

LNPTM STAT-KONTM COMPOUND DEL13EXC

DCL-4013 EM HP REGION AMERICAS

DESCRIPTION

LNP STAT-KON DEL13EXC compound is based on Polycarbonate (PC) resin containing 15% carbon fiber, 5% PTFE. Added features of this grade include: Easy Molding, Electrically Conductive, Wear Resistant.

GENERAL INFORMATION	
Features	Electrically Conductive, Good Processability, 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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Stress, yld, Type I, 5 mm/min	131	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	131	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	1.6	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.6	%	ASTM D638
Tensile Modulus, 5 mm/min	13400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	163	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	163	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	126	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.3	%	ISO 527
Tensile Strain, break, 5 mm/min	1.3	%	ISO 527
Tensile Modulus, 1 mm/min	13010	MPa	ISO 527
Flexural Modulus, 2 mm/min	10230	MPa	ISO 178
IMPACT (1)			
Izod Impact, unnotched, 23°C	450	J/m	ASTM D4812
Izod Impact, notched, 23°C	80	J/m	ASTM D256
Multiaxial Impact	3	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	9	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	24	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	6	kJ/m²	ISO 180/1A
THERMAL (1)			
HDT, 0.45 MPa, 3.2 mm, unannealed	140	°C	ASTM D648



