

## Tepla® T8100 TF

### Material Description:

Tepla® T8100 TF is an unreinforced, lubricated, pigmented grade of polyamide-imide (PAI) resin. offers outstanding electrical properties, which makes it ideal for high performance parts such as connectors, switches and relays. In addition Tepla® T8100 TF polyamide-imide can be used in applications such as thrust washers, spline liners, valve seats, bushings, bearings, wear rings, cams and other applications requiring strength at high temperature and resistance to wear.

### 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>
Additive	• PTFE Lubricant
Features	<ul style="list-style-type: none"> <li>• Chemical Resistant</li> <li>• Ductile</li> <li>• Flame Retardant</li> <li>• High Heat Resistance</li> <li>• Low Temperature Toughness</li> <li>• Wear Resistant</li> <li>• Creep Resistant</li> <li>• Fatigue Resistant</li> <li>• Good Electrical Properties</li> <li>• High Temperature Strength</li> <li>• Ultra High Impact Resistance</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Aircraft Applications</li> <li>• Bushings</li> <li>• Electrical Parts</li> <li>• Electrical/Electronic Applications</li> <li>• Oil/Gas Applications</li> <li>• Semiconductor Molding Compounds</li> <li>• Automotive Applications</li> <li>• Connectors</li> <li>• Fasteners</li> <li>• Machine/Mechanical Parts</li> <li>• Thrust Washer</li> <li>• Film</li> </ul>
Forms	• Pellets
RoHS Compliance	• RoHS Compliant
Processing Method	<ul style="list-style-type: none"> <li>• Machining</li> <li>• Injection Molding</li> <li>• Profile Extrusion</li> </ul>

Physical Properties	Typical Value	Unit	Test Method
Density/Specific Gravity	1.42	g/cm <sup>3</sup>	ASTM D792
Molding Shrinkage -Flow	0.6 to 0.85	%	ASTM D955
Water Absorption (24 hr)	0.33	%	ASTM D570

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Modulus			
Type I	4800	MPa	ASTM D638
	5100	MPa	ASTM D1708
Tensile Strength, Type I	155	MPa	ASTM D638
Tensile Stress	196	MPa	ASTM D1708
Tensile Elongation			
Break, Type I	7.5	%	ASTM D638
Break	15	%	ASTM D1708
Flexural Modulus			ASTM D790
23°C	5300	MPa	
232°C	3800	MPa	
Flexural Strength			ASTM D790
23°C	245	MPa	
232°C	120	MPa	
Compressive Modulus	4000	MPa	ASTM D695
Compressive Strength	220	MPa	ASTM D695
Poisson's Ratio	0.45		ASTM E132

Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact	142	J/m	ASTM D256
Unnotched Izod Impact	1100	J/m	ASTM D4812

Electrical Properties	Typical Value	Unit	Test Method
Surface Resistivity	5.00E+18	ohms	ASTM D257
Volume Resistivity	2.00E+17	Ohms·cm	ASTM D257
Dielectric Strength	23	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	4.2		
1 MHz	3.9		
Dissipation Factor			ASTM D150
60 Hz	0.026		
1 MHz	0.031		

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load 1.8MPa, Unannealed	278	°C	ASTM D648
Glass Transition Temperature <sup>1</sup>	277	°C	DSC
CLTE - Flow	3.10E-05	cm/cm/°C	ASTM E831
Thermal Conductivity	0.26	W/m/K	ASTM C177

Processing Information	Typical Value	Unit
Mold Temperature	199 to 216	°C
Drying Temperature	177	°C
Drying Time	3	hr
Nozzle Temperature	371	°C
Rear Temperature	304	°C

NOTES:

<sup>1</sup>Tg, onset, NFD method, 2nd heat. Method is equivalent to ISO 11357-2.

NFD ADVANCED COMPOSITES

Tepla® T8100 TF

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的热熔温度或时间。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。

COMPANY/公司:

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感谢您访问新孚达 (NFD)! 我们秉承 "New Formula Designer" 的发展理念, 将科研创新与生产应用紧密相连, 无论您是设计师、工程师或者是采购专家, 我们都可以帮您拓展业务并获得新的灵感。我们坚持诚信、合作、效率、创新的核心价值观, 始终把客户放在第一位。相比于我们的竞争对手, 我们专注于为您提供更先进的技术配方、更优质的产品, 更好的解决方案及更周到的售后服务, 我们懂市场、我们懂产品、我们更懂你们。

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