

Shearography



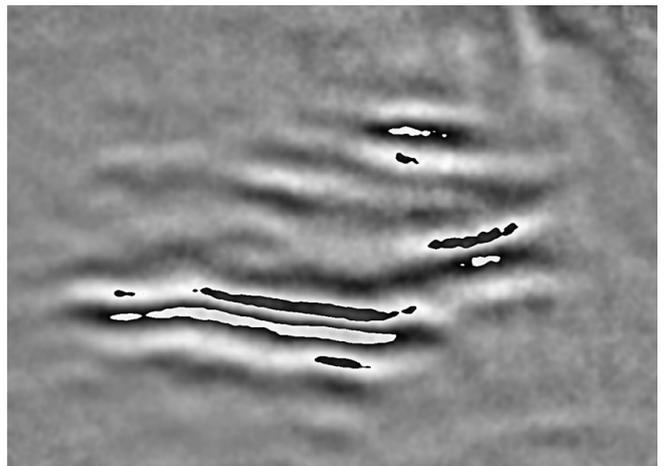
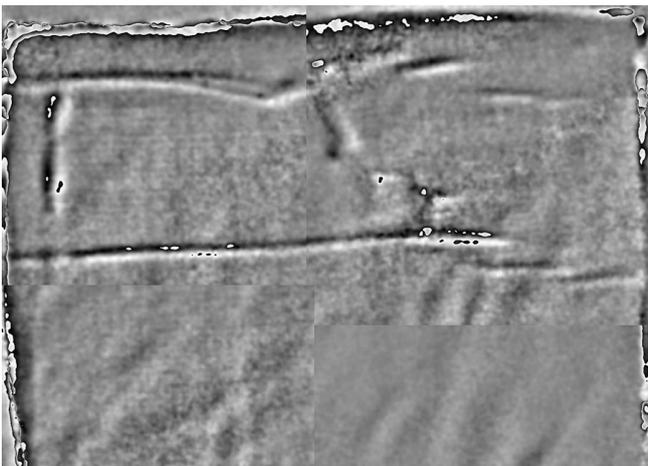
DANTEC
DYNAMIC

Non-destructive testing with real time results

Shearography is an optical NDT method primarily used to detect defects in laminar structures, such as polymer composites, sandwich structures and other bonded structures. Shearography is an active method, which means that it inspects the structure while submitted to a load (but still non-destructive) and that the result for an entire inspection area will be presented in real time.

The primary advantages of the method are high inspection speed, it can be non-contact, and it can be used to detect certain defects not detectable with traditional methods. Examples of defects that can be detected with shearography are: disbonds, delaminations, cracked cores, crushed cores, kissing bonds, wrinkling, fluid ingress, porosity, cracks, repair defects and impact damage (BVIDs).

The images below show shearography results from composite structures where indications from wrinkles are clearly identifiable. Wrinkling can occur during the manufacturing of composites and can affect the strength substantially.



Examples of usage

Wind Power

The high demand for green energy causes an increase in the production rate of wind turbine blades. In a constant strive to increase the power output of wind turbines, the size of the blades continues to increase. With increasing blade sizes, NDT of blades during production and in the field become more important. Shearography has shown to be a very useful tool, as it can detect delaminations, disbonds and wrinkles.

Marine

Many ships are made from composites. As the areas are large, a rapid NDT method as shearography is a good candidate when looking for inspection methods.

Aerospace

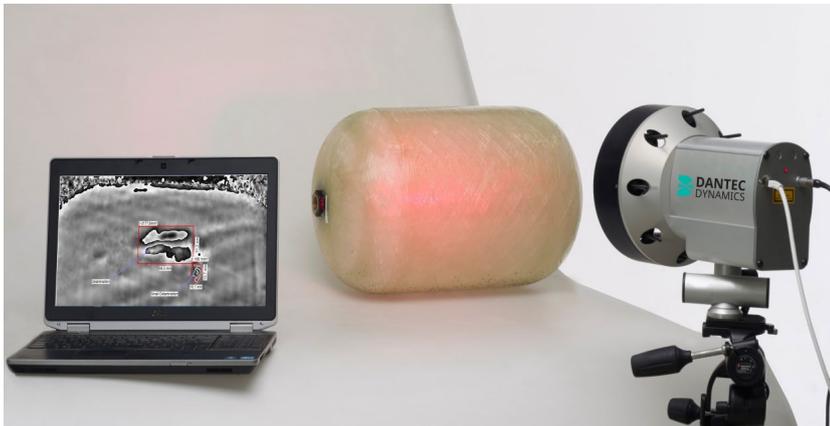
With an increasing amount of composites being used in new aircraft, a rational NDT method such as shearography is being used more and more.

Cooperation with Dantec Dynamics

Dantec Dynamics is a manufacturer of optical measurement equipment for Material Testing. Leading companies within aerospace, defense, automotive, marine, and wind have been relying on Dantec Shearography systems for decades to address their challenging NDT applications.

DEKRA is cooperating internationally with Dantec Dynamics in order to offer shearography as a new service which holds several advantages for customers:

- > Shortened inspection time
- > Accelerate production
- > Finding defects else perhaps missed
- > Low risk
- > Immediate results



Shearography equipment

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With reservations for errors and changes.