

## STYLIGHT® – PROCESSING CONDITIONS

Product name	Unit	StyLight Aesthetic S			StyLight Structural S	
		G290-1	G615-2	C245-1	G580-1	G600-3
PROCESSING	Unit					
Sheet temperature range at pre-heating*	°C	240-280 (< 4min)	240-280 (< 4min)	240-280 (< 4min)	220-240 (< 4min)	220-240 (< 4min)
Sheet temperature range before mold closing	°C	200	200	200	180	180
Mold closing speed (speed for draping)	mm/s	> 5	> 5	> 7	> 5	> 5
Consolidation pressure**	MPa	0.5-2	0.5-2	0.5-2	0.5-2	0.5-2
Mold temperature range	°C	140-200***	140-200***	140-200***	60-90	60-90
Demolding temperature	°C	< 95	< 95	< 95	< 95	< 95
Drying		not necessary	not necessary	not necessary	not necessary	not necessary

\*depending on transport time to the mold \*\*highly depending on shape \*\*\*variotherm process required

## STYLIGHT – MATERIAL FOR BACK INJECTION MOLDING

For three-dimensional parts used for automotive or sports applications, the back injected molding material plays a key role in the finished part performance. For that purpose different glass fibre reinforced injection molding materials have been developed to

offer a range of structural stiffness combined with high surface adhesion on the StyLight sheet. These special grades are identified with the suffix "SL" (for StyLight).

Product name			Novodur® M203 G3 SL	Terblend® N NG-04EF SL	Terblend® N NG-06EF SL
MATERIAL FOR BACK INJECTION	Standard	Unit			
Base resin			ABS GF	ABS/PA GF	ABS/PA GF
Fibre content		%	16	20	30
Melt volume rate, 240°C/10kg	ISO 1133	cm³/10min	18*	30	8
Tensile modulus, 23°C	ISO 527	MPa	5600	5300	7500
Tensile stress at yield, 23°C	ISO 527	MPa	65	80	90
Heat deflection temperature B (annealed; 0.45 MPa)	ISO 75	°C	106	174	188
Density	ISO 1183	kg/m³	1190	1200	1270
Linear mold shrinkage	ISO 294-4	%	0.3	0.4	0.2

\* test method: 220°C/10kg

## STYLIGHT® – PRODUCT PROPERTIES

			StyLight Aesthetic S			StyLight Structural S	
Product name			G290-1*	G615-2*	C245-1	G580-1	G600-3
DESCRIPTION	Standard	Unit					
Fibres			Glass	Glass	Carbon	Glass	Glass
Textile			Fabric: Twill 2/2	Non crimp fabric: +/-45°	Fabric: Twill 2/2	Fabric: Twill 2/2	Non crimp fabric: 0°/90°
Area weight		g/m <sup>2</sup>	290	615	245	580	600
Yarn		tex	204	300	3k	1200	1200/300
Weight rate		%	50/50	50/50	50/50	50/50	80/20
Fibre content		vol-%	45	48	45	45	47
Density		kg/m <sup>3</sup>	1750	1750	1400	1750	1750
Thickness per layer		mm	0.25	0.5**	0.3	0.5	0.5**
<b>MECHANICAL PROPERTIES</b>							
Tensile modulus, 23°C	ISO 527-4	MPa	23900	24500	53900	22600	32700
Tensile strength, 23°C	ISO 527-4	MPa	490	450	520	450	760
Tensile elongation, 23°C	ISO 527-4	%	2.6	2.4	1.0	2.4	2.5
Flexural modulus, 23°C	ISO 14125	MPa	25500	34900	45900	27400	37400
Flexural strength, 23°C	ISO 14125	MPa	720	880	770	590	1100

\*also available with top-layer to further improve surface \*\*minimum of two layers for dimensional stability

## STYLIGHT – NOMENCLATURE

### StyLight Aesthetic S

Thermoplastic composite based on modified SAN matrix optimized for semi-structural aesthetic applications

### StyLight Structural S

Thermoplastic composite based on modified SAN matrix optimized for structural applications

### StyLight Aesthetic S G290-1-200-1XXX