PROPERTIES TYPICAL VALUES UNITS TEST METHODS HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -30°C to 30°C, flow 1.606 1/°C ASTM D696 CTE, -30°C to 30°C, flow 7.606 1/°C ASTM D696 HDT/Bf, 0.45 MPa Flatw 80°10°4 sp=64mm 141 °C 150.75 /M HDT/Bf, 1.8 MPa Flatw 80°10°4 sp=64mm 138 °C U.7468 Relative Temp Index, Elec (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 °C U.7468 Relative Temp Index, Mech w/impact (2) 80 %C U.7468 Relative Temp Index, Mech w/impact (2) 1.28 ASTM D792 Moisture Absorption, (23°C/50% RH/24 hrs) 0.11 XIII XIII	RUDEBLIES			
CTE, 30°C to 30°C, flow 1.606 1,1°C ASTM D696 CTE, 30°C to 30°C, xflow 7.606 1,1°C ASTM D696 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/Bf Relative Temp Index, Black 80°10°4 sp=64mm 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C UL746B Relative Temp Index, Mech w/impact (2) 80 °C MSTM D59 PWISICAL (1) 1 2 ASTM D792 Density 1,29 1,29 ASTM D595 ASTM D595 Mold Shrinkage, xflow, 24 hrs (3) 0,10 3,20 ASTM D595 Mold Shrinkage, xflow, 24 hrs (3) 1,29 2 AS	KOI EKTIES	TYPICAL VALUES	UNITS	TEST METHODS
CFE, 30°C to 30°C, xflow 7.Eof6 1/°C ASTM D696 HDT/βf, 0.45 MPa Flatw 80°10°4 sp=64mm 141 °C 150 75 /βf HDT/βf, 1.8 MPa Flatw 80°10°4 sp=64mm 138 °C 150 75 /βf Relative Temp Index, Elec ⁽²⁾ 80 °C UL 7468 Relative Temp Index, Mech w/ impact ⁽²⁾ 80 °C UL 7468 Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C UL 7468 PVISICAL ⁽¹⁾ *** ASTM D792 Pecific Gravity 1.29 ASTM D792 ASTM D792 Density 1.28 3 MSTM D792 ASTM D792 Moisture Absorption, (23°C/50% RH/24 hrs) 0.11 % ASTM D792 Moisture Absorption (23°C/50% RH/24 hrs) 0.1-0.5 % ASTM D955 Moisture Absorption (23°C/50% RH) 0.3-0.7 % ASTM D955 Moisture Absorption (23°C/50% RH) 1.Eof1.Ee/10.Ee/10 % ASTM D955 BLECTRICAL ⁽¹⁾ X ASTM D955 LECTRICAL ⁽¹⁾ X ASTM D257 LEAL MAGE CHARACTERISTICS ⁽²⁾ <th< td=""><td>DT, 1.82 MPa, 3.2mm, unannealed</td><td>137</td><td>°C</td><td>ASTM D648</td></th<>	DT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D648
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 U.7 46B Relative Temp Index, Mech w/impact ⁽²⁾ 80 °C U.7 46B Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C U.7 46B Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C U.7 46B Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C U.7 46B Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C U.7 46B Relative Temp Index, Mech w/o impact ⁽²⁾ 80 °C W.7 46B Proscritical ⁽³⁾ 40 80 STM D92 Descritic Gravity 9.1 9.2 ASTM D92 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 9.1 9.2 ASTM D95 Mold Shrinkage, xflow, 24 hrs ⁽³⁾ 9.2 ASTM D95 4.2 Butter CHARCLE 1.2 1.2 4.2 ASTM D95 ELECTRICAL ⁽¹⁾ 1.2 4.2 4.2 </td <td>TE, -30°C to 30°C, flow</td> <td>1.E-06</td> <td>1/°C</td> <td>ASTM D696</td>	TE, -30°C to 30°C, flow	1.E-06	1/°C	ASTM D696
HDT/Af, 1.8 MPa Flatw 80°10°4 sp=64mm 138 °C ISO 75/Af Relative Temp Index, Elec (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C UL 7468 Relative Temp Index, Mech w/nimpact (²) 80 °C WI 7468 PHYSICAL (¹) 129 STAIN DESCRIPTION DESCRIPTION STAIN DESCRIPTION DESCRIPTION STAIN DESCRIPTION DESCRIPTION STAIN DESCRIPTION	TE, -30°C to 30°C, xflow	7.E-06	1/°C	ASTM D696
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/impact (2) 80 °C UL 746B Relative Temp Index, Mech w/o impact (2) 80 °C UL 746B Relative Temp Index, Mech	DT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	141	°C	ISO 75/Bf
Relative Temp Index, Mech w/inipact (2)80°CU. 7468Relative Temp Index, Mech w/o impact (2)80°CU. 7468PHYSICAL (1)Specific Gravity1.29STSTM D792Density1.289/cm³ASTM D792Moisture Absorption, (23°C/50% RH/24 hrs)0.1%ASTM D570Mold Shrinkage, flow, 24 hrs (3)0.1 – 0.5%ASTM D955Moisture Absorption (23°C / 50% RH)0.3 – 0.7%ASTM D955Moisture Absorption (23°C / 50% RH)1.8%ASTM D955ELECTRICAL (1)Surface Resistivity (4)1.8 + 0.1 - 1.8 + 0.4%ASTM D957FLAME CHARACTERISTICS (2)UL Yellow Card Link£121562-101345266%ASTM D57UL Yellow Card Link5.2mU. 9.4UL Yellow Chard (5)1.5mU. 9.4UL Yellow Chard (6)1.5mU. 9.4UL Yellow Chard (6)1.51.5mU. 9.4UL Yellow Chard (6)1.51.51.51.5UL Yellow Chard (7)1.51.51.51.5UL Yellow Chard (7)1.51.51.51.5UL Yellow Chard (7)<	DT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	138	°C	ISO 75/Af
