

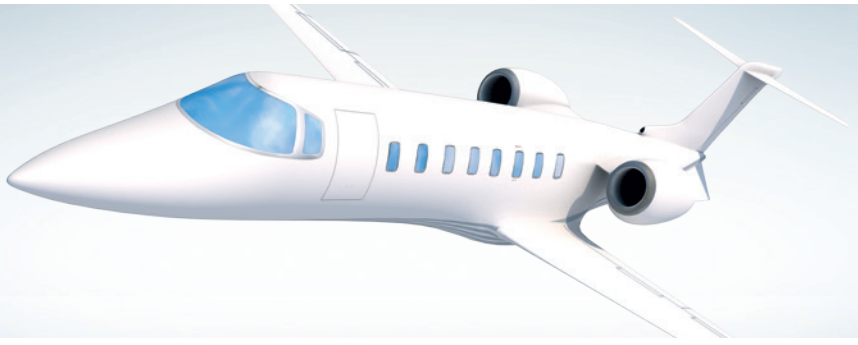
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LOCTITE SURFACING FILM: MAXIMUM PROTECTION AND 30% WEIGHT REDUCTION.

> OUR CHALLENGE

The Learjet 85 aircraft is a new business jet manufactured by Bombardier using an all composite structure. Lightning strike and surfacing films are required for external components and much of the composite structure is manufactured at the Bombardier facility in Querétaro, Mexico using out-of-autoclave processing with a vacuum pressure of only 0.75 bar due to the altitude.

Bombardier and Henkel worked cooperatively in the process development of **LOCTITE EA 9845 LC AERO**, which provides a high surface quality with vacuum only processing, enables the use of lightning strike protection, and reduces weight compared to currently available legacy surfacing films. Until this point lightning strike films have required either full autoclave pressure (minimum 3 bar), heavier surfacing film areal weights or have required significant re-work to fill and smooth the surface to meet aerodynamic surface requirements.

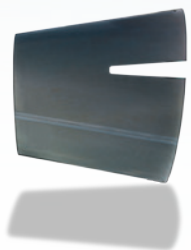
> OUR CONTRIBUTION

Henkel developed the **LOCTITE EA 9845 LC AERO** lightning strike surfacing film for use on the Learjet 85 business jet's external composite structure. This included the scale-up of processing from manufacture of test panels to full-scale demonstration articles. This innovation can be applied to virtually all aircraft composite external components.

> THE BENEFITS

Henkel's innovative **LOCTITE EA 9845 LC AERO** lightning strike film:

- Reduces the weight of the surface film by 30%
- Reduces the weight of the overall composite structure resulting in lower fuel consumption and reduced emissions
- Reduces the cost of the composite structure due to out-of-autoclave processing
- Can be co-cured with the structure using only vacuum pressure, thereby reducing labour and material costs
- Provides a high surface quality for aerodynamics
- Requires minimum rework



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