



## Vari-Form Reinforcement Assembly Front Pillar Outer

The reinforcement assembly front pillar outer of the 2017 Nissan Titan is made of an ultra-high strength steel (UHSS) hydroformed tube which provides the main structural reinforcement running from the base of the hinge pillar to along the roof line. The ability to continuously change the shape of a closed cross section tube enabled designers to maximize the structural geometric efficiency of the main tubular back bone within the confines of the limited packaging environment. The ability to quickly assess and react to the strain loads as provided by the CAE model allowed the designers to quickly modify reinforcements and necessary attachments in required zones and optimize the assembly and reduce part count.

Category:  
**Module**

Application:  
**2017 Nissan Titan**

Weight Savings:  
**15.9 kg**

less mass than  
reference vehicle

Methodology:  
**Design Optimization**