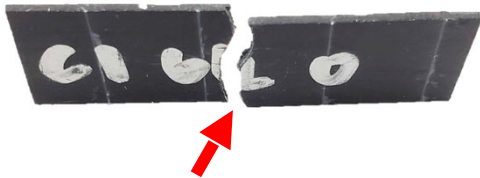
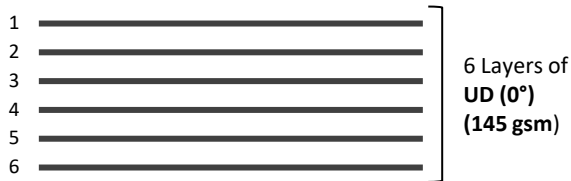


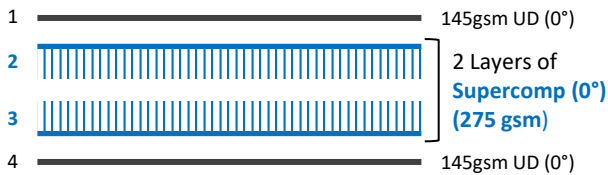
INCREASES DAMAGE TOLERANCE

Demonstration of how Supercomp enhances the damage tolerance of thin parts through an example with three-point bending

Baseline



Supercomp



WHAT IS THE PROBLEM?

- Manufacturers of thin carbon fiber parts risk **high liability** and **in-warranty returns**, stemming from the **catastrophic failure** of carbon fiber composites

IMPACT OF THE PROBLEM

- Safety risks and durability issues if parts are not designed to cope with catastrophic failure
- Labor-intensive parts if off-axis plies are used to increase ductility
- Lower stiffness by using fiberglass or thermoplastic fibers

WHAT IS MISSING?

- 100% carbon fiber reinforcement that has high stiffness yet a ductile failure

SUPERCOMP INCREASES DAMAGE TOLERANCE

After a three-point flexural loading, per ASTM D790, the coupons cut from the **baseline panel failed catastrophically**.

The coupons cut from the **Supercomp panels remained intact while reaching similar flexural properties** as the baseline coupons. Both the baseline and Supercomp panels had equivalent weight and thickness (0.8mm.)

Supercomp coupons continued to be loaded until they reached double the max strain of the baseline coupons and retained 42% of their max strength before fully fracturing.

