

INSPIRE™ DLGF 9631.01 Z

60% длинное стекловолокно

Homopolymer Resin

Trinseo

Описание материалов:

DLGF 9631.01 Z is based on polypropylene homopolymer and reinforced with 60% by weight of long glass fibers. (PP-LGF60, Long Glassfiber Granulate).

DLGF 9631.01 Z is produced by pultrusion / meltimpregnation process, thereby ensuring thorough impregnation of all the filaments in the glassfiber-rovings and also providing improved 'pellet robustness' for air conveying.

It is available in 'standard black' colour (TR 7701862).

This PP-LGF60 is a 'concentrate' which has to be diluted - usually with 'neat'-PP but also mineral-filled PP-based compounds can be used. The 'dilution' is typically done as a dry-blend of granulates by means of gravimetric dosing devices at the injection-molding machine.

A weight ratio of 1 : 1 of DLGF 9631.01 Z and i.e. LGF 8100 PP-copolymer will result in a composite-material-system having 30% by weight of glassfibers.

The 'long' glass fibers (initial length = 11 mm) provide high stiffness, strength and impact-resistance to the injection molded parts.

DLGF 9631.01 Z has been especially formulated to meet the requirements for use in automotive 'under-the-hood' (UTH) and 'under-body' applications i.e. front-end carriers (FEC) aka 'bolster', impingement shields or structural parts like i.e. battery trays or spare wheel wells.

The long term heat ageing resistance (LTHA) has been increased to a high level as needed for 'UTH' applications. Injection molded parts based on DLGF 9631.01 Z diluted with 'neat'-PP to 30% GF-content will show no signs of degradation and surpass the limit of > 1000 h @ 150°C.

When diluted to 40% GF-content, the heat aging performance of composites based on DLGF 9631.01 Z will increase beyond the 1000 h. In many cases, even a dilution to 20% will result passing beyond 1000 h @ 150°C, however this will depend on the wall-thickness of molded parts as well as the choice of dilution resin and therefore, it is recommended to conduct own tests.

For large size molded parts, the PP-types chosen for dilution typically have MFI values in the range of 40 - 80 (g/10min @ 230°C) and for most applications the choice of impact-copolymers like LGF 8000 or LGF 8100 (European grades) and LGF 8600 or LGF 8500 ('corresponding' North American grades) represents the best property balance. For smaller parts / shorter flow-paths, the dilution can also be done with PP-types having MFI in the range of 10 - 20 for increased low temperature impact performance. To meet certain application-specific requirements the polymer-type for dilution could also be homopolymer PP (LGF 7000, LGF 7600) as well as mineral-filled/compounded PP-grades. Eventually, a third component (i.e. talcum-masterbatch, DTFC AP.71) can be added to control shrinkage and warpage, thereby increasing the available options for optimization of the material-system.

Note: The properties shown below have been measured on standardized 'dogbone'-shape specimens (ISO 3167). However, the mechanical properties which will be present in 'real' injection-molded parts may be different - depending on the glassfiber-orientation and the fiber-length distribution profile - which themselves are resulting from processing parameters and hardware configuration (such as i.e. the type of screw and mixing elements, back-pressure during dosing cycle, diameter and radii of nozzle and hot-runners, number and size of gates, speed of injection during mold filling and flow-path and flow-length within the mold).

Главная Информация	
Наполнитель/армирование	Длинное стекловолокно, 60% наполнитель по весу
Характеристики	Жесткий, высокий
	Высокая прочность
	Хорошая теплостойкая производительность старения
	Ударопрочность при низкой температуре
Используется	Компонент
	Применение в автомобильной области
Внешний вид	Черный
Формы	Частицы

Метод обработки		Литье под давлением	
Физический	Номинальное значение	Единица измерения	Метод испытания
Плотность	1.12	g/cm ³	ISO 1183
Механические	Номинальное значение	Единица измерения	Метод испытания
Модуль растяжения	6500	MPa	ISO 527-2/5
Tensile Stress (Break)	105	MPa	ISO 527-2/50
Растяжимое напряжение (Break)	2.3	%	ISO 527-2/50
Флекторный модуль ¹	6500	MPa	ISO 178
Флекторный стресс ²	155	MPa	ISO 178
Деформация изгиба-Внешний деформационный материал	2.9	%	ISO 178
Воздействие	Номинальное значение	Единица измерения	Метод испытания
Charpy Unnotched Impact Strength			
23°C	53	kJ/m ²	ISO 179/1eU
23°C	45	kJ/m ²	ISO 179/1fU
Зубчатый изод Impact			
23°C	230	J/m	ASTM D256
23°C	17	kJ/m ²	ISO 180
Многоосная инструментальная Энергия удара (23°C, 4.00mm, energy to peak strength)	19.0	J	ISO 6603-2
Мульти-осевая инструментальная ударная Пиковая сила (23°C, 4.00 mm)	3300	N	ISO 6603-2
Тепловой	Номинальное значение	Единица измерения	Метод испытания
Температура отклонения при нагрузке (1.8 MPa, Unannealed)	155	°C	ASTM D648, ISO 75-2/A

Дополнительная информация

These are typical properties as measured on injection molded specimens ('dogbones') defined by ISO 3167 type 1a (L= 175 mm, center-section: 80x10x4 mm).

Dilution Material: LGF 8100

Dilution Ratio: 1 : 1 blend

Glass Fiber Content After Dilution: 30%

NOTE

- 3-Point Bending
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