LNP™ THERMOCOMP™ Compound AF004AHP

AF-1004 HC

DESCRIPTION

LNP THERMOCOMP AF004AHP compound is based on Acrylonitrile Butadiene Styrene (ABS) resin containing 20% glass fiber. Added features of this grade include: Healthcare.

GENERAL INFORMATION	
Features	Healthcare/Formula lock, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Acrylonitrile Butadiene Styrene (ABS)
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, brk, Type I, 5 mm/min	69	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.7	%	ASTM D638
Tensile Modulus, 5 mm/min	6240	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	101	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5860	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	66	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.6	%	ISO 527
Tensile Modulus, 1 mm/min	5950	MPa	ISO 527
Flexural Stress	98	MPa	ISO 178
Flexural Modulus, 2 mm/min	5520	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	263	J/m	ASTM D4812
Izod Impact, notched, 23°C	58	J/m	ASTM D256
Multiaxial Impact	2	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	10	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	17	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	103	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	99	°C	ASTM D648
CTE, -30°C to 30°C, flow	4.2E-05	1/°C	ASTM D696

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -30°C to 30°C, xflow	8.6E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	99	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.23	-	ASTM D792
Density	1.23	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.16	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.3	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.55	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.26	%	ISO 62
INJECTION MOLDING [3]			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.05 – 0.1	%	
Melt Temperature	260	°C	
Front - Zone 3 Temperature	265 – 275	°C	
Middle - Zone 2 Temperature	230 – 245	°C	
Rear - Zone 1 Temperature	205 – 215	°C	
Mold Temperature	70 – 80	°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.

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