Tepla® T8100 CF TF

Material Description:

Tepla ® T8100 CF TF, an injection-moldable, wear-resistant grade of polyamide-imide (PAI), has been formulated to give outstanding wear resistance in lubricated wear applications.. It has outstanding resistance to wear, creep and chemicals.Potential applications for Tepla® T8100 CF TF polyamide-imide include thrust washers, seal rings, sliding vanes, bobbins, bushings, clutch rollers and pistons.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific	• North America
	• Europe	• Latin America
	• Middle East	• Africa
Filler/Reinforcement	• Carbon Fiber	
Additive	• PTFE Lubricant	
Features	• Chemical Resistant	• Creep Resistant
	• Flame Retardant	• High Heat Resistance
	• High Temperature Strength	• Low Friction
	• High Stiffness	• Wear Resistant
	• Self Lubricating	• Semi Conductive
Uses	• Automotive Applications	• Bearings
	• Thrust Washer	• Bushings
	• Bobbins	• Seals
Forms	• Pellets	
RoHS Compliance	• RoHS Compliant	
Processing Method	• Machining	• Profile Extrusion
	• Injection Molding	

Physical Properties	Typical Value	Unit	Test Method
Density/Specific Gravity	1.57	g/cm^3	ASTM D792
Water Absorption (24 hr)	0.25	%	ASTM D570

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Modulus	20000	MPa	ASTM D638
Tensile Strength	122	MPa	ASTM D638
Tensile Elongation (Break)	0.8	%	ASTM D638
Flexural Modulus	18500	MPa	ASTM D790
Flexural Strength	160	MPa	ASTM D790
Compressive Strength	157	MPa	ASTM D695
Shear Strength			ASTM D732
23℃	85	MPa	
150℃	60	MPa	
Coefficient of Friction			ASTM D1894
——[1]	0.09		
——[2]	0.07		
Wear Factor			ASTM D3702
Lubricated: 0.375 m/s, 6.9 MPa (75 fpm, 1000 psi)	1.6	in³·min^-10/ft·lb·hr	
Lubricated: 4 m/s, 5.2 MPa (800 fpm, 750 psi)	0.3	in³·min^-10/ft·lb·hr	

Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact	38	J/m	ASTM D256
Unnotched Izod Impact	110	J/m	ASTM D4812

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load 1.8MPa, Unannealed	281	℃	ASTM D648
Coefficient of Linear Thermal Expansion	1.40E-05	cm/cm/℃	ASTM D696

Processing Information	Typical Value	Unit
Mold Temperature	199 to 216	℃
Drying Temperature	177	℃
Drying Time	3	hr
Nozzle Temperature	371	℃
Suggested Max Moisture	0.05	%
Rear Temperature	304	℃
Screw Speed	50 to 100	rpm
Back Pressure	6.89	MPa
Screw L/D Ratio	18.0:1.0 to 24.0:1.0	

Injection Notes

Minimum drying conditions: 3 hours at 350℉ (177℃), 4 hours at 300℉ (149℃), or 16 hours at 250℉ (121℃).
Compression Ratio: 1:1 to 1.5:1
Begin hold pressure at a high setting 6,000-8,000 psi (41.37-55.16 MPa), for several seconds,then drop off to 3,000-5,000 psi (20.69-34.48 MPa), for the duration of the hold pressure sequence.
Molded parts must be post cured.

NOTES:

[1] Lubricated: 0.25 m/s, 6.9 MPa (75 fpm, 1000 psi)
[2] Lubricated: 4 m/s, 5.2 MPa (800 fpm, 750 psi)

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质可能会在被释放，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.
上列数据只作参考用途，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:

Welcome to NFD, where the concept of "New Formula Designer" is upheld and scientific innovation and production are intertwined. Whether you are a designer, engineer or procurement expert, we can help you expand your business and get new inspiration. We adhere to the core values of credibility and integrity, cooperation, efficiency, and innovation, and always put our customers first. Compared with our competitors, we focus on providing more advanced technical formulation, better quality products, more efficient solutions and more thoughtful after-sales services. We understand the markets, the products, and you even more.
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，我们都可以帮助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。

CONTACT:
CHINA/JIANG SU
江苏新孚达复合材料有限公司
NFD Composite Material (Jiangsu) Co., Ltd
Email:yanghui@nfdpla.com
Internet:www.nfdpla.com

New Formula Designer