



<b>starex<sup>®</sup></b>	<b>Grade</b>	GR-4017
	<b>Resin Type</b>	ABS/GF

Automotive

Item	Measuring Method	Condition	Unit	Value
<b>Physical</b>				
Specific Gravity	ISO 1183	Natural or representative	-	1.17
Melt Flow Index	ISO 1133	220l, 10kg	g/10min	17.2
Mold Shrinkage(MD)	ISO 294-4	Flow at 2mm(MD)	%	-
Mold Shrinkage(TD)	ISO 294-4	X-Flow at 2mm(TD)	%	-
ASH content	ISO 3451	-	%	17
<b>Mechanical</b>				
Tensile Strength at Yield	ISO 527	50mm/min	MPa	93
Tensile Strain at break	ISO 527	50mm/min	%	3
Tensile Modulus	ISO 527	50mm/min	MPa	5200
Tensile Strength at Break	ISO 527	50mm/min	MPa	93
Flexural Strength	ISO 178	2mm/min	MPa	131
Flexural Modulus	ISO 178	2mm/min	MPa	5800
Izod Impact Strength (notched)	ISO 180 1A	at 23°C, 4mm	kJ/m <sup>2</sup>	8
Charpy Impact Strength (V-notched)	ISO 179 1eA	at 23°C, 4mm	kJ/m <sup>2</sup>	8.6
Rockwell Hardness	ISO 2039-2	R-scale	-	117
<b>Thermal properties</b>				
Heat Deflection Temperature(Unannealed)	ISO 75-2	1.8MPa, 4.0mm	°C	100
Heat Deflection Temperature(Unannealed)	ISO 75-2	0.45MPa, 4.0mm	°C	105
Heat Deflection Temperature(Annealing)	ISO 75-2	1.8MPa, 4.0mm	°C	105
Heat Deflection Temperature(Annealing)	ISO 75-2	0.45MPa, 4.0mm	°C	109

## Thermal properties

VICAT Softening Temperature	ISO 306	B/50	°C	105
VICAT Softening Temperature	ISO 306	B/120	°C	107

1. The above figures are the representative values based on NP, which may vary from color to color, and can be used as a reference only for the purpose of selecting materials.
2. The above figures are basic guidelines for selecting materials; therefore, they are not regarded as the official specifications for materials involved, and cannot be used for the purpose of designing a mold.
3. The above values can be adjusted in accordance with processing conditions, and the specific change in value is allowed only within a limited range in which adjustment has no adverse or negative impact on the final product.

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