LNP™ THERMOCOMP™ COMPOUND UX04509H

PDX-U-04509

DESCRIPTION

LNP THERMOCOMP UX04509H compound is based on Polyphthalamide (PPA) resin containing 40% carbon fiber. Added features of this grade include: Electrically Conductive, Healthcare.

GENERAL INFORMATION	
Features	Electrically Conductive, Healthcare/Formula lock, Carbon fiber filled, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Carbon Fiber
Polymer Types	Polyphthalamide (PPA)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Hygiene and Healthcare	Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	307	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	307	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	1.2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.2	%	ASTM D638
Tensile Modulus, 50 mm/min	36820	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	424	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	424	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	29300	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	293	MPa	ISO 527
Tensile Stress, break, 5 mm/min	293	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.1	%	ISO 527
Tensile Strain, break, 5 mm/min	1.1	%	ISO 527
Tensile Modulus, 1 mm/min	34440	MPa	ISO 527
Flexural Stress	425	MPa	ISO 178
Flexural Modulus, 2 mm/min	28830	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	680	J/m	ASTM D4812
Izod Impact, notched, 23°C	67	J/m	ASTM D256
Multiaxial Impact	2	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	6	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	47	kJ/m²	ISO 180/1U

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	303	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	289	°C	ASTM D648
CTE, -30°C to 30°C, flow	2.70E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	2.80E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	301	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	283	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.38	-	ASTM D792
Density	1.36	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	.19	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.2 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.5 – 0.8	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	.29	%	ISO 62
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15	%	
Melt Temperature	315 – 330	°C	
Front - Zone 3 Temperature	325 – 330	°C	
Middle - Zone 2 Temperature	315 – 325	°C	
Rear - Zone 1 Temperature	310 – 320	°C	
Mold Temperature	150 – 170	°C	
Back Pressure	0.2 – 0.3	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) 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.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

DISCLAIMER