

LNPTM STAT-KONTM COMPOUND DEL329XF

DCL-4032 FR

DESCRIPTION

LNP STAT-KON DEL329XF compound is based on Polycarbonate (PC) resin containing 10% carbon fiber, 15% PTFE. Added features of this grade include: Electrically Conductive. Wear Resistant, Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Electrically Conductive, Wear resistant, Carbon fiber filled, High stiffness/Strength
Fillers	Carbon Fiber, PTFE
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding
INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20241028

MECHANICAL (*) MPa ASTM D638 Tensile Stress, break 91 MPa ASTM D638 Tensile Strain, break 2 % ASTM D638 Tensile Modulus, 50 mm/min 7170 MPa ASTM D638 Flexural Stress 138 MPa ASTM D790 Flexural Modulus MPa ASTM D790 Tensile Stress, break 94 MPa ASTM D790 Tensile Strain, break 9.9 MPa ISO 527 Tensile Strain, break 1.9 MPa ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 527 Flexural Modulus 139 MPa ISO 178 Flexural Modulus MPa ISO 178 Flexural Modulus 19 MPa ISO 178 Flexural Modulus 10 MPa ISO 178	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, break 2 % ASTM D638 Tensile Modulus, 50 mm/min 7170 MPa ASTM D638 Flexural Stress 138 MPa ASTM D790 Flexural Modulus 6480 MPa ASTM D790 Tensile Stress, break 94 MPa ISO 527 Tensile Strain, break 1.9 % ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 178 Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 Flexural Modulus 19 30 Pa ISO 178 Flexural Modulus 319 MPa SIN 178 SIN 178 Instrumented Dart Impact (") 315 J/m ASTM D4812 SIN D54 Instrumented Dart Impact Energy@peak, 23°C 15 J ASTM D3763 SIN D6603 IntermAL (") 32 KJ/m² ISO 180/1U SIN D6603 SIN D648 THERMAL (") 32 ASTM D648 BDT, 1.82 MPa, 3.2mm, unannealed	MECHANICAL (1)			
Fensile Modulus, 50 mm/min 7170 MPa ASTM D638 Flexural Stress 138 MPa ASTM D790 Flexural Modulus 6480 MPa ASTM D790 Tensile Stress, break 94 MPa SD 527 Tensile Strain, break 1.9 % ISO 527 Flexural Modulus, 1 mm/min 7300 MPa ISO 178 Flexural Stress 139 MPa ISO 178 Flexural Modulus 19 MPa ISO 178 Flexural Modulus MPa ISO 178 ISO 178 Flexural Modulus MPa SD 178 ISO 178 Flexural Modulus MPa SD 178 ISO 178 Flexural Modulus MPa SD 178 ISO 178 Instrumented Darlameter Long 23°C 315 J/m ASTM D4812 Instrumented Darl Impact Energy @ peak, 23°C 15 J ASTM D3763 Instrumented Darl Impact Long 26°C 22 kJ/m² ISO 180/11 Instrumented Bo*10°4 + 23°C 22 kJ/m² ISO 180/11	Tensile Stress, break	91	MPa	ASTM D638
Flexural Stress 138 MPa ASTM D790 Flexural Modulus 6480 MPa ASTM D790 Tensile Stress, break 94 MPa ISO 527 Tensile Strain, break 1.9 % ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 527 Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 Impact Timpact 319 MPa ASTM D4812 Izod Impact, unnotched, 23°C 315 J/m ASTM D4812 Instrumented Dart Impact Energy@peak, 23°C 15 J/m ASTM D4812 Izod Impact, unnotched 80°10°4 + 23°C 22 J/m² ISO 180/11U Izod Impact, unnotched 80°10°4 + 23°C 22 J/m² ISO 180/11U Izod Impact, notched 80°10°4 + 23°C 7 X/m² ISO 180/11U HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 139 °C ASTM D648	Tensile Strain, break	2	%	ASTM D638
Flexural Modulus 6480 MPa ASTM D790 Tensile Stress, break 94 MPa ISO 527 Tensile Strain, break 1.9 % ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 178 Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 Impact Till V V ASTM D4812 Izod Impact, unnotched, 23°C 315 J/m ASTM D4812 Izod Impact, notched, 23°C 15 J ASTM D3763 Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 22 kJ/m² ISO 180/1U Izod Impact, unnotched 80°10°4 + 23°C 7 kJ/m² ISO 180/1A THERMAL (¹¹) THERMAL (¹¹) C ASTM D648 HDT, 0.45 MPa, 3.2mm, unannealed 143 °C ASTM D648	Tensile Modulus, 50 mm/min	7170	MPa	ASTM D638
Tensile Stress, break 94 MPa ISO 527 Tensile Strain, break 1.9 % ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 527 Flexural Stress 139 MPa ISO 178 Impact Indudulus MPa ISO 178 Impact Indudulus J/m ASTM D4812 Izod Impact, unnotched, 23°C 315 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 15 J ASTM D3763 Multiaxial Impact 2 J/m² ISO 6603 Izod Impact, unnotched 80°10°4 + 23°C 22 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 2 kJ/m² ISO 180/10 THERMAL (¹) THERMAL (¹) X ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 139 °C ASTM D648	Flexural Stress	138	MPa	ASTM D790
Tensile Strain, break 1.9 % ISO 527 Tensile Modulus, 1 mm/min 7300 MPa ISO 527 Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 IMPACT (*) *** *** *** *** *** *** **	Flexural Modulus	6480	MPa	ASTM D790
Tensile Modulus, 1 mm/min 7300 MPa ISO 527 Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 IMPACT (¹) Usad Impact, unnotched, 23°C J/m ASTM D4812 Izod Impact, notched, 23°C 69 J/m ASTM D256 Instrumented Dart Impact Energy@peak, 23°C 15 J ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 + 23°C 7 kJ/m² ISO 180/1A THERMAL (¹) kJ/m² ISO 180/1A THERMAL (¹) C ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Tensile Stress, break	94	MPa	ISO 527
Flexural Stress 139 MPa ISO 178 Flexural Modulus 7300 MPa ISO 178 IMPACT (¹) ASTM D4812 Izod Impact, unnotched, 23°C 69 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 22 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 7 kJ/m² ISO 180/1A THERMAL (¹) * * ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Tensile Strain, break	1.9	%	ISO 527
Flexural Modulus 7300 MPa ISO 178 IMPACT (1)	Tensile Modulus, 1 mm/min	7300	MPa	ISO 527
IMPACT (1) Izod Impact, unnotched, 23°C 315 J/m ASTM D4812 Izod Impact, notched, 23°C 69 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Multiaxial Impact 2 J ISO 6603 Izod Impact, unnotched 80*10*4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 139 °C ASTM D648	Flexural Stress	139	MPa	ISO 178
Izod Impact, unnotched, 23°C 315 J/m ASTM D4812 Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Multiaxial Impact 2 J ISO 6603 Izod Impact, unnotched 80°10°4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) L L ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 139 °C ASTM D648	Flexural Modulus	7300	MPa	ISO 178
Izod Impact, notched, 23°C 69 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Multiaxial Impact 2 J ISO 6603 Izod Impact, unnotched 80°10°4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 139 °C ASTM D648	IMPACT (1)			
Instrumented Dart Impact Energy @ peak, 23°C 15 J ASTM D3763 Multiaxial Impact 2 J ISO 6603 Izod Impact, unnotched 80*10*4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 7 kJ/m² ISO 180/1A THERMAL (¹) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Izod Impact, unnotched, 23°C	315	J/m	ASTM D4812
Multiaxial Impact 2 ISO 6603 Izod Impact, unnotched 80*10*4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) ** ** ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 139 ** ASTM D648	Izod Impact, notched, 23°C	69	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C 22 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Instrumented Dart Impact Energy @ peak, 23°C	15	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C 7 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Multiaxial Impact	2	J	ISO 6603
THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Izod Impact, unnotched 80*10*4 +23°C	22	kJ/m²	ISO 180/1U
HDT, 0.45 MPa, 3.2 mm, unannealed 143 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
HDT, 1.82 MPa, 3.2mm, unannealed 139 °C ASTM D648	THERMAL (1)			
	HDT, 0.45 MPa, 3.2 mm, unannealed	143	°C	ASTM D648
CTE, -40°C to 40°C, flow 2.41E-05 1/°C ASTM E831	HDT, 1.82 MPa, 3.2mm, unannealed	139	°C	ASTM D648
	CTE, -40°C to 40°C, flow	2.41E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow 4.19E-05 1/°C ASTM E831	CTE, -40°C to 40°C, xflow	4.19E-05	1/°C	ASTM E831



