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Mitsubishi Chemical's SMC Adopted for New Lexus LC500 and LC500h luxury coupes

Mitsubishi Chemical Corporation

Mitsubishi Chemical Corporation (Headquarters: Chiyoda-ku, Tokyo; President: Hitoshi Ochi, hereinafter "MCC") announced that its carbon fiber sheet molding compound (SMC) has been adopted for the door and luggage room inner panels of the new Lexus LC500 and LC500h luxury coupes, which were launched by Toyota Motor Corporation (Headquarters: Toyota City, Aichi Prefecture; President: Akio Toyoda, hereinafter "Toyota") in March 2017.

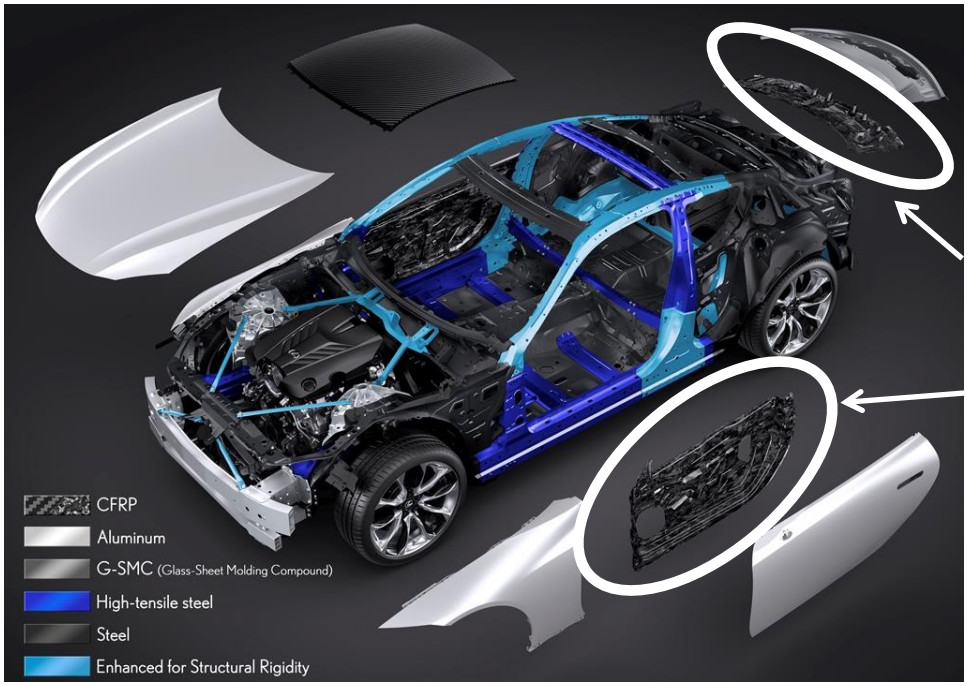
In line with the tightening of fuel efficiency regulations and carbon dioxide emission controls, interest in vehicle weight reduction has been growing in the automotive market and carbon fiber reinforced plastic (CFRP) that combines lightweight with high strength is expected to find application in automotive components.

SMC developed by MCC is a type of intermediate material for CFRPs and a sheet-shaped material in which carbon fibers cut into several-centimeter lengths are dispersed in resin. The SMC can be processed into components in a short period of time, i.e. roughly 2 to 5 minutes, by press molding. In contrast to prepreg intermediate materials (uncut carbon fiber fabric impregnated with resin), this SMC features high formability for molding complicated shaped parts. It also exhibits close-to-uniform mechanical properties. This allows engineers to readily use the carbon fiber material by utilizing existing parts design know-how and achieve lighter components with higher strength.

MCC's SMC has been adopted for the new Lexus coupes because its advantages have earned high recognition from the automaker. These advantages include a substantial reduction in the vehicle weight, the achievement of a great component performance, and an excellent formability that enables production of complicatedly shaped components. The new Lexus LC500 and LC500h are the second round of Toyota vehicles that use MCC's SMC following the first round in which the SMC was adopted for the rear door frame of the new Prius PHV in February this year. MCC will actively and extensively promote the use of its carbon fiber materials for automotive components.

The Mitsubishi Chemical Holdings Group's "APTSIS 20" mid-term management plan aims for achieving sales of JPY 100 billion from the carbon fiber and composite material business in 2020. To meet this target, MCC will actively expand its operations targeting fast-growing automotive applications and other industrial areas.

[Lexus LC500]



[Door and luggage room inner panels of Lexus LC500 using MCC's carbon fiber SMC]

Photos: courtesy of Toyota Motor Corporation

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