# Textural Analysis & Defect Defection in Preforms
## DATA SHEET - EddyCus® CF ROB

The **EddyCus® CF ROB** is a especially designed for the testing of shaped carbon fiber preforms. The testing system utilizes the electrical conductivity of the carbon fibers to gain structural information such as fiber orientation and fiber distribution. The high resolution EC-scans also enable defect detection, e.g. **gaps, misalignment, wrinkles, overlaps**, and often **impurities, cracks and delamination**.

The EddyCus® system can be used at any stage in the production: for carbon fiber textiles, stacks, preforms or composites. Simply flat to curved parts or preforms can be checked by the flexible robotic solution. Therefore, it particularly helps process engineers or R&D focused groups to evaluate the results of individual production steps.

The **software** allows to **filter** differently **oriented layers** or highlight **anomalies** such as defects. The user can classify the results to deepen the understanding of the material.

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Certified
ISO 9001

TÜV SÜD
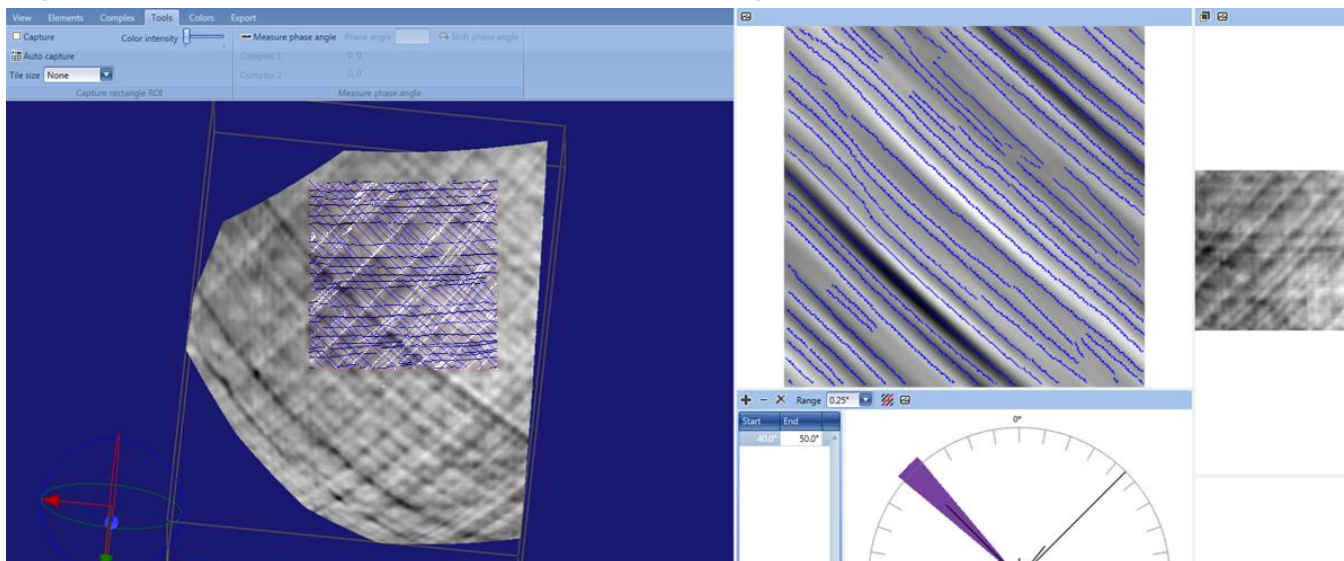ISO 9001

WINNER OF 2016 INNOVATION AWARD

WINNER OF 2013 INNOVATION AWARD

Innovation Award by
Free State of Saxony 2013
1st Place

# DATA SHEET

## EddyCus® CF ROB – Structural Analysis Of Carbon Preforms



### EddyCus® CF ROB

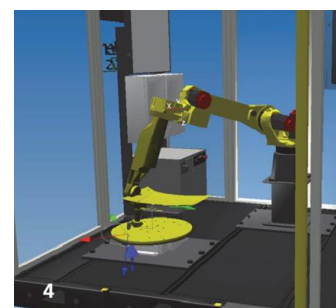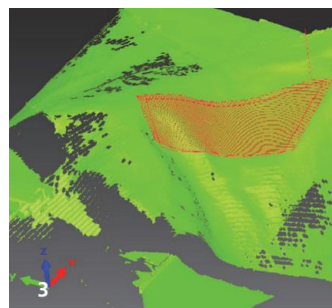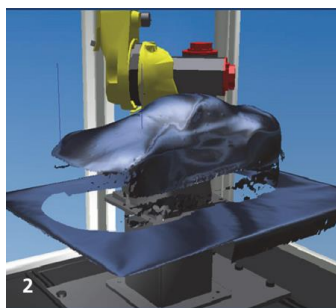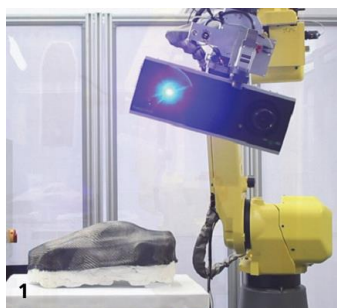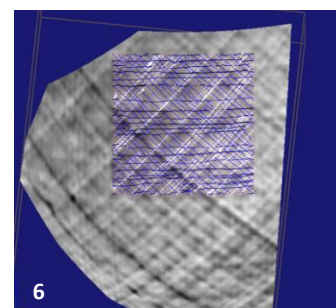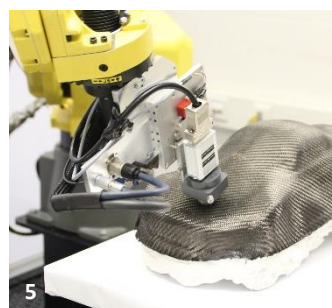| | |
|---|---|
| Parts geometries | Flat, slightly curved or shaped |
| Scan area | Arm length 1.7m |
| Accuracy robot | 0.1 mm goal point difference |
| Speed | 500 mm/sec at 0.25mm resolution |
| Mode | Contact and non-contact |
| Carbon Fiber Materials | CF fabric, textile, stack, prepreg, preform, composite |
| Feature | Capturing contour, Distance sensor |
| Device dimension | 4,000 / 3,000 / 2,500 mm (w/d/h), 2,000kg |





## CHARACTERIZATION & APPLICATION

### Structural Analysis with Eddy Current Sensor

- Fiber orientation of individual layers & hidden layers
- Fiber spacing & fiber distribution

### Additional benefits

- Multi-purpose use for scanning, scribing, cutting, drilling, welding, gluing
- Virtual robot cell for collision control and individual path planning




## PROCESS

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Shape recognition | Digital model | Path planning | Collision control | Actual measurement | Data evaluation |