Relative Temp Index, Mech w/o impact (2) PHYSICAL (1) Specific Gravity 1.29 Losal 2.29 Moisture Absorption, (23°C/50% RH/24 hrs) 2.10 Moisture Absorption, (23°C/50% RH/24 hrs) 2.10 Moisture Absorption (23°C/50% RH) 2.10 Moisture Absorption	elative Temp Index, Elec ⁽²⁾	80	°C	UL 746B
PHYSICAL (¹)Specific Gravity1.294.50ASTM D792Density1.28g/cm³ASTM D792Moisture Absorption, (23°C/50% RH/24 hrs)0.1%ASTM D570Mold Shrinkage, flow, 24 hrs (³)0.1 – 0.5%ASTM D955Mold Shrinkage, xflow, 24 hrs (³)0.3 – 0.7%ASTM D955Moisture Absorption (23°C / 50% RH)1.8%150 62ELECTRICAL (¹)Surface Resistivity (⁴)1.2 +01 – 1.2 +04ΩASTM D257FAME CHARACTERISTICS (²)Ut Yellow Card Link1.2 1562-101345266Ut Recognized, 94HB Flame Class Rating1.5mmU.94INJECTION MOLDING (⁵)Dying Temperature120℃℃	elative Temp Index, Mech w/impact ⁽²⁾	80	°C	UL 746B
Specific Gravity1.29-ASTM D792Density1.28g/cm³ASTM D792Moisture Absorption, (23°C/50% RH/24 hrs)0.11%ASTM D792Mold Shrinkage, flow, 24 hrs (3)0.1 – 0.5%ASTM D955Mold Shrinkage, xflow, 24 hrs (3)0.3 – 0.7%ASTM D955Moisture Absorption (23°C / 50% RH)0.18%Moisture Absorption (23°C / 50% RH)%ELECTRICAL (1)Surface Resistivity (4)1.5401 – 1.5404MASTM D257TAME CHARACTERISTICS (2)XASTM D257Ut Yellow Card LinkE121562-101345266Ut Recognized, 94HB Flame Class Rating1.5mmUt 94INJECTION MOLDING (5)CC	elative Temp Index, Mech w/o impact ⁽²⁾	80	°C	UL 746B
Density Density 1.28 Moisture Absorption, (23°C/50% RH/24 hrs) 1.28 Moisture Absorption, (23°C/50% RH/24 hrs) 1.28 Mold Shrinkage, flow, 24 hrs (3) 1.29 Mold Shrinkage, xflow, 24 hrs (3) 1.29 Moisture Absorption (23°C / 50% RH) 1.20 Moisture	HYSICAL (1)			
Moisture Absorption, (23°C/50% RH/24 hrs) Mold Shrinkage, flow, 24 hrs (3) Mold Shrinkage, xflow, 24 hrs (3) Mold Shrinkage, xflow, 24 hrs (3) Moisture Absorption (23°C / 50% RH) Moisture Abs	pecific Gravity	1.29	-	ASTM D792
Mold Shrinkage, flow, 24 hrs ⁽³⁾ Mold Shrinkage, xflow, 24 hrs ⁽³⁾ Mold Shrinkage, xflow, 24 hrs ⁽³⁾ Moisture Absorption (23°C / 50% RH) LECTRICAL ⁽¹⁾ Surface Resistivity ⁽⁴⁾ LE+01 – 1.E+04 LE+0	ensity	1.28	g/cm³	ASTM D792
Mold Shrinkage, xflow, 24 hrs ⁽³⁾ Moisture Absorption (23°C / 50% RH) ELECTRICAL ⁽¹⁾ Surface Resistivity ⁽⁴⁾ FLAME CHARACTERISTICS ⁽²⁾ Ut Yellow Card Link Leequage 1,52 feet	loisture Absorption, (23°C/50% RH/24 hrs)	0.11	%	ASTM D570
Moisture Absorption (23°C / 50% RH) 6.18	lold Shrinkage, flow, 24 hrs ⁽³⁾	0.1 – 0.5	%	ASTM D955
ELECTRICAL (1) Surface Resistivity (4) FLAME CHARACTERISTICS (2) UL Yellow Card Link UL Recognized, 94HB Flame Class Rating INJECTION MOLDING (5) Dying Temperature 120 120 120 120 120 120 120 12	lold Shrinkage, xflow, 24 hrs ⁽³⁾	0.3 – 0.7	%	ASTM D955
Surface Resistivity (4)1.E+01 – 1.E+04\(\Omega)\$ASTM D257FLAME CHARACTERISTICS (2)UL Yellow Card LinkE121562-101345266UL Recognized, 94HB Flame Class Rating1.5mmUL 94INJECTION MOLDING (5)Drying Temperature120\(\Chi^2\)\(\Chi^2\)\(\Chi^2\)	loisture Absorption (23°C / 50% RH)	0.18	%	ISO 62
FLAME CHARACTERISTICS ⁽²⁾ UL Yellow Card Link	LECTRICAL (1)			
UL Yellow Card Link UL Recognized, 94HB Flame Class Rating 1.5 NECTION MOLDING (5) Lagorature 120 120 120 120 120 120 120 120	urface Resistivity ⁽⁴⁾	1.E+01 – 1.E+04	Ω	ASTM D257
UL Recognized, 94HB Flame Class Rating 1.5 INJECTION MOLDING (5) Drying Temperature 1.20 mm UL 94 UL 94 C C	LAME CHARACTERISTICS (2)			
INJECTION MOLDING ⁽⁵⁾ Drying Temperature 120 °C	L Yellow Card Link	<u>E121562-101345266</u>	-	-
Drying Temperature 120 °C	L Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
7.5 - 1	JJECTION MOLDING ⁽⁵⁾			
Police Trans	rying Temperature	120	°C	
Drying Time 4 Hrs	rying Time	4	Hrs	
Maximum Moisture Content 0.02 %	laximum Moisture Content	0.02	%	
Melt Temperature 305 – 325 °C	lelt Temperature	305 – 325	°C	
Front - Zone 3 Temperature 320 – 330 °C	ont - Zone 3 Temperature	320 – 330	°C	
Middle - Zone 2 Temperature 310 – 320 °C	liddle - Zone 2 Temperature	310 – 320	°C	
Rear - Zone 1 Temperature 295 – 305 °C	ear - Zone 1 Temperature	295 – 305	°C	
Mold Temperature 80 – 110 °C	lold Temperature	80 – 110	°C	
Back Pressure0.2 - 0.3MPa	ack Pressure	0.2 – 0.3	MPa	
Screw Speed 30 – 60 rpm	crew 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

⁽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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