LNP™ THERMOCOMP™ COMPOUND RF003ES

RF-1003 EM HS

DESCRIPTION

LNP THERMOCOMP RF003ES is a Nylon 66 base resin containing 15% Glass Fiber. Added features of this material include: Easy Molding, Heat Stabilized.

TYPICAL PROPERTY VALUES

Revision 20200109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.8	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.8	%	ASTM D 638
Tensile Modulus, 50 mm/min	5940	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	174	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	174	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4740	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	115	MPa	ISO 527
Tensile Stress, break, 5 mm/min	115	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.2	%	ISO 527
Tensile Strain, break, 5 mm/min	3.2	%	ISO 527
Tensile Modulus, 1 mm/min	5960	MPa	ISO 527
Flexural Stress	128	MPa	ISO 178
Flexural Modulus, 2 mm/min	4140	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	489	J/m	ASTM D 4812
Izod Impact, notched, 23°C	32	J/m	ASTM D 256
Multiaxial Impact	1	J	ISO 6603
Instrumented Impact Total Energy, 23°C	2	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	29	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	247	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	221	°C	ASTM D 648
CTE, -30°C to 30°C, flow	4.2E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	8.2E-05	1/°C	ASTM D 696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	240	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	203	°C	ISO 75/Af
Relative Temp Index, Elec [1]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	115	°C	UL 746B
PHYSICAL			
Density	1.26	g/cm³	ASTM D 792

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Moisture Absorption, 50% RH, 24 hrs	1.1	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs	0.7 – 1	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs	1 – 3	%	ASTM D 955
Density	1.25	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	1.6	%	ISO 62
ELECTRICAL			
Hot-Wire Ignition (HWI), PLC 4	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-101281596	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	80	°C	
Drying Time	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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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