CELSTRAN® CFR-TP PP GF60-13

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Celstran® CFR-TP PP GF60-13 is a 60% E-glass by weight PP (polypropylene) continuous fiber (uni-directional) reinforced thermoplastic composite tape. The material exhibits a high strength-to-weight ratio, excellent toughness and chemical resistance. It is well suited for industrial, automotive and sporting goods applications where cost and process ability are critical. The material is available in natural and black colors. Alternate tape widths and thicknesses may be available.

产品信息

纤维体积含量	35	%	ISO 11667
薄膜厚度	0.22	mm	ISO 16012
带宽	330	mm	ISO 16012
薄膜克重	332	g/m²	
纤维克重	199	g/m²	

机械性能

拉伸模量, Tape 0°	25700	MPa	ASTM D 3039 M
拉伸强度, Tape 0°	732	MPa	ASTM D 3039 M
断裂伸长率, Tape 0°	3	%	ASTM D 3039 M
弯曲模量, Tape 0°	26900	MPa	ASTM D 790
弯曲强度, Tape 0°	521	MPa	ASTM D 790
弯曲断裂应变, Tape 0°	2.16	%	ASTM D 790

热性能

熔融温度, 10°C/min	173	°C	ISO 11357-1/-3
玻璃化转变温度, 10°C/min	-10	°C	ISO 11357-1/-3

其它性能

密度	1490	kg/m³	ISO 1183

特性

加工方法	热成型, 模压成型, 选择性增强

其他信息

模压成型

Processing

Celstran® CFR-TP Tape Laminate Processing Guidelines

Celstran® CFR-TP can be molded using a heated platen compression molding press. A hardened steel, aluminum or flexible tooling can be used depending on the application. The tool should be treated with a mold release prior to molding.

The molding cycle consists of the following steps:

1. The platens should be heated above the polymer matrix melt temperature.
2. The individual lamina should be constructed and placed in the tool to achieve the desired laminate reinforcement orientation.
3. The tool is placed between the platens and the platens are closed to achieve a contact pressure on the tool less than 30 psi (2 bar).
4. The tool is allowed to rise in temperature until stabilizing at the initial

temperature the platens were set to.
5. The pressure is increased to the desired amount and held for a recommended time.
6. Air and/or water cooling is initiated until the material reaches a temperature sufficiently below the melt and peak crystallization temperatures wherein the pressure is reduced to a contact pressure less than 15 psi (1 bar).
7. The tool is continually cooled until reaching a temperature, typically at or below the glass transition point, at which the pressure is completely removed and the part de-molded from the tool. It should be noted that the choice of tooling, geometry and heating/cooling mechanisms will greatly dictate processing conditions, and thus, optimization specific to the individual molders' capabilities is necessary. Additionally, the resin is what dictates the molding temperatures, whereas the sample thickness is what determines the time. As the thickness increases, the time at melt should also increase to account for the time for heat to conduct to the center of the laminate.

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Resin: PP
Drying Time: It is normally not necessary to dry PP
Drying Temperature: It is normally not necessary to dry PP
Platen Temperature: 400°F, 204°C
Press Pressure: 28 psi, 1.9 bar
Time at Melt: 1 min
Cooling Rate: 15-30°F/min, 8-17°C/min
Material Removal Temperature: 150°F, 66°C

用户须知： 所示数值基于实验室试样测试，代表本色材料标准属性范围内的数据。这些数值本身并不能作为任何部件设计的充分依据，且不旨在用于确定最大值、最小值或规格值范围。着色剂或其他添加剂可能会导致数据值的显著变化。模塑部件的性能会受到多种因素的影响，包括但不限于材料选择、添加剂、部件设计、加工条件和环境暴露。除了那些明确标识为医用级的产品（包括 MT® 产品标识或其他标识），塞拉尼斯的产品不旨在用于医疗或牙科植入。无论产品名称如何，确定特定材料和部件设计是否适用于用户所拟的任何用途以及使用方式是用户自身的责任，用户必须保证后续加工的材料满足其特定产品或用途的需要。据我们所知，本出版物中包含的信息是准确的；但是，我们对此处信息的准确性和完整性不承担任何责任。本出版物中包含的信息不应被视为对我们产品特定性能的承诺或保证。用户应自行负责调查使用本出版物中提及的材料是否侵犯了任何现有专利。此外，考虑到可能产生的不良影响，有必要将人类与许多材料的接触降至最低实际限度。对于本出版物中提到的任何危害，我们既不建议也不保证这些危害是唯一存在的危害。我们建议，打算依赖本出版物中的任何建议或使用本出版物中提及的任何设备、加工技术或材料的人，应确信他们能够满足所有适用的安全和健康标准。我们强烈建议用户在处理每种材料时，都要寻求并遵守制造商的最新说明，并且只委托受过适当培训的人员来处理这些材料。请拨打所列电话号码，了解更多技术信息。在尝试处理我们的产品之前，请致电客户服务部索取相应的材料安全数据表 (MSDS)。
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