

A LIGHTWEIGHT BODY IN WHITE HYBRID REINFORCEMENT SOLUTION

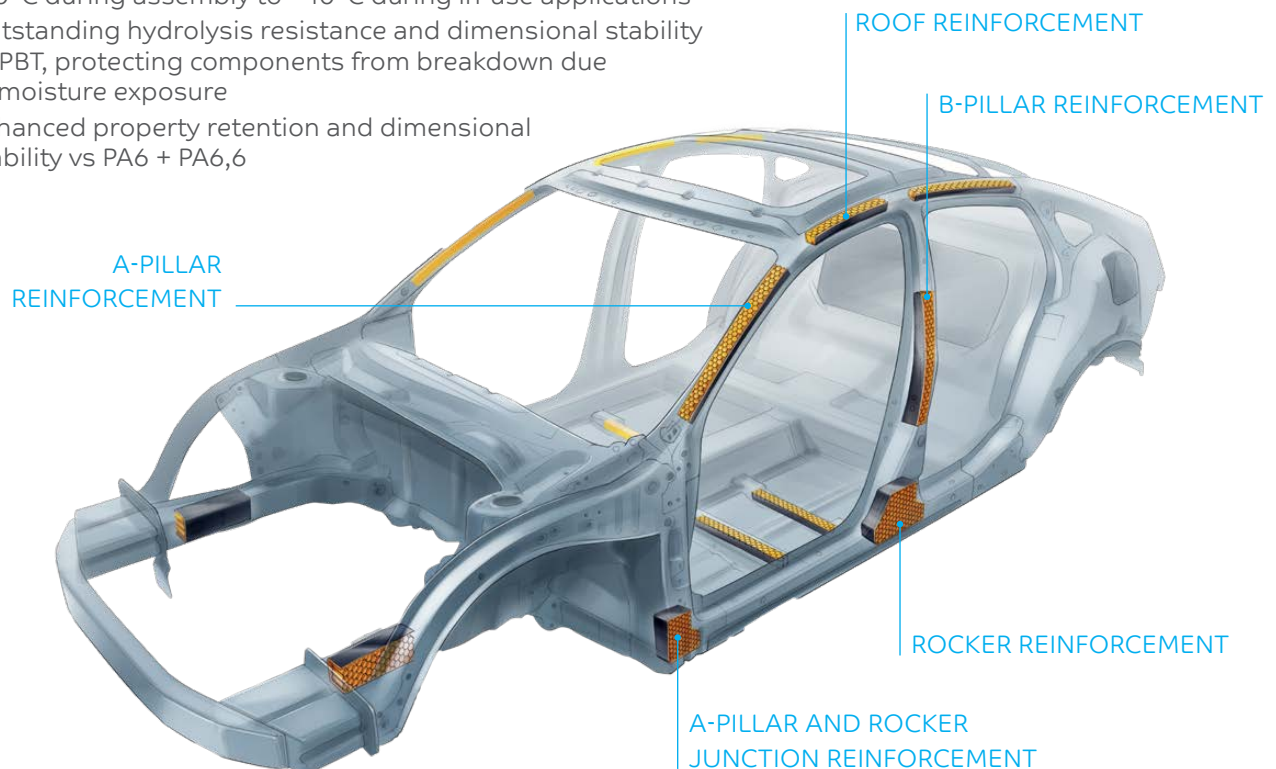
NORYL GTX™ RESIN

NORYL GTX™ resin is an alloy of modified polyphenylene ether (PPE) and polyamide (PA).

This unique pairing combines the long-term dimensional stability, low water absorption, low specific gravity and heat resistance of PPE with the chemical resistance and flow of PA polymer. The result is a highly chemically resistant material with the stiffness, strength, and impact resistance required for metal/plastic hybrid solutions in Body in White applications.

POTENTIAL BENEFITS OF NORYL GTX™ RESIN IN PLASTIC/METAL HYBRID SOLUTIONS

- Comparable performance to high-strength steel designs
- Up to 30-40% mass reduction from each reinforcement
- Ease of assembly
- Up to 5-10 kgs total weight saving potential from 10-12 reinforcements in BIW
- Critical property retention following e-coat
- Potential system cost savings vs. multiple steel components
- Can withstand a broad range of temperature extremes from 220°C during assembly to -40°C during in-use applications
- Outstanding hydrolysis resistance and dimensional stability vs PBT, protecting components from breakdown due to moisture exposure
- Enhanced property retention and dimensional stability vs PA6 + PA6,6



KEY GRADE OFFERINGS

NORYL GTX RESIN GRADE

NORYL GTX964W RESIN

FEATURES

- GOOD PROCESSABILITY
- VERY HIGH IMPACT RESISTANCE + FLOW
- THIN WALL CAPABILITY
- DESIGNED FOR ENERGY ABSORPTION

NORYL GTX830 RESIN

- 30% GLASS REINFORCED
- HIGH STIFFNESS
- EXCELLENT CHEMICAL RESISTANCE
- HIGH HEAT RESISTANCE
- USCAR CLASS III

KEY PROPERTIES	NORYL GTX964W Resin	NORYL GTX830 Resin
MECHANICAL		
Flexural Modulus, 2.6 mm/min, 100 mm span (ASTM D 790)	1830 MPa	8580 MPa
Flexural Stress, yld, 2.6 mm/min, 100 mm span (ASTM D 790)	73 MPa	248 MPa
IMPACT		
Izod Impact, notched, 23°C (ASTM D 256)	528 J/m	106 J/m
Izod Impact, notched, -30°C (ASTM D 256)	-	80 J/m
THERMAL		
HDT, 0.45 MPa, 6.4 mm, unannealed (ASTM D 648)	185 °C	254 °C
PHYSICAL		
Specific Gravity (ASTM D 792)	1.08 -	1.33 -
Water Absorption, 50% RH, equilb (ASTM D 570)	1.19%	1%
Melt Volume Rate, MVR at 280°C/2.16 kg (ISO 1133)	7 cm ³ /10 min	-
Melt Volume Rate, MVR at 280°C/5.0 kg (ISO 1133)	-	7 cm ³ /10 min

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