

## Tepla® T8010CF 20GF EC

### Material Description:

Tepla® T8010CF 20GF EC is a compound based on Polyetherimide resin containing 10% Carbon Fiber, 20% Glass Fiber. Added features of this material include: Electrically Conductive.

### General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> <li>• Asia Pacific</li> <li>• Europe</li> <li>• Middle East</li> <li>• North America</li> <li>• Latin America</li> <li>• Africa</li> </ul>
Filler/Reinforcement	<ul style="list-style-type: none"> <li>• Carbon Fiber, 10% Filler by Weight</li> <li>• Glass Fiber, 20% Filler by Weight</li> </ul>
Features	<ul style="list-style-type: none"> <li>• Electrically Conductive</li> <li>• Steam Resistant</li> <li>• Chemical Resistant</li> <li>• Heat Resistant</li> <li>• Wear Resistant</li> <li>• Radiation (Gamma) Resistant</li> <li>• Good Dimensional Stability</li> <li>• Fatigue Resistant</li> <li>• Creep Resistant</li> <li>• Flame Retardant</li> <li>• High Stiffness</li> <li>• UV Resistant</li> <li>• Hydrolysis Stable</li> <li>• Low Extractable</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• Hospital Goods</li> <li>• Industrial Applications</li> <li>• Connectors</li> <li>• Dental Applications</li> <li>• Aircraft Applications</li> <li>• Medical Devices</li> <li>• Medical/Healthcare Applications</li> <li>• Electrical/Electronic Applications</li> </ul>
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

Physical Properties	Typical Value	Unit	Test Method
Specific Gravity	1.48	g/cm <sup>3</sup>	ASTM D792
Density	1.47	g/cm <sup>3</sup>	ASTM D792
Moisture Absorption (24hr, 50% RH)	0.14	%	ASTM D570
Mold Shrinkage			ASTM D955
Flow, 24 hrs	0.1 to 0.3	%	
Across Flow, 24 hrs	0.3 to 0.5	%	
Moisture Absorption (23°C, 50% RH)	0.22	%	ISO 62

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Modulus, 1 mm/min	13900	MPa	ISO 527
Tensile Modulus, 50 mm/min	14800	MPa	ASTM D638
Tensile Strength, yield, Type I 5 mm/min	190	MPa	ASTM D638
Tensile Strength, break, Type I 5 mm/min	182	MPa	ASTM D638
Tensile Elongation, yield, Type I 5 mm/min	1.8	%	ASTM D638
Tensile Elongation, break, Type I 5 mm/min	1.8	%	ASTM D638
Tensile Strength, yield 5 mm/min	178	MPa	ISO 527
Tensile Strength, break 5 mm/min	178	MPa	ISO 527
Tensile Elongation, yield 5 mm/min	1.6	%	ISO 527
Tensile Elongation, break 5 mm/min	1.6	%	ISO 527

Flexural Modulus, 2 mm/min	13100	MPa	ISO 178
Flexural Modulus, 1.3 mm/min 50 mm span	13800	MPa	ASTM D790
Flexural Strength, yield, 1.3 mm/min 50 mm span	262	MPa	ASTM D790
Flexural Strength, break, 1.3 mm/min 50 mm span	262	MPa	ASTM D790
Flexural Strength	248	MPa	ASTM D790

Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact, 23°C	69	J/m	ASTM D256
Unnotched Izod Impact, 23°C	1324	J/m	ASTM D4812
Notched Izod Impact 80*10*4, 23°C	7.1	kJ/m <sup>2</sup>	ISO 180/1A
Unnotched Izod Impact, 80*10*4, 23°C	28.4	kJ/m <sup>2</sup>	ISO 180/1U
Instrumented Impact Total Energy 23°C	11	J	ASTM D3763
Multiaxial Impact	3	J	ISO 6603

Electrical Properties	Typical Value	Unit	Test Method
Surface Resistivity	1E3 to 1E6	Ohm	ASTM D257

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load 1.82MPa, Unannealed, 3.2mm	209	°C	ASTM D648
/Af,1.8 MPa Flatw 80*10*4 sp=64mm	210	°C	ISO 75/Af
0.45 MPa, Unannealed, 3.2 mm	213	°C	ASTM D648
/Bf,0.45 MPa Flatw 80*10*4 sp=64mm	214	°C	ISO 75/Bf
CLTE			ASTM E831
-40°C to 40°C, Flow	3.80E-05	cm/cm/°C	
-40°C to 40°C, Xflow	3.30E-05	cm/cm/°C	

Processing Information	Typical Value	Unit
Maximum Moisture Content	0.05	%
Melt Temperature	360 to 365	°C
Mold Temperature	120 to 150	°C
Drying Temperature	120 to 150	°C
Drying Time	4	hr
Front Temperature	365 to 375	°C
Middle Temperature	355 to 365	°C
Rear Temperature	345 to 355	°C
Back Pressure	0.3 to 0.7	MPa
Screw Speed	60 to 100	rpm

### CAUTION/警告!

Before using, read the Molding Guide, Material Safety Data Sheets, and Bulletins available from NFD Advanced Composites Sales offices and Distributors supplied to your company. Caution! During drying, purging and molding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Use adequate local exhaust ventilation during thermal processing. To prevent resin decomposition, do not contaminate the resin or exceed the recommended melt temperature or hold-up time. Avoid inhalation or skin and eyes contact. Sweep up and dispose of spilled resin to eliminate slipping hazard. 在使用之前, 请阅读NFD公司销售办事处和经销商提供给贵公司的材料成型指南、材料安全数据表和公告。警告! 在干燥、吹扫和成型过程中, 少量有害气体或颗粒物可能会在被释放, 这些可能会刺激眼睛, 鼻子和喉咙。热处理过程中请注意做好排气通风工作。为防止树脂分解, 请勿污染树脂或超过我们为您推荐熔融温度或时间。请避免吸入或与皮肤、眼睛等接触。清扫和处理溢出的树脂, 以消除滑到的危险。

### LEGAL NOTICES/法律声明

The figures indicated here are approximate values. They may be affected by different factors, and the user is not released therefore from the obligation of performing checks and trials of his own. The values indicated here have been compiled on the basis of current tests and findings. Any legally binding guarantee of certain properties, or any suitability for a specific application can not be inferred from the present data. For detailed production regulatory information, contact customer service.

上列数据仅作参考用途, 它们可能会受不同因素的影响, 使用者有责任通过实验自行确定材料特性。上述资料根据现有测试得出, 对物料特性是否适合某特殊用途及特性不能给予保证, 数据也没有任何法律约束力。更多有关详细的产品监管信息, 请联系客户服务。

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