

1.10.31. QUALITY CONTROL WITH SHEAROGRAPHY AND 3D-DIGITIZING

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Steinbichler Optotechnik GmbH develops and manufactures optical Sensors in the field of Quality Control since more than 20 years. The systems are used in the production and also in the In-Field-Service. Especially for large parts which are used in the aircraft and wind industry need efficient and fast methods. For the check of geometrical dimensions white light fringe protection systems and laser scanner are very useful. Depending on the application one of these technologies will be chosen for optical quality control of the object geometries. In the field of detection of surface defects like small dents and scratches with a depth of only a view microns also the fringe protection method comes into play. With special designed flash lamps the scanning time can be reduced dramatically and shows new opportunities.

An additionally full-field method used for NDT is Shearography, an interferometric method for the contactless inspection of composite materials. Delaminations, disbondings, cracks in composites can also be detected as Undulations, Wrinkles and junction defects of core materials. This method does also work on different type of sandwich structures including foams as core material. The object under inspection is stressed by a minor load far below the load in real conditions. The technology makes differences in stiffness clearly visible. Different and fast optical measurement technologies allow it to control the composite production more efficient.