



Process/Assembly/Enabling Technologies

Part via Preform (PvP) Assembly Carrier

OEM/Vehicle

Volkswagon AG

2016 Porsche GT3 Cup II

System Supplier

Toho Tenax

Material Processor

Toho Tenax

Resin

Epoxy



Part via Preform (PvP) technology enables economical production of carbon fiber reinforced plastic (CFRP) automotive parts. The carbon fiber has been binder-modified to be sprayed into near-net shape preforms without intermediate textile processing resulting in a 30% cost save. High fiber volume content (50% Vf), delivers high mechanical properties. The process can create complex shapes with homogenous material and can be combined with aligned fiber placement (AFP) for part reinforcement. Resin injection of PvP preforms works with high pressure resin transfer molding (HP-RTM) including an in-mold coating step to provide for easy surface painting. The binder on the carbon fiber can be activated, allowing for greater design freedom, and ability to assemble preforms and achieve local thickness variations to exacting specs.