

Omnix® FC-4050

High Performance Polyamide

Solvay Specialty Polymers

Описание материалов:

Omnix® FC-4050 is a 50% glass-fiber reinforced high-performance polyamide. It is hot-water moldable and intended for use in components requiring superior mechanical properties even after moisture absorption.

Omnix® FC-4050 is characterized by high stiffness and strength, very good impact properties, good dimensional stability and high flow properties. This material is an economical alternative for food service applications using die-cast alloys.

Omnix® FC-4050 is cleared for use under United States Food and Drug Administration (FDA) Conditions of Use B through H, in contact with all food types except Food Type VI C, Beverages containing more than 8 percent alcohol.

Omnix® FC-4050 is also cleared for food contact use by European Union regulations. For specific clearances, please contact your Solvay representative.

It processes readily using conventional injection molding machines and methods. Water-cooled molds are suitable for use with this grade.

Natural: Omnix® FC-4050 NT 000

Black: Omnix® FC-4050 BK 001

Главная Информация	
UL YellowCard	E95746-102744215
Характеристики	Хорошая стабильность размеров Жесткий, высокий Высокая прочность Хорошая ударопрочность Распылитель Цикл быстрого формования Высокая яркость Формируемость горячей воды Отличный внешний вид
Используется	Электроприборы Пищевое обслуживание
Рейтинг агентства	FDA пищевой контакт, не рассчитан 3 Утверждено NSF 51 Европейский пищевой контакт, не Номинальный 4
Соответствие RoHS	Соответствие RoHS
Внешний вид	Черный Натуральный цвет
Формы	Частицы
Метод обработки	Температура воды литье под давлением

Литье под давлением

Код маркировки деталей (ISO 11469) >(PA PPA)-GF50

Физический	Номинальное значение	Единица измерения	Метод испытания
Удельный вес	1.59	g/cm ³	ASTM D792
Формовочная усадка ¹			ISO 294-4
Transverse flow	0.50	%	ISO 294-4
Flow	0.10	%	ISO 294-4

Механические	Номинальное значение	Единица измерения	Метод испытания
Модуль растяжения	17000	MPa	ISO 527-2
Tensile Stress (Yield)	245	MPa	ISO 527-2
Растяжимое напряжение (Break)	2.4	%	ISO 527-2
Флекторный модуль	15000	MPa	ISO 178
Флекторный стресс	350	MPa	ISO 178

Воздействие	Номинальное значение	Единица измерения	Метод испытания
Зубчатый изод Impact	14	kJ/m ²	ISO 180/A
Незубчатый изод ударная прочность	90	kJ/m ²	ISO 180

Тепловой	Номинальное значение	Единица измерения	Метод испытания
Температура плавления	260	°C	ISO 11357-3

Дополнительная информация

Typical values shown tested on Dry as Molded samples.

Standard Packaging and Labeling: Omnix® FC-4050 resin is packaged in foil lined, multiwall paper bags containing 25 kg (55 pounds) of material. Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.

Инъекция	Номинальное значение	Единица измерения
Температура сушки	80	°C
Время сушки	4.0 - 12	hr
Задняя температура	250	°C
Передняя температура	285	°C
Температура обработки (расплава)	275 - 290	°C
Температура формы	80 - 120	°C

Инструкции по впрыску

Drying:

Omnix® FC-4050 resin is shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Omnix® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Omnix® processing guide. It should be dried before molding because excessive moisture content will result in reduced mechanical properties and processing issues, such as excessive nozzle drooling, foaming and splay visible on the molded parts.

Recommended drying conditions are as follows:

Type of drier: Desiccant

Temperature: 80°C (175°F)

Time: 4-12 hours

Dew point: -30°C (-22°F) or lower

Polyamides oxidize in the presence of oxygen at high temperatures. Therefore drying temperatures above 80°C should be avoided, particularly for light colors or color-controlled parts.

Injection Molding:

Omnix® FC-4050 resin can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure. The melt temperature should be between 275°C and 290°C (527°F and 554°F). Generally this can be achieved with barrel temperatures from 250°C (482°F) in the rear zone gradually increasing to 285°C (545°F) in the front zone. Mold temperature should be between 80° and 120°C (176° and 248°F).

Set injection pressure to give rapid injection. Adjust holding pressure to one-half injection pressure. Set hold time to maximize part weight. Transfer from injection to hold pressure at the screw position just before the part is completely filled.

Storage:

Omnix® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Omnix® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Omnix® processing guide.

NOTE

1. Solvay Test Method. Shrink rates can vary with part design and processing conditions. Please consult a Solvay Technical Representative for more information.

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