ENLIGHTEN®
AWARD 2018
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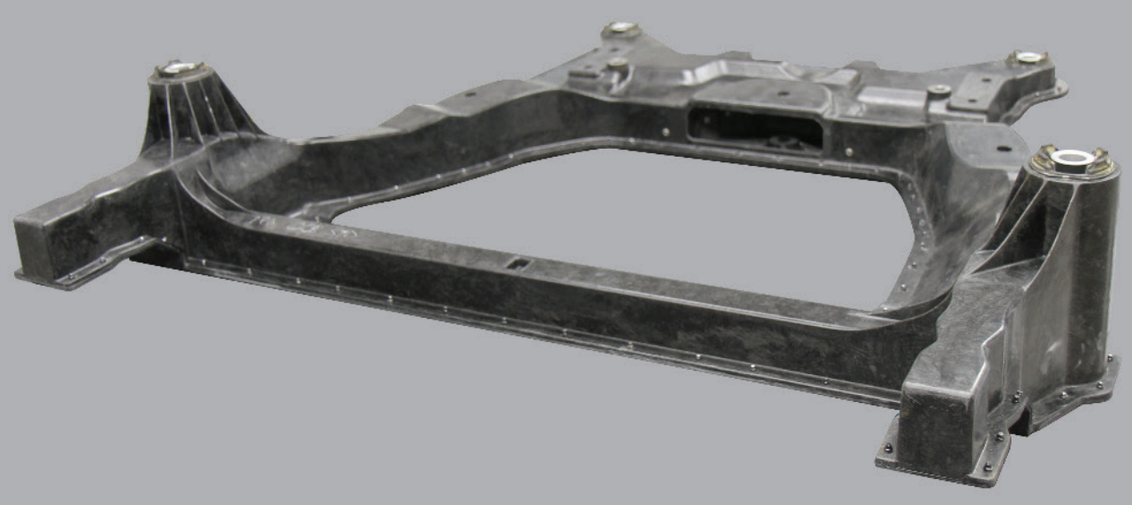
Future of Lightweighting Entry



Magna Exteriors

Subframe

Increasing global emissions requirements demand that manufacturers find new materials and innovative applications to aid in the dramatic reduction of weight, which then reduces emissions and improves fuel efficiency. Manufactures are looking for new materials, which have traditionally been too expensive for mass production, to help them meet requirements. Magna's carbon fiber subframe, developed in a joint project with Ford Research & Advanced Engineering, brings an affordable composite solution in to the structure of the vehicle and achieves a dramatic 82 percent part reduction and 34 percent mass savings. Using the least expensive commercially available carbon fiber, Magna has created a new composite material called EpicBlend SMC. EpicBlend SMC, compounded by Magna, utilizes a chopped 50k industrial grade carbon fiber with a modified vinyl ester resin system. Continuous carbon fiber is then co-molded with chopped materials. Using this multi-directional fabric with the modified vinyl ester resin system provides a boost in material properties where needed in the subframe and allows molding of complex geometry.

Development and implementation of this new material are critical steps toward making carbon fiber cost effective for mass production.

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