

FIBER AREAL WEIGHT & ISOTROPY SCANNER FOR DISCONTINUOUS CARBON FIBERS

DATA SHEET - EddyCus[®] CF map 5050 isotropy

SURAGUS' new scanner 'EddyCus CF iso' enables to assess the **uniformity and isotropy** (alignment) of discontinuous carbon fiber materials. Especially, for **recycled carbon fibers** (rCF) the two decisive properties on product quality and integrity such as **fiber orientation** or **degree of isotropy** and the **fiber distribution** or **weight uniformity** are measured.

The EddyCus CF iso determines both properties **non-destructively and non-contact**. Therefore, it can be used during manufacturing, also for not yet impregnated or injected fiber, as well as in post-production quality control. It offers a distinct additional value compared to alternative technologies as

these are only able to provide one parameter, e.g. Beta-ray measure weight and optical systems the fiber angle.

Based on the **long-term proven** eddy current testing sensors the SURAGUS system comprises of a new sensor design with sensor focus and specialized algorithms to measure both **fiber areal weight** and **bulk prevalent orientation** for rCFRP or CF-SMC.

It is a non-contact high frequency eddy current solution, which allows for inline and offline testing to determine **isotropic or anisotropic** character of chopped or continuous fiber parts for semi-structural or safety-critical use.

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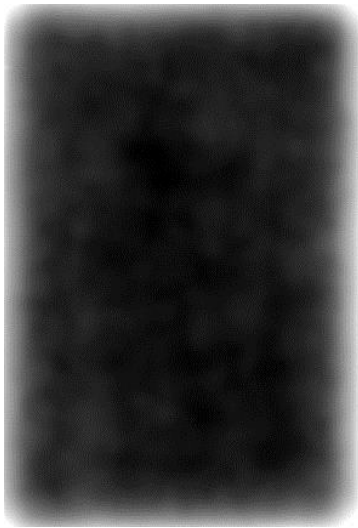


Certified
ISO 9001

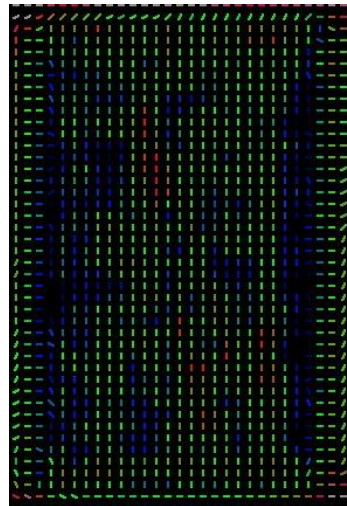


DATA SHEET

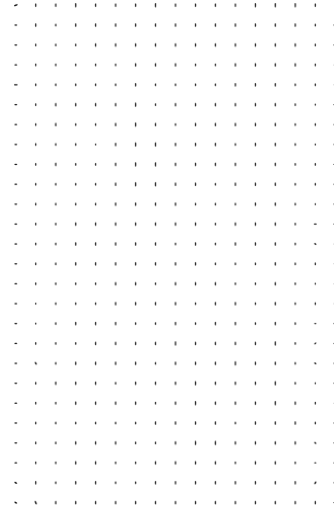
EddyCus® CF map 5050 ISO



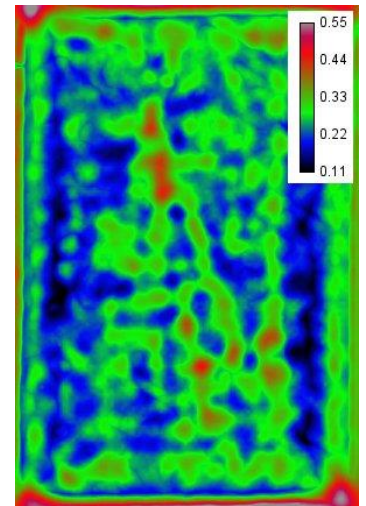
Fiber Areal Weight



Prevalent fiber orientation



Scaled vectors



Anisotropy strength

EddyCus® CF map 5050 ISO

Measurement technology	Non-contact high frequency eddy current sensor
Parts geometry	Mostly flat
Max. scanning area	20 inch / 500 x 500 mm (larger on request)
Mode	Transmission, non-contact
Max. sample thickness	10 mm (larger on request)
Carbon Fiber Materials	Discontinuous carbon fiber materials: e.g. chopped, non-woven, sprayed, short, recycled, virgin CF
Scanning pitch	1 / 2 / 5 mm / 10 mm (other on request)
Measurement points per time (quadratic shape)	10,000 measurement points in 5 minutes 1,000,000 measurement points in 30 minutes
Scanning time	8 inch / 200 x 200 mm in 1.5 to 15 minutes (10 – 1 mm pitch) 12 inch / 300 x 300 mm in 3 to 30 minutes (10 – 1 mm pitch)
Device dimension (w/h/d) / Weight	46.5 x 11.4 x 35.4 inch / 1180 x 290 x 900 mm / 120 kg

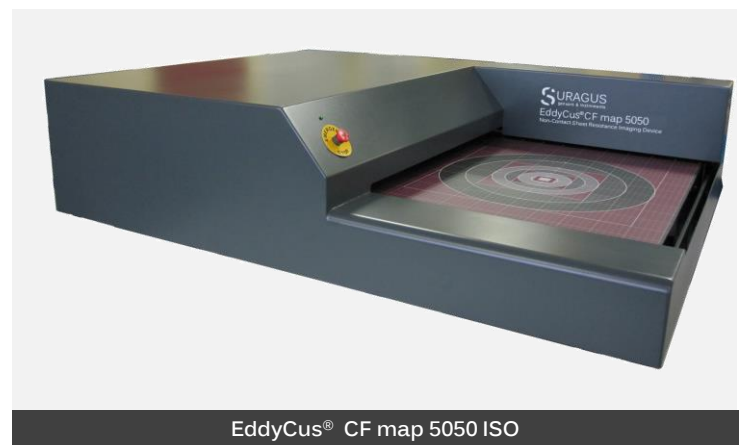
CHARACTERIZATION & APPLICATION

Results

- Check local fiber orientation in cross section
- Identify high-/ low density areas
- Non-destructive and no sample preparation

Application and Value

- Feedback of data into material flow simulation
- Evaluation of CF-SMC processing
- Distinction between GF / CF material
- Non-destructive material specification (time-saving)
- High quality short fiber product



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