LNP™ LUBRICOMP™ COMPOUND HFG25Z

HFL-4325

DESCRIPTION

LNP LUBRICOMP HFG25Z compound is based on Nylon 11 resin containing 25% glass fiber and graphite. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant, No PFAS intentionally added
Fillers	Glass Fiber, Graphite
Polymer Types	Polyamide 11 (Nylon 11)
Processing Techniques	Injection Molding

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

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 5 mm/min	76	MPa	ISO 527
Tensile Stress, break, 5 mm/min	76	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.3	%	ISO 527
Tensile Strain, break, 5 mm/min	2.4	%	ISO 527
Tensile Modulus, 1 mm/min	6830	MPa	ISO 527
Flexural Strength, 2 mm/min	352	MPa	ISO 178
Flexural Modulus, 2 mm/min	18200	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	153	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	153	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.8	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.8	%	ASTM D638
Tensile Modulus, 5 mm/min	11030	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5520	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	29	kJ/m²	ISO 180/1U
Multiaxial Impact	3	J	ISO 6603
Izod Impact, notched, 23°C	69	J/m	ASTM D256
Izod Impact, unnotched, 23°C	453	J/m	ASTM D4812

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Energy @ peak, 23°C	15	J	ASTM D3763
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	182	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	166	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	3.50E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.20E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	3.50E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	9.20E-05	1/°C	ISO 11359-2
HDT, 0.45 MPa, 3.2 mm, unannealed	182	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	171	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.42E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	9.18E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.3	g/cm³	ISO 1183
Mold Shrinkage, flow, 24 hrs [2]	0.47	%	ISO 294
Mold Shrinkage, xflow, 24 hrs [2]	0.93	%	ISO 294
Density	1.3	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.1	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.4 – 0.6	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.8 – 1	%	ASTM D955
Wear Factor Washer	58	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.41	-	ASTM D3702 Modified: Manual
Static COF	0.45	-	ASTM D3702 Modified: Manual
Mold Shrinkage, flow [2]	0.47	%	SABIC method
Mold Shrinkage, xflow [2]	0.93	%	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15	%	
Melt Temperature	225 – 260	°C	
Front - Zone 3 Temperature	260 – 270	°C	
Middle - Zone 2 Temperature	230 – 245	°C	
Rear - Zone 1 Temperature	200 – 210	°C	
Mold Temperature	45 – 55	°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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