

LNPTM THERMOCOMPTM COMPOUND SF006

SF-1006

DESCRIPTION

LNP THERMOCOMP SF006 compound is based on Nylon 12 resin containing 30% glass fiber.

GENERAL INFORMATION	
Features	High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyamide 12 (Nylon 12)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood
Consumer	Home Appliances, Commercial Appliance
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20230607

MECHANICAL (¹) Tensile Stress, break 106 MPa ASTM D638 Tensile Strain, break 4.7 Tensile Modulus, 50 mm/min 6550 MPa ASTM D638 Tensile Modulus, 50 mm/min 170 MPa ASTM D638 Tensile Stress 180 MPa ASTM D638 Tensile Stress, break 170 MPa ASTM D790 Tensile Stress, break 180 MPa ASTM D790 Tensile Stress, break 180 MPa ASTM D790 Tensile Stress, break 180 MPa	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, break106MPaASTM DG38Tensile Strain, break4.7%PaASTM DG38Tensile Modulus, 50 mm/min6550MPaASTM DG38Flexural Stress170MPaASTM D790Tensile Stress, break108MPaISO 527Tensile Strain, break46MPaISO 527Tensile Modulus, 1 mm/min6580MPaISO 178Flexural Stress46MPaISO 178Flexural Modulus40MPaISO 178Tensile Modulus, 1 mm/min580MPaISO 178Flexural Stress40MPaISO 178Flexural Modulus40MPaISO 178Impact 1010MPaASTM D4812Impact 1010MPaASTM D4812Incol Impact, nontched, 23°C13JmASTM D256Instrumented Dart Impact Energy @ peak, 23°C13JmASTM D363Incol Impact, unnotched 80°10°4 + 23°C38Jm²ISO 180/10Incol Impact, nontched 80°10°4 + 23°C58Jm²ISO 180/10				
Tensile Strain, break 4.7 % ASTM D638 Tensile Modulus, 50 mm/min 6550 MPa ASTM D638 Flexural Stress 170 MPa ASTM D790 Flexural Modulus 5860 MPa ASTM D790 Tensile Stress, break 108 MPa ISO 527 Tensile Modulus, 1 mm/min 6580 MPa ISO 527 Flexural Stress 169 MPa ISO 178 Flexural Modulus 40 MPa ISO 178 Flexural Modulus 50 MPa ISO 178 Flexural Modulus 50 MPa ISO 178 Flexural Modulus MPa ISO 178 Flexural Modulus 50 MPa ISO 178 Flexural Modulus MPa ISO 178 ISO 178 Flexural Stress 19 MPa ISO 178 ISO 178 Flexural Modulus 19 MPa ASTM D4812 ISO 180 Instrumented Instrumented Lace 10 19 ASTM D4812 ISO 180 ISO 180				
Tensile Modulus, 50 mm/min6550MPaASTM D638Flexural Stress170MPaASTM D790Flexural Modulus5860MPaASTM D790Tensile Stress, break108MPaISO 527Tensile Strain, break4.6%150 527Tensile Modulus, 1 mm/min6580MPaISO 527Flexural Stress169MPaISO 178Flexural Modulus404MPaISO 178Impact (1)150 178ISO 178Izod Impact, unnotched, 23°C199J/mASTM D4812Izod Impact, notched, 23°C199J/mASTM D256Instrumented Dart Impact Energy @ peak, 23°C13J/mASTM D3763Multiaxial Impact3J/m²ISO 180/110Izod Impact, unnotched 80°10°4 + 23°C58J/m²ISO 180/110Izod Impact, unnotched 80°10°4 + 23°C15ISO 180/10				
Flexural Stress MPa ASTM D790 Flexural Modulus 5860 MPa ASTM D790 Tensile Stress, break 108 MPa ISO 527 Tensile Strain, break 4.6 % ISO 527 Tensile Modulus, 1 mm/min 6580 MPa ISO 178 Flexural Stress 169 MPa ISO 178 Flexural Modulus 420 MPa ISO 178 Impact (1) ISO 178 ISO 178 Izod Impact, unnotched, 23°C 950 J/m ASTM D4812 Izod Impact, notched, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 S	Tensile Strain, break	4.7	%	ASTM D638
Flexural Modulus Fensile Stress, break 108 MPa 108 S0 527 Tensile Strein, break 4.6 8 108 S0 527 Tensile Modulus, 1 mm/min 6580 MPa 108 S0 527 Flexural Stress MPa 109 527 Flexural Stress MPa 109 527 Flexural Modulus MPa 109 178 MPa 1	Tensile Modulus, 50 mm/min	6550	MPa	ASTM D638
Tensile Stress, break 108 MPa ISO 527 Tensile Strain, break 4.6 % ISO 527 Tensile Modulus, 1 mm/min 6580 MPa ISO 527 Flexural Stress MPa ISO 178 Impact MPa ISO 178 Impact MPa ISO 178 Impact MPa ISO 178 Izod Impact, unnotched, 23°C J/m ASTM D4812 Instrumented Dart Impact Energy @ peak, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 J/m² ISO 180/10 Izod Impact, unnotched 80*10*4 + 23°C 58 J/m² ISO 180/10 Izod Impact, notched 80*10*4 + 23°C 15 I/m² IsO 180/10	Flexural Stress	170	MPa	ASTM D790
