

LNPTM LUBRICOMPTM 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/m ²	ISO 180/1A
Izod Impact, unnotched 80°10*4 +23°C	29	kJ/m ²	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/cm ³	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/cm ³	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 ⁴ 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.

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.

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS™



DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.