



Textural Analysis & Defect Detection for Carbon Fibers

EddyCus[®] CF map 6060

Textural Analysis

- Fiber orientation of hidden layers
- Fiber spacing & fiber distribution
- Non-destructive

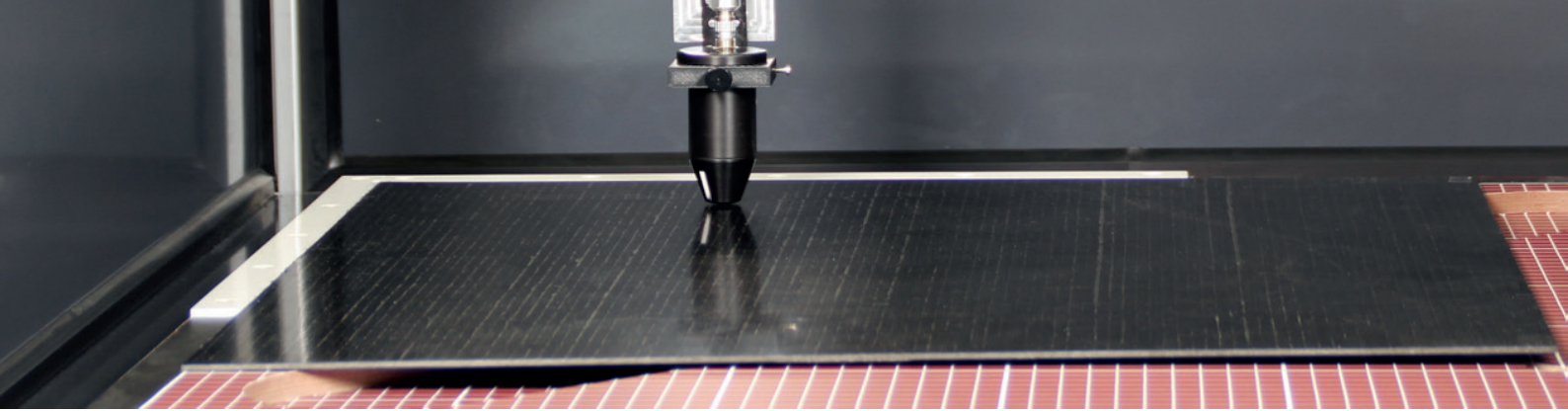
Application Fields

- Automotive structures
- Aircraft structures
- Energy sector (pipes)
- Civil engineering (bridges)
- Many more

Defects & Errors

- Gaps
- Wrinkles
- Misalignments
- In-plane waviness
- Undulations
- Out-of-plane waviness
- Overlaps
- Delaminations





EddyCus® CF map 6060 - Structural Analysis Mapping

EddyCus® CF map 6060

Parts geometry	Flat, slightly curved
Scan area	600 x 600 x 150 mm ³
Min. pitch	0.025 mm
Speed	400 mm/sec (full scan: 30 min)
Mode	Contact and non-contact
Carbon Fiber Materials	CF fabric, textile, stack, prepreg, preform, composite
Add-ons	Camera for positioning, layer height measurement contour
Device size (w/h/d)	1,200 x 1,700 x 1,350 mm (w/h/d)

EddyCus Studio Professional (SURAGUS Sensor & Instruments)

Carbon Fiber Mapper

Manual Positioning: [Navigation buttons: Home, Up, Down, Left, Right, Center, Unload Sample]

Scan SetUp:
 Scan Shape: Rectangle
 Track Type: Meander
 Resolution / Speed: 1.0 x 1.0mm
 Scan Position 1: X 0.00 mm Y 0.00 mm
 Scan Position 2: X 100.00 mm Y 100.00 mm
 Sample Height: H 10.00 mm

Measurement Setup:
 Configuration File: [Dropdown]
 Sample Name: CF Scan

Device Status:
 Movement: [On]
 Sensor: [On]
 Door / Emergency Stop: [On]
 System Ready: [On]
 System Busy: [Off]
 Overflow: [Off]

Commands:
 Get Self Reference
 Start Scan
 Pause

EC Scan Results

E:\SURAGUS GmbH Data\

Grid Visible X=0.0mm Y=0.0mm

Linear Grey Scaling

HOG Histogram Of Oriented Gradients

0090 bins

Major Direction

From	To	Percentage
-90	-86	091.4
86	90	004.8
-2	2	003.0
44	46	000.8

Comments:
 001: Source Application: EddyCus Studio
 002: Source UserStory: EDDYCUS_MAPPER2D_CF
 003: Source Application Version: 1.0
 004: Create Date & Time
 005: EC Scan
 006: EC Scan Calibration Modul: C:\SURAGUS GmbH \MapperConfigs\HT-K020B-530M-002.ecf
 007: Data Reduction Algorithm: No Data Reduction

Software Screenshot