LNP™ LUBRICOMP™ COMPOUND WCL36

WCL-4036

DESCRIPTION

LNP LUBRICOMP WCL36 compound is based on Polybutylene Terephthalate (PBT) resin containing 30% carbon fiber, 15% PTFE. Added features of this grade include: Electrically Conductive, Wear Resistant.

GENERAL INFORMATION	
Features	Electrically Conductive, Wear resistant, Carbon fiber filled, High stiffness/Strength
Fillers	Carbon Fiber, PTFE
Polymer Types	Polybutylene Terephthalate (PBT)
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, yld, Type I, 5 mm/min	125	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	125	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	1	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1	%	ASTM D638
Tensile Modulus, 50 mm/min	23380	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	173	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	175	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	14900	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	130	MPa	ISO 527
Tensile Stress, break, 5 mm/min	121	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1	%	ISO 527
Tensile Strain, break, 5 mm/min	1	%	ISO 527
Tensile Modulus, 1 mm/min	20640	MPa	ISO 527
Flexural Stress	187	MPa	ISO 178
Flexural Modulus, 2 mm/min	18060	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	390	J/m	ASTM D4812
Izod Impact, notched, 23°C	36	J/m	ASTM D256
Multiaxial Impact	1	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	6	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	24	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	222	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	210	°C	ASTM D648
CTE, -30°C to 30°C, flow	1.3E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	3.6E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	223	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	210	°C	ISO 75/Af
PHYSICAL [1]			
Density	1.51	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.03	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.2 – 0.4	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	1 – 3	%	ASTM D955
Wear Factor Washer	25	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Wear Factor Ring	2.5 – 3	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.34	-	ASTM D3702 Modified: Manual
Static COF	0.3	-	ASTM D3702 Modified: Manual
Density	1.51	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.05	%	
Melt Temperature	240 – 265	°C	
Front - Zone 3 Temperature	260 – 270	°C	
Middle - Zone 2 Temperature	245 – 255	°C	
Rear - Zone 1 Temperature	220 – 230	°C	
Mold Temperature	80 – 100	°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.

DISCLAIMER