Tensile Strain, break 4.6 \$ ISO 527 Tensile Modulus, 1 mm/min 6580 MPa ISO 527 Flexural Stress 169 MPa ISO 178 Flexural Modulus MPa ISO 178 Impact (¹) Impact (¹) Impact (¹) Impact (¹) Impact (¹) ASTM D4812 Izod Impact, unnotched, 23°C 199 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 J ASTM D3763 Izod Impact, unnotched 80*10*4 + 23°C 58 kl/m² ISO 180/10 Izod Impact, notched 80*10*4 + 23°C 15 kl/m² ISO 180/10	Flexural Modulus	5860	MPa	ASTM D790
Tensile Modulus, 1 mm/min 6580 MPa ISO 527 Flexural Stress 169 MPa ISO 178 Flexural Modulus 50178 F	Tensile Stress, break	108	MPa	ISO 527
Flexural Stress Flexural Modulus Flexural Modu	Tensile Strain, break	4.6	%	ISO 527
Flexural Modulus 6240 MPa ISO 178 IMPACT (1) Izod Impact, unnotched, 23°C 950 J/m ASTM D4812 Izod Impact, notched, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 13 J ASTM D3763 Multiaxial Impact 93 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 58 S ASTM D3763 Izod Impact, unnotched 80	Tensile Modulus, 1 mm/min	6580	MPa	ISO 527
IMPACT (1) Izod Impact, unnotched, 23°C 950 J/m ASTM D4812 Izod Impact, notched, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 J ISO 6603 Izod Impact, unnotched 80°10°4 + 23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 + 23°C 15 kJ/m² ISO 180/1A	Flexural Stress	169	MPa	ISO 178
Izod Impact, unnotched, 23°C 950 J/m ASTM D4812 Izod Impact, notched, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 J ISO 6603 Izod Impact, unnotched 80*10*4 + 23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 + 23°C 15 kJ/m² ISO 180/1A	Flexural Modulus	6240	MPa	ISO 178
Izod Impact, notched, 23°C 149 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 13 J ASTM D3763 Multiaxial Impact J ISO 6603 Izod Impact, unnotched 80*10*4 + 23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 + 23°C 15 kJ/m² ISO 180/1A	IMPACT (1)			
Instrumented Dart Impact Energy@ peak, 23°C 13 J ASTM D3763 Multiaxial Impact 3 J ISO 6603 Izod Impact, unnotched 80*10*4 + 23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 + 23°C 15 kJ/m² ISO 180/1A	Izod Impact, unnotched, 23°C	950	J/m	ASTM D4812
Multiaxial Impact 3 J ISO 6603 Izod Impact, unnotched 80*10*4 +23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 15 kJ/m² ISO 180/1A	Izod Impact, notched, 23°C	149	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C 58 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 15 kJ/m² ISO 180/1A	Instrumented Dart Impact Energy @ peak, 23°C	13	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	Multiaxial Impact	3	J	ISO 6603
·	Izod Impact, unnotched 80*10*4 +23°C	58	kJ/m²	ISO 180/1U
	Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
THERMAL (1)	THERMAL (1)			
HDT, 1.82 MPa, 3.2mm, unannealed 163 °C ASTM D648	HDT, 1.82 MPa, 3.2mm, unannealed	163	°C	ASTM D648
CTE, -40°C to 40°C, flow 4.37E-05 1/°C ASTM E831	CTE, -40°C to 40°C, flow	4.37E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow 1.12E-04 1/°C ASTM E831	CTE, -40°C to 40°C, xflow	1.12E-04	1/°C	ASTM E831
CTE, -40°C to 40°C, flow 4.37E-05 1/°C ISO 11359-2	CTE, -40°C to 40°C, flow	4.37E-05	1/°C	ISO 11359-2

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CHEMISTRY THAT MATTERS"



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	1.13E-04	1/°C	ISO 11359-2
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	162	°C	ISO 75/Af
PHYSICAL (1)			
Density	1.243	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.14	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽²⁾	0.2 – 0.3	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽²⁾	0.7 – 0.8	%	ASTM D955
Mold Shrinkage, flow, 24 hrs ⁽²⁾	0.21 – 0.3	%	ISO 294
Mold Shrinkage, xflow, 24 hrs ⁽²⁾	0.74 – 0.81	%	ISO 294
Density	1.24	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.22	%	ISO 62
INJECTION MOLDING (3)			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.12 – 0.2	%	
Melt Temperature	225 – 240	°C	
Front - Zone 3 Temperature	225 – 240	°C	
Middle - Zone 2 Temperature	220 – 230	°C	
Rear - Zone 1 Temperature	215 – 225	°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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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⁽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.