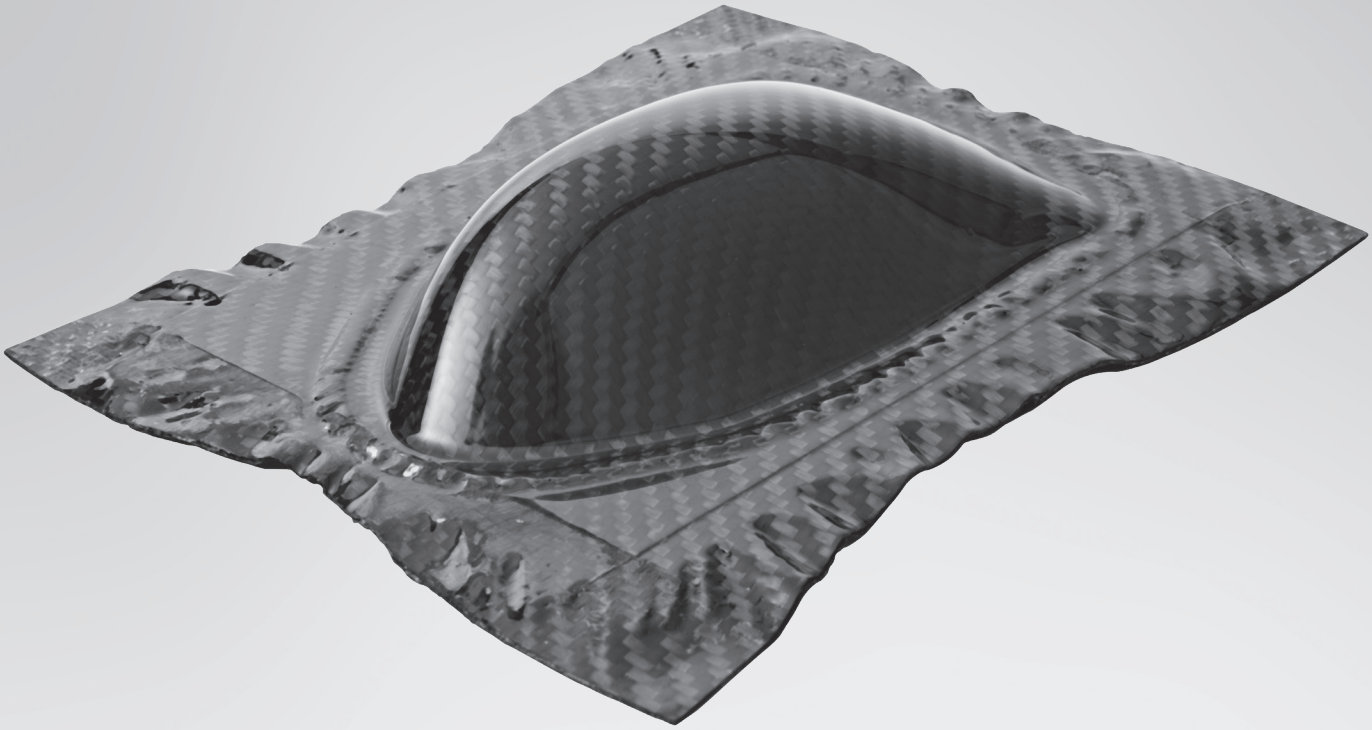
CARBON LOOK
STYLIGHT®

The best thermoplastic composite solution: lightweight, semi-structural, aesthetic



INEOS STYROLUTION

Driving Success. Together.

Commonly used technologies for "aesthetic carbon fibre parts" are based on thermoset resins: Either a carbon textile is pre-impregnated with Epoxy and then typically cured in Autoclaves with multiple hours cycle time, or a dry carbon woven fabric is draped on a plastic substrate and then impregnated with PU resin. In both cases, the main challenge with these technologies is to prevent the sensitive carbon fabric pattern to be disrupted during the draping and the impregnation process resulting in visible surface defects.

With StyLight® carbon sheet, the woven fabric is already in the SAN matrix and delivered as a laminate. This is limiting the risk for the fibre to move during the thermoforming process. The cycle time will be closer to a couple of minutes, and the parts can be back injection molded with a compatible thermoplastic. This new technology is resulting in a lower reject rate, labor and processing cost, suitable for large quantity manufacturing, and allows function integration in the back injection molding. Moreover, it requires significantly less surface treatment before clear coating. StyLight is a cost effective solution easier to process than alternative transparent thermoplastic composites based on TPU or PC and it has been approved according to industry standards in Automotive, Electronics and Toys, Sports & Leisure applications.

STYLIGHT VS. ALTERNATIVE THERMOPLASTIC COMPOSITES

Properties	PC Composite	TPU Composite	StyLight
Surface waviness	++	++	+++
Surface gloss	+	+	+++
Post process before painting	-	-	+++
Paintability (surface polarity, ESCR)	++	+++	+++
Dimensional stability	++	++	+++
Heat deflection temperature	++	++	++
Mechanical performance	++	+	+++
Impact strength	+++	+++	++
Processability	++	++	+++
Low water uptake	+	+	+++

STYLIGHT – CARBON LOOK

Product name	StyLight Aesthetic S C245-1	
MATERIAL DESCRIPTION	Unit	
Fibres		Carbon
Textile		Fabric: Twill 2/2
Area weight	g/m²	245
Yarn	tex	3k
Weight rate	%	50/50
Polymer		Modified SAN
Fibre content	vol-%	45
Thickness per layer	mm	0.3

STYLIGHT – PROCESS EFFICIENCY

StyLight Process

Thermo-forming of StyLight → Back injection of Novodur® SL or Terblend® SL → Painting process

#ProcessEfficiency
#CostSavings
#MassProductionCapable

Conventional Process

Prepreg Autoclave or RTM curing process → Triming → Injection molding of mounting brackets → Assembling brackets onto carbon fibre part → Painting process

STYLIGHT – SUITABLE COATING

Clear coat for StyLight Aesthetic S C245-1 developed by Berlac AG

Product name	Berlac 54-0115-401	Berlac 54-0131-401
System	2-component PUR clearcoat	2-component PUR clearcoat
Gloss level	High gloss	Silky gloss
Drying parameters	60min/80°C	60min/80°C
Tested according to	TL 221/TL 226/DBL 7384	TL 221/TL 226/DBL 7384
Features	• UV stabilized • Scratch and abrasion resistance • Greatest possible transparency for the perfect carbon look • No primer needed for StyLight • One coating layer is enough for a high quality result	