

# METAL/PLASTIC HYBRID SOLUTIONS FOR STRUCTURAL COMPONENTS

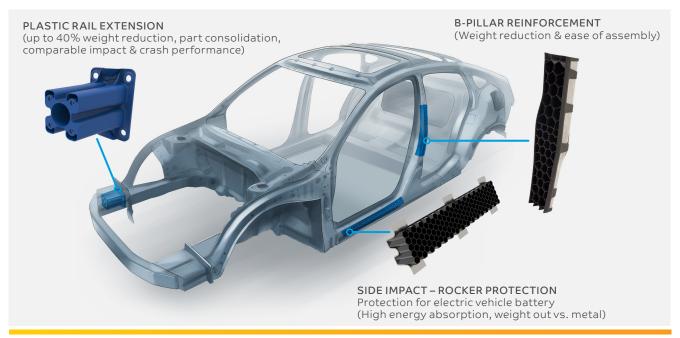
Metal/plastic hybrids are highly engineered solutions for critical structural elements that can help promote vehicle safety. They can provide valuable solutions to a number of situations, allowing for the realization of greater system cost reduction, enhanced design freedom, weight out and better long-term performance. The incorporation of NORYL GTX<sup>TM</sup> resin in metal/plastic hybrids can provide several benefits as mentioned above, beyond many of the traditional automotive materials such as PA6,6 and PBT.

NORYL GTX<sup>™</sup> resin is E-Coat process capable and maintains its shape, even while supporting additional loads. Additionally, NORYL GTX<sup>™</sup> resin solutions can be up to 20% lighter than other engineering thermoplastics and up to 40% lighter than steel; allowing for lighter parts and superior fuel economy.

## NORYL GTX™ RESIN PERFORMANCE ATTRIBUTES

- The resin can withstand a broad range of temperature extremes from 220°C during assembly to -40°C during in-use applications. The higher heat soak capability of up to 220°C for up to 60 minutes helps to ensure mechanical and aesthetic property retention during unexpected down time on a production line.
- Documented ductile low-temperature impact performance to protect critical automotive components by providing superior energy absorption, allowing OEMs to design with less packaging space without sacrificing protection performance.
- Outstanding hydrolysis resistance and dimensional stability vs. PBT, protecting automotive components from polymer breakdown due to moisture exposure, and providing enhanced property retention and dimensional stability vs. PA6 & PA6,6.

## SABIC'S NORYL GTX™ RESIN FOR STRUCTURAL COMPONENTS





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