber damage**. The system's data rate currently supports production speeds up to 18 m/min. Higher on request. The sensors operate without a PC and send the data directly to a PLC or database. A quality report can be automatically generated for each spool.

The standard sensor applications for **carbon fiber processing** is **in- and outbound carbon fiber bobbin control**. Additional applications are: monitoring of carbonization, quality control of **TowPreg** and **UD-tape** slitting, online process control of fiber spreading, tape laying and filament winding.

The SURAGUS testing solution consists of an **optical and electrical sensor** to measure **both surface and inner fiber damage**. The camera measures geometrical effects such as gaps or fuzz, whereas the eddy current sensor captures the total resistance, which corresponds with all fiber damage or integrity of the filaments.

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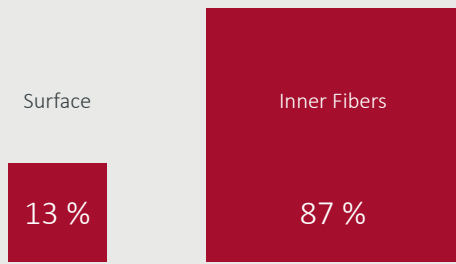
Made and Engineered in Germany

Innovation Award by
Free State of Saxony 2013
1st Place



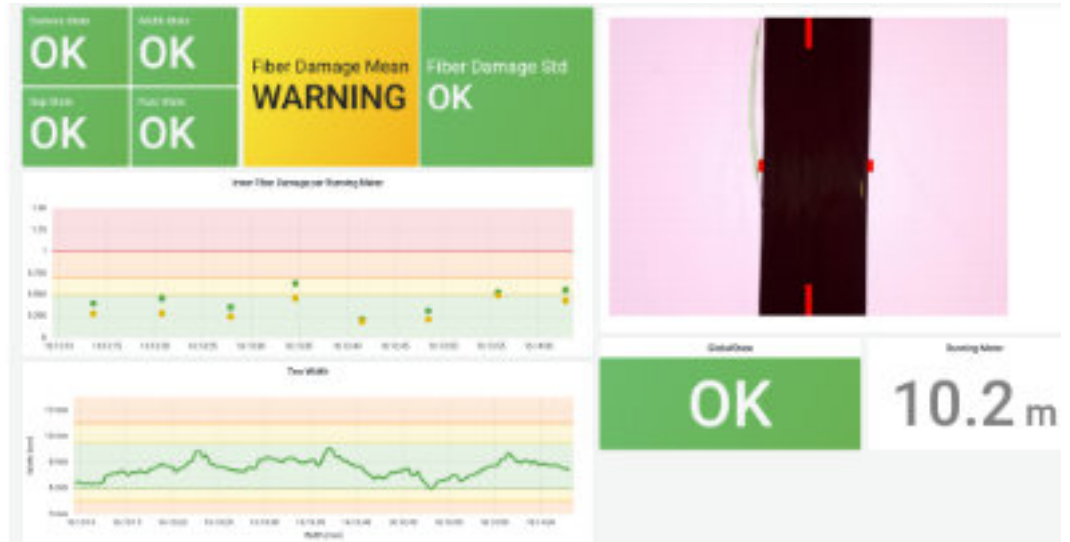
Online Carbon Fiber Damage and Processability Monitoring of Tow and UD-Tape

Simplified Tow Cross Section



Fiber damage causes the machine to stop and eventually slows production speeds. Checking the actual fiber quality enables direct process control. More than 80 % of the filaments are not visible and therefore optics cannot check it thoroughly. The **eddy current sensor** captures the local electrical resistance which corresponds to the **integrity of inner filaments** and therefore their interruptions and damage.

The EddyCus[®] CF inline TOW combines a camera and an eddy current sensor. It measures **surface damage** such as fuzz or split and **inner fiber quality simultaneously**. Thresholds and warnings give immediate process feedback.



The user can access the data and setup via web interface. Multiple sensors can be grouped to show the entire creel at once. Each sensor independently assess the fiber damage, buffers the data and writes it to a server when connected. The user can set **trigger alarms, customize the dashboard** and automated reports. Additionally, measurement history and trend for each production day is available.

The report is designed as a one-pager to show classic statistical values of both the optical and eddy current sensor: width, number gaps, fiber damage mean & std. deviation. The spool will be **graded according to user criteria**.

