LNP™ THERMOTUF™ COMPOUND RC006IS

DESCRIPTION

LNP THERMOTUF RC006IS compound is based on Nylon 6/6 resin containing 30% carbon fiber. Added features of this grade include: Electrically Conductive, Impact Modified, Heat Stabilized

GENERAL INFORMATION	
Features	Electrically Conductive, Heat Stabilized, Carbon fiber filled, High stiffness/Strength, Impact resistant
Fillers	Carbon Fiber
Polymer Types	Polyamide 66 (Nylon 66)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20240304

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1] [2]			
Tensile Modulus, 1 mm/min	23000	MPa	ISO 527
Tensile Stress, break, 5 mm/min	230	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.9	%	ISO 527
Flexural Modulus, 2 mm/min	18100	MPa	ISO 178
Flexural Strength, 2 mm/min	340	MPa	ISO 178
Tensile Modulus, 5 mm/min	23000	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	205	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.2	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	15000	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	290	MPa	ASTM D790
IMPACT [2]			
Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	65	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	65	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	99	J/m	ASTM D256
Izod Impact, unnotched, 23°C	930	J/m	ASTM D4812
THERMAL [2]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	261	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	251	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	250	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	4.00E-06	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.70E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	6.00E-06	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	7.60E-05	1/°C	ISO 11359-2
HDT, 0.45 MPa, 3.2 mm, unannealed	261	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	251	°C	ASTM D648
Vicat Softening Temp, Rate B/120	249	°C	ASTM D1525
PHYSICAL [2]			
Density	1.24	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.8 – 0.9	%	ISO 62-4
Water Absorption, (23°C/saturated)	5.0 – 5.5	%	ISO 62-1
Specific Gravity	1.24	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.1 – 0.3	%	ASTM D570
Water Absorption, (23°C/24hrs)	0.9 – 1.2	%	ASTM D570
Mold Shrinkage, flow [3]	0.2 – 0.4	%	SABIC method
Mold Shrinkage, xflow [3]	1.0 – 1.3	%	SABIC method
INJECTION MOLDING [4]			
Drying Temperature	80	°C	
Drying Time (Cumulative)	4	Hrs	
Maximum Moisture Content	0.15 – 0.25	%	
Melt Temperature	280 – 305	°C	
Front - Zone 3 Temperature	295 – 305	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Rear - Zone 1 Temperature	265 – 275	°C	
Mold Temperature	95 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	

(1) mechanical properties have been tested after conditioning (48hrs/ 50%R.H.)

(2) 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.

(3) 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.

(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.

DISCLAIMER