



## HiPrene<sup>®</sup> ALC12BE

Long Carbon Fiber reinforced PA6 Compound-Black Color

### Product Description

*HiPrene<sup>®</sup> ALC12BE is 20% Long Carbon Fiber reinforced polyamide-6 compound. This material combines excellent mechanical properties with low density and excellent dimensional stability. It has been designed for Weight-reduction in Automotive and other Industrial applications. This grade is available in black color.*

### Product Characteristic

<b>Status</b>	Commercial: Active
<b>Test Method Used</b>	ASTM
<b>Availibility</b>	Europe
<b>Features</b>	Long Carbon Fiber Reinforced Low Specific Gravity High Stiffness
<b>Typical Customer Applications</b>	Automotive Parts/Industrial Parts

### Typical Properties

Physical	Symbol	Test Method	Unit	Value
Specific Gravity	$\rho$	ASTM D792	g/cm <sup>3</sup>	<b>1,17</b>
Mechanical	Symbol	Test Method	Unit	Value
Tensile Stress @ Yield	$\sigma_m$	ASTM D638	MPa	<b>195</b>
Tensile Strain @ Break	$\epsilon_{tB}$	ASTM D638	%	<b>1,5</b>
Flexural Modulus <sup>1</sup> @ 23°C	$E_f$	ASTM D790	MPa	<b>11500</b>
Impact	Symbol	Test Method	Unit	Value
IZOD Impact Strength @ 23°C	$a_{IN23^\circ C}$	ASTM D256	kJ/m <sup>2</sup>	<b>10</b>
IZOD Impact Strength @ -30°C	$a_{IN-30^\circ C}$	ASTM D256	kJ/m <sup>2</sup>	<b>9</b>
Hardness	Symbol	Test Method	Unit	Value
Rockwell Hardness (R-Scale)	HR-R	ASTM D785	-	<b>122</b>
Thermal	Symbol	Test Method	Unit	Value
Temperature of Deflection under Load (HDT)	$T_f$	ASTM D648	°C	<b>215</b>
Ash Content @ 600°C	Ash <sub>600°C</sub>	GS Method	%	<b>20</b>

<sup>1</sup> feed rate 2 mm/min

**Notes:** Typical properties; not to be constructed as specification

## Processing Techniques

The actual conditions depends on the type of equipment used.

### Injection Moulding

*HiPrene ALC12BE* is easy to process with standard injection moulding machines. To avoid residual humidity from transport or storage, the material should be pre-dried approximately 2h at 80°C. Following moulding parameters should be used as guidelines:

Dry Condition : 100°C, 4hr

#### Injection Temp.

Feeding : 200~250

Rear : 255~265

Middle : 265~275

Front : 275~285

Nozzle : 275~285

Melt : 275~285

Mold : 50~70

### Storage

This material should be stored in dry conditions, protected from sunlight and at temperatures below 50 °C.

### Contact

#### GS Caltex Czech, s.r.o.

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