

SLS Sensor System for ply length measurement

An SLS Sensor System is proposed, based on laser triangulation sensors, to measure 100% online, cut ply length produced on bias cutter machines.

The measurement system comprises two SLS laser spot sensors that detect the leading and trailing edges of the ply as it is transported beneath the sensors. Encoder feedback to a measurement controller unit allows the cut ply length to be determined using a specific software application designed to detect a ply of a specified thickness.

The measurement system will be integrated into the transport mechanism responsible for transporting the cut ply beneath the sensors in a controlled way. An encoder fitted to a measuring wheel in contact with the ply ensures no material slippage and providing positional feedback.

System description

In order to measure ply length an SLS Sensor System is required (as illustrated below) comprising:

- 2 x fixed mounted SLS5000 sensors
- Pre-processor junction box and cable kit
- Measurement Controller
- Application software for ply edge detection, length calculation and data reporting
- Laser Sensor mounting mechanism and encoder feedback