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	2.41E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	4.19E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	141	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	138	°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)			
Density	1.35	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.09	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.1 – 0.2	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.4 – 0.5	%	ASTM D955
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.14 – 0.19	%	ISO 294
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.45 – 0.52	%	ISO 294
Density	1.36	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.14	%	ISO 62
Melt Volume Rate, MVR at 300°C/6.7 kg	20	cm³/10 min	ISO 1133
ELECTRICAL (1)			
Surface Resistivity (4)	1.E+02 – 1.E+06	Ω	ASTM D257
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E207780-101343855	-	
UL Yellow Card Link 2	E121562-101344532	-	
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
INJECTION MOLDING (5)			
III/LETION WICEDING			
Drying Temperature	120	°C	
	120 4		
Drying Temperature		°C	
Drying Temperature Drying Time	4	°C Hrs	
Drying Temperature Drying Time Maximum Moisture Content	4 0.02	°C Hrs %	
Drying Temperature Drying Time Maximum Moisture Content Melt Temperature	4 0.02 305 – 325	°C Hrs % °C	
Drying Temperature Drying Time Maximum Moisture Content Melt Temperature Front - Zone 3 Temperature	4 0.02 305 – 325 320 – 330	°C Hrs % °C °C	
Drying Temperature Drying Time Maximum Moisture Content Melt Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature	4 0.02 305 – 325 320 – 330 310 – 320	°C Hrs % °C °C	
Drying Temperature Drying Time Maximum Moisture Content Melt Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature	4 0.02 305 - 325 320 - 330 310 - 320 295 - 305	°C Hrs % °C °C °C	

⁽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⁾ 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.



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