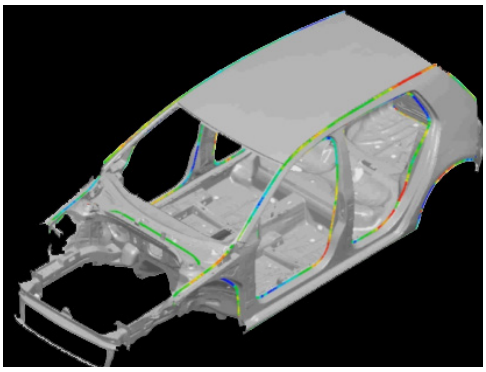
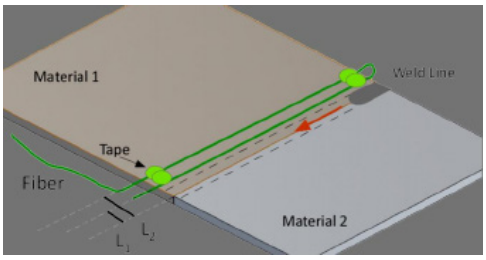
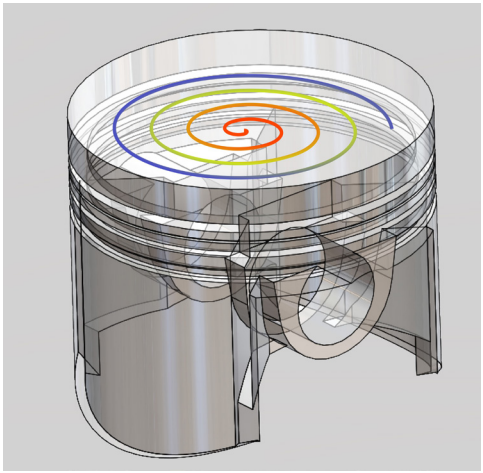
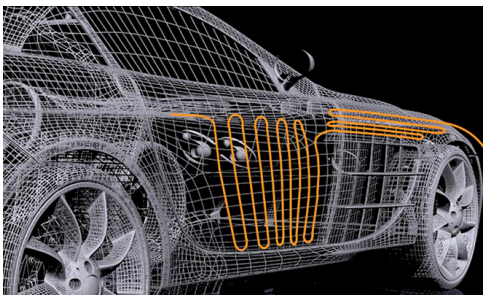
Take the Worry Out of Lightweighting

The ODiSI 6000 Series HD-FOS Accelerates Design and Testing with Sub-Millimeter Resolution Strain and Temperature Measurements.









Optimize Frame Design

Reducing the weight of the automotive frame is key to lightweighting. Weight reduction can be achieved by adopting new design methods, using advanced lightweight materials or employing a hybrid approach. New materials will also mean new methods to join assemblies and a greater use of adhesives. The ODiSI 6000 Series' flexible, lightweight and easy to install fiber optic sensors reduce time to first measurement and go where other sensors cannot – in bends, around corners and embedded inside materials.

Validate FE Models

The high density of data is ideal for validating finite element models, particularly models with fine mesh for analysis of critical stress points or hot spots. Instrument models with fiber sensors and fully map the profile, helping to accelerate and optimize the design process.

Characterize Complex Structures and Components

Verify the integrity of bonding and joining methods using low-profile high-definition sensors. With unobtrusive embedding and the ability to measure difficult geometries and locations, fiber optic sensors can map hard-to-reach areas with high strain gradients.

Evaluate Multi-Material Joining

Design and manufacturing of composites requires new processes and methods for fastening and splicing. These areas can exhibit high strain gradients and represent potential failure points. Fiber sensors can be routed across a splice connecting two structures.

Measure Interlaminar Stress

Measure interlaminar stress at the interfaces between layers in laminated composite material by embedding fiber optic sensors between layers. ODiSI 6000 fibers are extremely small, flexible and unobtrusive. Each meter of fiber sensor provides thousands of measurement points.

Create Smart Parts

Fiber optic sensors are small and lightweight enough to embed within a composite structure, providing access to valuable sensor data and health monitoring throughout the entire life cycle of the part.

www.lunainc.com/odisi
solutions@lunainc.com