

Hepla® H2018CM

Material Description:

Hepla® H2018CM is a 18% mineral filled material especially designed for in- or on-line painted exterior automotive trim part, e.g. tankflaps and corner panels. This material combines high stiffness and excellent temperature resistance with conductivity for electrostatic painting in an unique way.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• North America	
	• Europe	• Latin America	
	• Middle East	• Africa	
Filler/Reinforcement	• Mineral, 18% Filler by Weight		
Features	• Conductive	• High Heat Resistance	
	• Paintable	• High Stiffness	
	• Hydrolysis Stable	• Good Dimensional Stability	
Uses	• Automotive Exterior Parts	• Automotive Exterior Trim	
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Physical Properties	Typical Value	Unit	Test Method
Specific Gravity	1.25	g/cm ³	ASTM D792
Specific Gravity	1.2	g/cm ³	ISO 1183
Moisture Absorption (Equilibrium, 23°C, 50% RH)	1.1	%	ISO 62
Moisture Absorption (Saturation, 23°C)	3.5	%	ISO 62
Molding Shrinkage - Flow (3.20 mm)	0.8 to 1.2	%	NFD Method
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	15	g/10 min	ASTM D1238
Melt Volume -Flow Rate (MVR) (220°C/5.0 kg)	10	cm ³ /10min	ISO 1133

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Modulus	4399	MPa	ISO 527-2/1
Tensile Modulus, 5.0 mm/min	4691	MPa	ASTM D638
Tensile Stress, yield, Type I 5.0 mm/min	71	MPa	ASTM D638
Tensile Stress, break, Type I 5.0 mm/min	70.2	MPa	ASTM D638
Tensile Strain, yield, Type I 5.0 mm/min	2.8	%	ASTM D638
Tensile Strain, break, Type I 5.0 mm/min	4.2	%	ASTM D638
Tensile Stress, yield	66.7	MPa	ISO 527-2/5
Tensile Stress, break	66.7	MPa	ISO 527-2/5
Tensile Strain, yield	3.4	%	ISO 527-2/5
Tensile Strain, break	3.8	%	ISO 527-2/5
Flexural Modulus, 2.0 mm/min	3816	MPa	ISO 178
Flexural Modulus 50.0 mm Span, 1.3 mm/min	3816	MPa	ASTM D790
Flexural Stress, yield 2.0 mm/min	107.8	MPa	ISO 178

Flexural Stress, break 50.0 mm Span, 1.3 mm/min	110.5	MPa	ASTM D790
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Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact, 23°C	34.7	J/m	ASTM D256
Notched Izod Impact, -30°C	29.6	J/m	ASTM D256
Notched Izod Impact 80*10*4, 23°C	4	kJ/m ²	ISO 180/1A
Notched Izod Impact 80*10*4, -30°C	4	kJ/m ²	ISO 180/1A
Unnotched Izod Impact 80*10*4, -30°C	34.7	kJ/m ²	ISO 180/1U
Unnotched Izod Impact 80*10*4, 23°C	39.5	kJ/m ²	ISO 180/1U
Charpy Notched Impact Strength 80*10*4, 23°C	3.5	kJ/m ²	ISO 179/1eA
Charpy Notched Impact Strength 80*10*4, -30°C	3	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength 80*10*4, 23°C	39.5	kJ/m ²	ISO 179/1eU
Charpy Unnotched Impact Strength 80*10*4, -30°C	35	kJ/m ²	ISO 179/1eU
Instrumented Dart Impact 23°C, Total Energy	3	J	ASTM D3763

Electrical Properties	Typical Value	Unit	Test Method
Volume Resistivity	1E+3 to 1E+4	ohms•cm	NFD Method

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed 100mm Span, 120*10*4 mm	185	°C	ISO 75-2/Be
0.45MPa, Unannealed, 3.2mm	210	°C	ASTM D648
Vicat Softening Temperature	215	°C	ASTM D1525
Vicat Softening Temperature	195	°C	ISO 306/B50
Vicat Softening Temperature	200	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	5.40E-05	1/°C	ASTM E831
Transverse : -40 to 40°C	6.00E-05	1/°C	ASTM E831
Flow : 23 to 60°C	5.00E-05	1/°C	ISO 11359-2
Transverse : 23 to 60°C	6.50E-05	1/°C	ISO 11359-2

Processing Information	Typical Value	Unit
Maximum Moisture Content	0.02	%
Melt Temperature	300 to 318	°C
Nozzle Temperature	280 to 298	°C
Mold Temperature	100 to 118	°C
Drying Temperature	100 to 110	°C
Drying Time	2 to 3	hr
Front Temperature	300 to 318	°C
Middle Temperature	280 to 298	°C
Rear Temperature	260 to 278	°C
Hopper Temperature	80 to 100	°C

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.

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