

LNPTM STAT-KONTM COMPOUND DEF42

DCF-1006

Industrial

DESCRIPTION

LNP STAT-KON DEF42 compound is based on Polycarbonate (PC) resin containing 20% glass fiber, 10% carbon fiber. Added features of this grade include: Electrically Conductive.

GENERAL INFORMATION	
Features	Electrically Conductive, Carbon fiber filled, High stiffness/Strength, No PFAS intentionally added
Fillers	Carbon Fiber, Glass Fiber
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding
INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components

Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

MECHANICAL (**) Lessile Stress, brk, Type I, 5 mm/min 123 MPa ASTM D638 Tensile Strain, yld, Type I, 5 mm/min 2.3 % ASTM D638 Tensile Strain, brk, Type I, 5 mm/min 2.4 % ASTM D638 Tensile Modulus, 50 mm/min 11500 MPa ASTM D638 Flexural Kress, brk, 1,3 mm/min, 50 mm span 10200 MPa ASTM D790 Flexural Modulus, 1,3 mm/min, 50 mm span 10200 MPa ASTM D790 Tensile Stress, break, 5 mm/min 125 MPa ISO 527 Tensile Strain, yield, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 Flexural Modulus, 2 mm/min 8 ISO 178 Flexural Modulus, 2 mm/min 8 ISO 178 Iso Impact, unnotched, 23°C 81 J/m ASTM D4812 Izod Impact, otched, 23°C 81 J/m ASTM D535 Izod	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, yld, Type I, 5 mm/min 2.3 \$ MYD 638 Tensile Strain, brk, Type I, 5 mm/min 2.4 % MPa ASTM D638 Tensile Modulus, 50 mm/min 11500 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 189 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 125 MPa SO 527 Tensile Stress, break, 5 mm/min 2.4 % 150 527 Tensile Strain, yield, 5 mm/min 2.6 % 150 527 Tensile Modulus, 1 mm/min 11410 MPa 150 527 Tensile Modulus, 2 mm/min 126 % 150 527 Flexural Stress 16 3 MPa 150 527 Flexural Modulus, 2 mm/min 10240 MPa 150 527 Flexural Modulus, 2 mm/min 10240 MPa 150 178 Impact, 15 mm/min 16 68 J/m ASTM D4812 Icod Impact, unnotched, 23°C 81 J/m ASTM D4812 Icod Impact, notched, 23°C 14 J/m ASTM D4812 Icod Impact, unnotched 80°10	MECHANICAL (1)			
Tensile Strain, brk, Type I, 5 mm/min 2.4 % ASTM D638 Tensile Modulus, 50 mm/min 11500 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 189 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 10200 MPa ASTM D790 Tensile Stress, break, 5 mm/min 2.5 MPa ISO 527 Tensile Strain, pied, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 Impact (¹¹) Impact (¹¹) MPa ISO 178 Impact (¹¹) Impact (¹¹) ASTM D4812 Impact (¹¹) Izod Impact, unnotched, 23°C 81 J/m ASTM D5763 Izod Impact, unnotched 80°10°4 + 23°C 41 J/m ASTM D3763 Izod Impact, notched 80°10°4 + 23°C 41 J/m Izod 179 Izod 179	Tensile Stress, brk, Type I, 5 mm/min	123	MPa	ASTM D638
Tensile Modulus, 50 mm/min 11500 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 189 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 10200 MPa ASTM D790 Tensile Stress, break, 5 mm/min 125 MPa ISO 527 Tensile Strain, yield, 5 mm/min 2.4 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 178 Flexural Stress 1886 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 Impact (¹¹) Iso 178 ISO 178 Izod Impact, unnotched, 23°C 81 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 41 J/m ASTM D3763 Izod Impact, notched 80°10°4 + 23°C 41 J/m ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 41 J/m ASTM D648 Ito June Ito June Ito June Ito June Ito June It	Tensile Strain, yld, Type I, 5 mm/min	2.3	%	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span 189 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 10200 MPa ASTM D790 Tensile Stress, break, 5 mm/min 125 MPa 150 527 Tensile Strain, yield, 5 mm/min 2.4 % 150 527 Tensile Strain, break, 5 mm/min 2.6 % 150 527 Tensile Modulus, 1 mm/min 11410 MPa 150 527 Flexural Stress MPa 150 527 160 527 Flexural Modulus, 2 mm/min 1240 MPa 150 178 178 Flexural Stress 8 150 178 186 1	Tensile Strain, brk, Type I, 5 mm/min	2.4	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 10200 MPa ASTM D790 Tensile Stress, break, 5 mm/min 125 MPa ISO 527 Tensile Strain, yield, 5 mm/min 2.4 % ISO 527 Tensile Strain, break, 5 mm/min 1.410 MPa ISO 527 Tensile Modulus, 1 mm/min 1.410 MPa ISO 178 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 Impact 10 MPa ISO 178 ISO 178 Impact 10 MPa ISO 178 ISO 178 Icod Impact, unnotched, 23°C 81 J/m ASTM D4812 ASTM D4812 Icod Impact, notched, 23°C 14 J/m ASTM D3763 ISO 180/10	Tensile Modulus, 50 mm/min	11500	MPa	ASTM D638
Tensile Stress, break, 5 mm/min 125 MPa ISO 527 Tensile Strain, yield, 5 mm/min 2.4 % ISO 527 Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Impact Injury Iso 178 Impact Impact Impact Impact Impact Impact Impact Total Energy, 23°C 84 J/m ASTM D4812 Izod Impact, unnotched, 23°C 81 J/m ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 41 J/m S0 180/10 Izod Impact, unnotched 80°10°4 + 23°C 41 J/m² ISO 180/10 IterMAL (") J/m² ISO 180/10 Impact Impact Total Energy, 23°C 41 J/m² ISO 180/10 IterMAL (") J/m² Iso 180/10 Impact Impact Total Energy, 23°C 41 J/m² Impact Total Energy, 23°C	Flexural Stress, brk, 1.3 mm/min, 50 mm span	189	MPa	ASTM D790
