

CFRP: WHAT IS NEXT TO MASS PRODUCTION IN THE AUTOMOBILE?

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Carbon fiber reinforced plastic (CFRP) is widely used in Aeronautic application to reduce weight. Also, Body-in-white of ultra high grade car, such as McLaren SLR or Porsche Carrera has been produced with CFRP. Toray Industries, Inc. has supplied hood for Skyline GT-R in Nissan Motors and drive shaft for Pajero in Mitsubishi Motors and Fairlady Z in Nissan Motors. Toray has been well known not only as the leading company of carbon fiber manufacturer but a supplier of CFRP for automotive parts manufacturer.

In this presentation, we will introduce next strategy of mass production of automobile using CFRP. For the examples of solutions, a novel molding technology has been developed for high cycle RTM method in 10 minutes and a numerical analysis technique for the head injury criteria (HIC) of CFRP parts. As another solution, a new pilot recycling plant for CF, prepreg and CFRP parts has been worked coalition with Toray, Teijin and Mitsubishi Rayon, sponsored by Ministry of Economy, Trade and Industry, Japan. Moreover, Toray Automotive Center will be introduced, which will be established in Nagoya this October.