

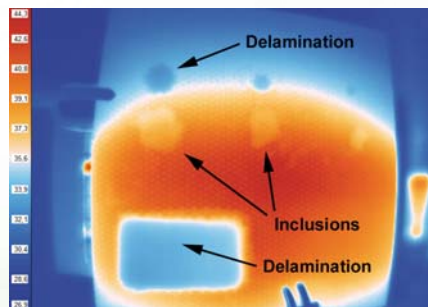
System for nondestructive testing of composite materials using active thermography

Application

Fast, integral examination of large surface areas for detection of concealed flaws.

- Detection of impact damages in composite materials for aviation components and wind power plants
- Detection of cracking and delaminations for high-load materials, e.g. turbine blades

Utilization of low-cost and durable uncooled infrared cameras; improvement of resolution and detail sharpness using "lock-in" pulse thermography.



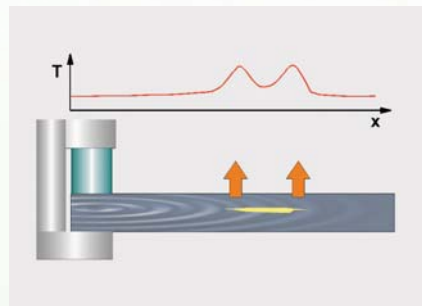
Heat flux thermography of a sandwich plate with aluminium honeycomb structure

Dark ground thermography

An ultrasonic wave, generated by an ultrasonic crystal, propagates into the sample under inspection.

Flaws, characterized by friction surfaces, induce a local temperature increase, which can be observed in the thermographic image.

- Inspection of carbon and glass fiber reinforced plastics for impact damage that may lead to fiber cracking and delaminations of sandwich layers

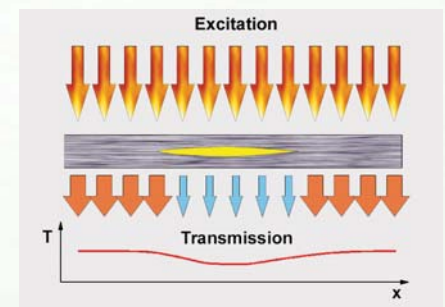


Principle of the dark ground thermography

Bright field thermography

The infrared emitter produces a heat wave that penetrates into the test sample. Cavities, inclusions and delaminations are detectable by their influence on the thermal conductivity characteristics of the material.

- Inspection of carbon and glass fibre reinforced plastics, sandwich plates with honeycomb structures, and material coatings of aviation components and wind power rotor systems



Principle of the bright field thermography

Project Partners

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Components

- PYROVIEW 380 compact, uncooled infrared camera
- Ultrasonic excitation for "dark ground" thermography
- Thermal excitation for "bright field" thermography
- Acquisition & analysis software



We are certified for many years according to ISO 9001

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