LNP™ THERMOCOMP™ Compound PF006U

PF-1006 UV

DESCRIPTION

LNP THERMOCOMP PF006U compound is based on Nylon 6 resin containing 30% glass fiber. Added features of this grade include: UV Stabilized.

GENERAL INFORMATION	
Features	High stiffness/Strength, Weatherable/UV stable, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyamide 6 (Nylon 6)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260206

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break	129	MPa	ASTM D638
Tensile Strain, break	2.8	%	ASTM D638
Tensile Modulus, 5 mm/min	8750	MPa	ASTM D638
Flexural Stress	201	MPa	ASTM D790
Flexural Modulus	8960	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	144	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.3	%	ISO 527
Tensile Modulus, 1 mm/min	9040	MPa	ISO 527
Flexural Stress	203	MPa	ISO 178
Flexural Modulus, 2 mm/min	8000	MPa	ISO 178
Hardness, Rockwell L	112	-	ISO 2039-2
IMPACT [1]			
Izod Impact, notched, 23°C	117	J/m	ASTM D256
Izod Impact, unnotched, 23°C	827	J/m	ASTM D4812
Instrumented Dart Impact Energy @ peak, 23°C	9	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -40°C	9	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	55	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	90	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	75	kJ/m²	ISO 179/1eU
Multiaxial Impact	2	J	ISO 6603
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	219	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	206	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	203	°C	ISO 75/Af
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	210	°C	ISO 75/Ae
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	220	°C	ISO 75/Be
Vicat Softening Temp, Rate B/120	215	°C	ISO 306
Vicat Softening Temp, Rate B/50	215	°C	ISO 306
CTE, -40°C to 40°C, flow	3.05E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	3.06E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.72E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	8.5E-05	1/°C	ISO 11359-2
Thermal Conductivity	0.33	W/m-°C	ISO 8302
PHYSICAL [1]			
Density	1.36	g/cm³	ISO 1183
Density	1.36	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.86	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.2 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	1 – 1.2	%	ASTM D955
Mold Shrinkage, flow, 24 hrs [2]	0.17 – 0.5	%	ISO 294
Mold Shrinkage, xflow, 24 hrs [2]	1 – 1.2	%	ISO 294
Mold Shrinkage on Tensile Bar, flow [2]	0.2 – 0.4	%	SABIC method
Moisture Absorption (23°C / 50% RH)	1.53	%	ISO 62
Water Absorption, (23°C/saturated)	6.5	%	ISO 62-1
ELECTRICAL [1]			
Surface Resistivity, ROA	>1.E+16	Ω	IEC 60093
Volume Resistivity	>1.E+16	Ω.cm	IEC 60093
Comparative Tracking Index	500	V	IEC 60112
Comparative Tracking Index, M	375	V	IEC 60112
Dielectric Strength, in oil, 3.2 mm	20	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.4	-	IEC 60250
Dissipation Factor, 1 MHz	0.016	-	IEC 60250
Relative Permittivity, 50/60 Hz	3.6	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0061	-	IEC 60250
FLAME CHARACTERISTICS			
UL Compliant, 94HB Flame Class Rating [3]	1.5	mm	UL 94 by SABIC-IP
Oxygen Index (LOI)	25	%	ISO 4589
Glow Wire Flammability Index 650°C, passes at	2	mm	IEC 60695-2-12
INJECTION MOLDING [4]			
Drying Temperature	80	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	4	Hrs	
Maximum Moisture Content	0.2	%	
Hopper Temperature	60 – 80	°C	
Melt Temperature	260 – 290	°C	
Rear - Zone 1 Temperature	250 – 280	°C	
Middle - Zone 2 Temperature	260 – 290	°C	
Front - Zone 3 Temperature	260 – 290	°C	
Nozzle Temperature	250 – 280	°C	
Mold Temperature	80 – 100	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	30 – 60	rpm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) UL rating shown here is based on internal measurements.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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