

The industry-first Jeep Grand Cherokee composite tunnel reinforcement

Background

Stellantis, a leading global automaker was looking to reduce the weight of their 2021 Jeep Grand Cherokee L since their traditional solution was made from high strength steel. The aim was to reduce mass of the vehicle and improve durability without compromising safety performance. The cooperation between BASF, L&L products and Stellantis resulted in a lightweight composite tunnel reinforcement (CTR), which has superior strength to magnesium, aluminum or steel, while upholding safety standards. This project received the prestigious Altair Enlighten Award in August 2021.



Power of technology

- The combination of the Continuous Composite Systems™(CCS) pultrusion technology with polyurethane chemistry from BASF was the key to success of the CTR
- By using the CCS pultrusion technology, L&L Products and Stellantis were able to create a new design that reduces the packaging along with mass and uses the surrounding environment on the vehicle to help transition loads to the CTR.
- BASF's Elastocoat polyurethane chemistry together with continuous glass fibre provided an exceptional strength to weight ratio in comparison to ultra-high strength steel



Sustainability elements

- 40% weight reduction compared to the previous version
- A further 20% weight savings on the subsystem
- Total weight savings per vehicle is 2.08kg
- The weight reduction contributes to lower CO2 emissions and better gas mileage of the vehicle

A lighter vehicle for a lighter footprint on the environment with no compromise on safety. Learn more about the project [here](#).