

X-ray

Fiber-reinforced materials

X-ray inspection and CT provide a view into the inner construction of fiber-reinforced materials and other composites. This enables fiber-reinforced materials to be inspected during production and maintenance.



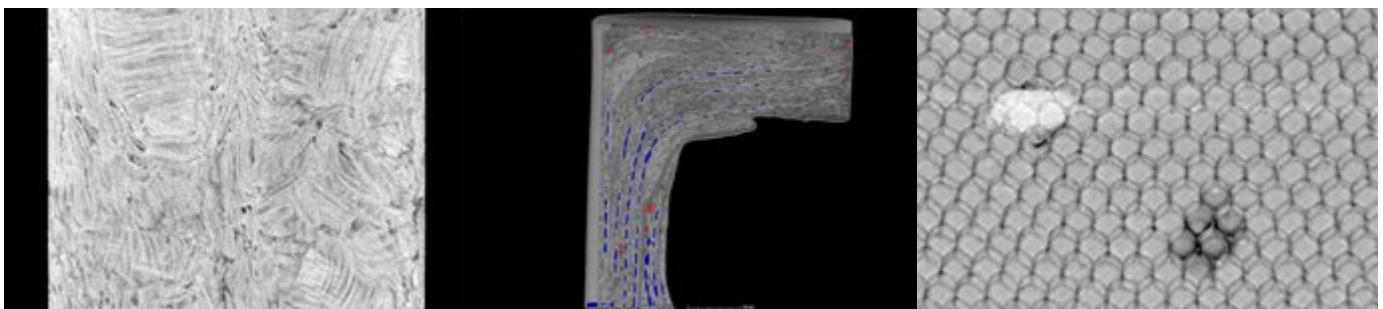
- Fiber orientation
- Delamination
- Concealed damage

Carbon-fiber polymer foam structure
from turbine fan close

Thanks to the favorable relationship between weight and mechanical stability under load stress, fiber-reinforced materials and other composites are increasingly popular in the aviation industry. However, inspecting these materials poses a major challenge. Scanning via X-rays makes it possible to detect production flaws or damage concealed deep inside. These include damage inside honeycomb structures or water ingress due to impacts. In the case of composites, delamination, the correct position of fiber bundles or fiber ruptures all play a decisive role. With the help of computed tomography (CT) it is possible to obtain an in-depth view into the components' three-dimensional structure. This, in turn, enables the position and volume of fibers to be detected along with matrices and inclusions.

YXLON offers X-ray systems with CT option and computed tomography systems for the inspection of fiber-reinforced materials.

Yxlon offers you a wide range of X-ray techniques. Yxlon designs solutions that replace X-ray films, provide radioscopy and fully automatic defect recognition in X-ray images, as well as computed tomography services for scanning inspection items ranging from micro-CT to CT using a linear accelerator.



Fiber orientation in a carbon-fiber component

Distribution of matrix and porosities

Honeycomb structure with defects

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