

## LNPTM STAT-LOYTM COMPOUND D30001

## **DESCRIPTION**

LNP STAT-LOY D3000I compound is a Polycarbonate (PC) resin based electrically conductive material with colorability, low surface resistivity, high HDT, low temperature impact toughness and good surface quality. This material is targeted for explosive proof application.

GENERAL INFORMATION		
Features	Antistatic, Impact resistant, No PFAS intentionally added	
Fillers	Unreinforced	
Polymer Types	Polycarbonate (PC)	
Processing Techniques	Injection Molding	

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components

## **TYPICAL PROPERTY VALUES**

Revision 20251112

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Stress, brk, Type I, 50 mm/min	46.7	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	83.59	%	ASTM D638
Tensile Modulus, 50 mm/min	1888	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	70.1	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1730	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	44.2	MPa	ISO 527
Tensile Strain, break, 50 mm/min	81.28	%	ISO 527
Tensile Modulus, 1 mm/min	1873	MPa	ISO 527
Flexural Strength, 2 mm/min	71.2	MPa	ISO 178
Flexural Modulus, 2 mm/min	1862	MPa	ISO 178
IMPACT (1)			
Izod Impact			
notched, 23°C	669	J/m	ASTM D256
unnotched, 23°C	NB	J/m	ASTM D4812
notched, -30°C	505	J/m	ASTM D256
unnotched, -30°C	NB	J/m	ASTM D4812
notched, -40°C	237	J/m	ASTM D256
unnotched, -40°C	NB	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	65.21	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60.58	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL (1)			
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648



