

# ALLURALITE™

LIGHTWEIGHT AESTHETIC COMPOSITES

THE ART AND SCIENCE OF  
**THERMOSET  
COMPOSITES**



## LIFTGATE OUTER PANEL

Lightweight by Design  
Built to Last.

35% WEIGHT REDUCTION  
Lighter than stamped  
steel

CORROSION RESISTANCE  
Built for long-term  
durability

# VOLKSWAGEN LIFTGATE OUTER PANEL

## inquiry

The liftgate of an SUV is one of the most utilized features of the vehicle and an important part of the overall design. It needs to be both functional and capable of withstanding minor bumps and scrapes without sacrificing appearance. It must hold up to the high stresses involved in a collision and the vibrations which occur during daily use. Additionally, it is a highly visible part and as such needs to be able to meet and maintain high aesthetic standards. Because the part is exposed to the elements, it must be resistant to temperature fluctuations and corrosive elements as well. Coupled with all of these needs is an inherent push by the auto industry toward light weighting to affect greater mileage.

## idea

Traditionally liftgates have been made of stamped steel because it met many of the criteria required for safety and durability. However, Volkswagen realized that steel has drawbacks compared to thermoset composites. Most notably, steel is significantly heavier than thermoset composites and more susceptible to corrosion. It is also more likely to show damage from minor bumps whereas composites don't dent or deform. When IDI and VW reviewed materials options while designing the prototype liftgate for the VW Atlas, they determined IDI's Alluralite material was the ideal solution.

## innovation

The resulting part not only achieved a high aesthetic surface finish that Volkswagen required for the project, but it also reduced approximately 35% of the weight compared to the steel part. The lighter liftgate affords easier usability by the consumer and offers VW the opportunity for parts consolidation. The aesthetic finish, strength and inherent performance characteristics that thermoset composites offer truly make this a superior solution in the auto industry.

