LNP™ THERMOCOMP™ COMPOUND QFC0AI

DESCRIPTION

LNP THERMOCOMP QFC0AI compound is based on Nylon 6/10 resin containing 50% glass fiber. Added feature of this material include: high modulus, high impact, low dielectric constant, low moisture absorption, good dimensional stability and good chemical resistance.

GENERAL INFORMATION	
Features	Chemical Resistance, Low Moisture Absorption, Dimensional stability, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyamide 610 (Nylon 610)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20240711

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	161	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.7	%	ASTM D638
Tensile Modulus, 5 mm/min	11500	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	258	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10000	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	165	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.8	%	ISO 527
Tensile Modulus, 1 mm/min	11600	MPa	ISO 527
Flexural Strength, 2 mm/min	263	MPa	ISO 178
Flexural Modulus, 2 mm/min	10300	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	155	J/m	ASTM D256
Izod Impact, unnotched, 23°C	1260	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	14	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	14	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	80	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 0°C	75	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -20°C	75	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14.5	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	84	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	218	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	205	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	220	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	205	°C	ISO 75/Af
CTE, -40°C to 90°C, flow	2.0E-5	1/°C	ASTM E831
CTE, -40°C to 90°C, xflow	9.5E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.6E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.0E-5	1/°C	ISO 11359-2
CTE, -40°C to 90°C, flow	1.9E-5	1/°C	ISO 11359-2
CTE, -40°C to 90°C, xflow	9.5E-5	1/°C	ISO 11359-2
PHYSICAL (1)			
Specific Gravity	1.43	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.13	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.06	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.06	%	ISO 62-4
Melt Volume Rate, MVR at 320°C/5.0 kg	56	cm³/10 min	ISO 1133
Mold Shrinkage, flow (2)	0.25 – 0.3	%	SABIC method
Mold Shrinkage, xflow (2)	0.4 – 0.5	%	SABIC method
ELECTRICAL (1)			
Dielectric Constant, 1.9 GHz	3.3	-	SABIC method
Dissipation Factor, 1.9 GHz	0.007	-	SABIC method
INJECTION MOLDING (3)			
Drying Temperature	120 – 140	°C	
Drying Time	3 – 4	Hrs	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	290 – 310	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	270 – 290	°C	
Mold Temperature	100 – 130	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	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.

DISCLAIMER