

COMPOSITE PRESSURE VESSEL CRACK DETECTION BY EDDY CURRENT TESTING

Cracks in aluminum liners of composite pressure vessels risk leakage. STATOGRAPH eddy current testing detects defects precisely and reliably.



THE CHALLENGE

Composite pressure vessels with aluminum liners are used in hydrogen systems, aerospace and high-pressure storage up to 100 MPa. During repeated filling and discharge cycles, small cracks in the liner can propagate and cause leakage. Reliable detection of surface defects during liner manufacturing is essential to ensure long-term airtightness and operational safety.

THE SOLUTION

Crack inspection is performed using STATOGRAPH systems with specially adapted eddy current probes. The magnetic field generated by the probe induces eddy currents near the liner surface. Disturbances caused by cracks are detected and evaluated for both inner and outer diameters. The method enables automated, signal-based inspection without consumables or contamination.



THE RESULT

The system provides precise and reproducible detection of surface cracks in lightweight aluminum liners. Automated testing reduces inspection time compared to penetrant methods and eliminates post-processing steps. Reliable eddy current inspection ensures structural integrity and long-term safety of composite pressure vessels in demanding applications.

THE PRODUCTS

STATOGRAPH CM+ / CM

Crack testing of complex workpieces with eddy current



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