Air Intake Manifold with Integrated Water-Cooled Charge Air Cooler

OEM/Vehicle
Fiat Chrysler Automobiles
2018 2.0L Turbocharged Engine

System Supplier
Magneti Marelli

Material Processor
Magneti Marelli

Material Supplier
BASF

Resin
Ultramid ENDURE D3G7 PA

Tooling/Equipment Supplier
Magneti Marelli

This air intake manifold, with fully integrated charge air cooler, is a unique packaging solution that enables a common CAC/manifold across multiple applications. The water cooler adds performance over an air-to-air cooler. Operating in a challenging harsh environment and tight packaging, the design has been optimized for light weight and low cost. The manifold was enabled by a high heat resin and innovative use of foam to protect the part from external heat sources.