Tensile Strain, yield, 5 mm/min 2.4 % ISO 527 Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 IMPACT **** ***** ***** ISO 178 Izod Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 41 I/m² ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 41 I/m² ISO 180/10 IterMAL **** I/m² ISO 180/10 I/m² THERMAL **** IN 100 10 I/m² IN 100 10 I/m² HDT, 0.45 MPa, 3.2 mm, unannealed 145 C ASTM D648 ASTM D648	Flexural Modulus, 1.3 mm/min, 50 mm span	10200	MPa	ASTM D790
Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 IMPACT (1) Izod Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Istrumented Dart Impact Total Energy, 23°C 14 J/m² ASTM D3763 Izod Impact, unnotched 80*10*4 + 23°C 41 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 + 23°C 8 kJ/m² ISO 180/1A HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 142 °C ASTM D648	Tensile Stress, break, 5 mm/min	125	MPa	ISO 527
Tensile Modulus, 1 mm/min 11410 MPa ISO 527 Flexural Stress 186 MPa ISO 178 Flexural Modulus, 2 mm/min 10240 MPa ISO 178 IMPACT (1) Used Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Istrumented Dart Impact Total Energy, 23°C 14 J/m² ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 41 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 8 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 142 °C ASTM D648	Tensile Strain, yield, 5 mm/min	2.4	%	ISO 527
Flexural Stress Flexural Modulus, 2 mm/min 10240 MPa 10240 MPa 1050 178 MPACT	Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
Flexural Modulus, 2 mm/min 10240 MPa ISO 178 IMPACT (1) Izod Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 14 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 41 In March 100°C 1	Tensile Modulus, 1 mm/min	11410	MPa	ISO 527
Izod Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 14 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 41 MJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 82 MJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 82 MJ/m² ISO 180/1A ItHERMAL (1) ItHERMAL (1) ItHERMAL (2) ItHERMAL (3) ItHERMAL (3) ItHERMAL (3) ItHERMAL (3) ItHERMAL (4) ItHERMAL (4) ItHERMAL (5) ItHERMAL (5) ItHERMAL (6) ItHERMAL (6) ItHERMAL (7) ItHERMAL (7) ItHERMAL (8) ITHERMAL (8	Flexural Stress	186	MPa	ISO 178
Izod Impact, unnotched, 23°C 684 J/m ASTM D4812 Izod Impact, notched, 23°C 81 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 14 J ASTM D3763 Izod Impact, unnotched 80*10*4 + 23°C 41 kJ/m² ISO 180/10 Izod Impact, notched 80*10*4 + 23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 142 °C ASTM D648	Flexural Modulus, 2 mm/min	10240	MPa	ISO 178
Izod Impact, notched, 23°C 81 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 14 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 41 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 +23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ THERMAL ⁽¹⁾ C ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 142 °C ASTM D648	IMPACT (1)			
Instrumented Dart Impact Total Energy, 23°C 14 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 41 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ V V ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 142 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	Izod Impact, unnotched, 23°C	684	J/m	ASTM D4812
Izod Impact, unnotched 80°10°4 +23°C 41 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 8 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	Izod Impact, notched, 23°C	81	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	Instrumented Dart Impact Total Energy, 23°C	14	J	ASTM D3763
THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	Izod Impact, unnotched 80*10*4 +23°C	41	kJ/m²	ISO 180/1U
HDT, 0.45 MPa, 3.2 mm, unannealed 145 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
HDT, 1.82 MPa, 3.2mm, unannealed 142 °C ASTM D648	THERMAL (1)			
	HDT, 0.45 MPa, 3.2 mm, unannealed	145	°C	ASTM D648
CTF -40°C to 40°C flow 1,6E.05 1,1°C ASTM E831	HDT, 1.82 MPa, 3.2mm, unannealed	142	°C	ASTM D648
1.00.00	CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ASTM E831



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	146	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	143	°C	ISO 75/Af
Relative Temp Index, Elec ⁽²⁾	80	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	80	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	80	°C	UL 746B
PHYSICAL (1)			
Specific Gravity	1.41	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.08	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.06 – 0.08	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.4 – 0.6	%	ASTM D955
Density	1.4	g/cm³	ISO 1183
ELECTRICAL (1)			
Surface Resistivity (4)	1.E+02 – 1.E+05	Ω	ASTM D257
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	<u>E121562-101345265</u>	-	
UL Yellow Card Link 2	<u>E207780-101345225</u>	-	-
UL Recognized, 94V-0 Flame Class Rating	≥2.4	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING (5)			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	305 – 325	°C	
Front - Zone 3 Temperature	320 – 330	°C	
Middle - Zone 2 Temperature	310 – 320	°C	
Rear - Zone 1 Temperature	295 – 305	°C	
Mold Temperature	80 – 110	°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.

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⁽²⁾ UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

⁽³⁾ 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.

⁽⁴⁾ Measurement meets requirements as specified in ASTM D4496.

⁽⁵⁾ 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.