1971   1.82 MPs   3.2 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   6.4 mm, unannealed   124   "C. ASIM Del48   107, 1.42 MPs   107, 1				
1921   1922	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
15	HDT, 1.82 MPa, 3.2mm, unannealed	105	°C	ASTM D648
12   12   13   15   15   15   15   15   15   15	HDT, 0.45 MPa, 6.4 mm, unannealed	124	°C	ASTM D648
No   Part   Part   No   Part	HDT, 1.82 MPa, 6.4 mm, unannealed	115	°C	ASTM D648
### APC	HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
40°C to 80°C, flow 450°C, flow 95.65 1,1°C ASTM E831 1 40°C to 80°C, flow 1,1°C 100 113.95.2 40°C 100 113.95.2 4	HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	100	°C	ISO 75/Af
40°C το 80°C, xilow         9,965         1,°C         ASTM E831           40°C to 80°C, flow         7,885         1,°C         105 11359-2           40°C to 80°C, xilow         1,004         1,°C         80 11359-2           Arica Softening Temp, Rate 8/120         121         °C         ASTM D1525           Arica Softening Temp, Rate 8/120         120         °C         MSTM D1525           HYSICAL O'         ************************************	CTE			
1	-40°C to 80°C, flow	8.1E-5	1/°C	ASTM E831
10°C to 80°C xilow   10°C to 80°C xilow   10°C   20°C	-40°C to 80°C, xflow	9.9E-5	1/°C	ASTM E831
Act softening Temp, Rate B/120         121         °C         ASTM D1525           Act softening Temp, Rate B/120         120         °C         150 306           CHYSICAL (**)         STATE (**)         STATE (**)           Schedic Gravity         1.18         -         ASTM D792           Mode Shrinkage, 260°(-7).2 kgf         13.7         g/10 mm         STATE D1238           Model Shrinkage, 160w (**)         0.14         %         SOG 2           Model Shrinkage, 160w (**)         0.73         %         SABIC method           Model Shrinkage, 160w (**)         0.93         3.83         SABIC method           Model Shrinkage, 160w (**)         0.93         2.82         SABIC method           Model Shrinkage, 160w (**)         3.84         SABIC method           Model Shrinkage, 160w (**)         4.82         SABIC method           Joshipation Factor, 1.6 Cht         2.93         3.82         SABIC method           Dielectric Constant, 1.5 Cht         3.82         3.82         SABIC method <t< td=""><td>-40°C to 80°C, flow</td><td>7.8E-5</td><td>1/°C</td><td>ISO 11359-2</td></t<>	-40°C to 80°C, flow	7.8E-5	1/°C	ISO 11359-2
Act softening Temp, Rate B 120         "C         ISO 306           PAYSICAL. <sup>10</sup> PAYSICAL. <sup>10</sup> "STATE (Gravity)         ASTM D792           Mellet Flow Rate, 260°C/1,2 kgf         1,18         9,10 min         ASTM D728           Mold Shrinkage, 260°C/1,2 kgf         0,14         \$150 62         3,20           Mold Shrinkage, 270°C/1,2 kgf         0,73         \$2         SABIC method           Mold Shrinkage, 270°C/1,2 kgf         0,93         \$2         SABIC method           Mold Shrinkage, 270°C/1,2 kgf         0,93         \$2         SABIC method           Mold Shrinkage, 270°C/1,2 kgf         0,93         \$3         \$3         \$40<	-40°C to 80°C, xflow	1.0E-4	1/°C	ISO 11359-2
Persicual. 10  Specific Gravity 1.18	Vicat Softening Temp, Rate B/120	121	°C	ASTM D1525
1.18	Vicat Softening Temp, Rate B/120	120	°C	ISO 306
Melet Flow Rate, 260°C/1.2 kgf         13.7         g/10 min         ASTM D1238           Moisture Absorption (23°C / 50% RH)         0.14         %         150 62           Moid Shrinkage, flow (2)         0.73         %         ASEC method           Moid Shrinkage, stfow (2)         0.93         %         ASEC method           Moid Shrinkage, stfow (2)         2.8E+10         0./29         ASTM D257           Classification         5.4E+10         0.0cm         ASTM D257           Volume Resistivity         5.4E+10         0.0cm         ASTM D257           Surface Resistance         5.2E+08         0.0cm         ASTM D257           Dielectric Constant, 1.1 GHz         3.02         -         ASEC method           Dissipation Factor, 1.9 GHz         2.96         -         ASEC method           Dissipation Factor, 1.9 GHz         0.03144         -         ASEC method           Dissipation Factor, 5 GHz         0.02694         -         ASEC method           Dissipation Factor, 10 GHz         0.02242         -         ASEC method           Dissipation Factor, 20 GHz         0.02242         -         ASEC method           Dissipation Factor, 20 GHz         0.02251         -         ASEC method           Dissipat	PHYSICAL (1)			
Moisture Absorption (23°C / 50% RH)         0.14         %         ISO 62           Mold Shrinkage, flow (2)         0.93         %         SABIC method           Mold Shrinkage, xflow (2)         0.93         %         SABIC method           ELECTRICAL (1)           ELECTRICAL (2)           ELECTRICAL (3)           ELECTRICAL (4)           ELECTRICAL (4)           ELECTRICAL (4)           CASE+10         Q/sq         ASTM D257           CASE+10         Q.C.cm         SABIC	Specific Gravity	1.18	-	ASTM D792
Mold Shrinkage, flow (2)         0.73         %         SABIC method           Mold Shrinkage, xflow (2)         0.93         %         SABIC method           ELECTRICAL (1)         TURN (2)         XSTM D257           Surface Resistivity         5.4E+10         Q.cm         ASTM D257           Surface Resistance         5.2E+08         Q.cm         ASTM D257           Surface Resistance         0.03358         Q.cm         ASBIC method           Dislectric Constant, 1.1 GHz         0.03358         Q.cm         SABIC method           Dislectric Constant, 1.9 GHz         0.03144         Q.cm         SABIC method           Dislectric Constant, 1.9 GHz         0.03144         Q.cm         SABIC method           Dislegation Factor, 1.9 GHz         0.02694         Q.cm         SABIC method           Dislegation Factor, 5 GHz         0.02694         Q.cm         SABIC method           Dislegation Factor, 10 GHz         0.02242         Q.cm         SABIC method           Dislegation Factor, 20 GHz         0.02251         Q.cm         SABIC method           Dislegation Factor, 20 GHz         0.0251         Q.cm         SABIC method           Dislegation Factor, 20 GHz         0.0251         SABIC method         Q.cm         Q.cm	Melt Flow Rate, 260°C/1.2 kgf	13.7	g/10 min	ASTM D1238
Mold Shrinkage, xflow (2)         0.93         %         SABIC method           ELECTRICAL (1)         Volume Resistivity         2.8E+10         Ω cm         ASTM D257           Four face Resistance         5.2E+08         Ω cm         ASTM D257           Delectric Constant, 1.1 GHz         3.02         ∞         SABIC method           Dissipation Factor, 1.1 GHz         0.03358         -         SABIC method           Dissipation Factor, 1.9 GHz         2.96         -         SABIC method           Dissipation Factor, 1.9 GHz         0.02694         -         SABIC method           Dissipation Factor, 5 GHz         0.02694         -         SABIC method           Dissipation Factor, 10 GHz         -         SABIC method         -           Dissipation Factor, 20 GHz         0.02694         -         SABIC method           Dissipation Factor, 10 GHz         -         SABIC method         -           Dissipation Factor, 20 GHz         0.02242         -         SABIC method           Dissipation Factor, 20 GHz         -         SABIC method         -           Dissipation Factor, 20 GHz         -         SABIC method         -           Dissipation Factor, 20 GHz         -         -         -         -	Moisture Absorption (23°C / 50% RH)	0.14	%	ISO 62
ELECTRICAL <sup>(1)</sup> Surface Resistivity	Mold Shrinkage, flow (2)	0.73	%	SABIC method
Surface Resistivity         2.8E+10         Ω/sq         ASTM D257           Jolume Resistivity         5.4E+10         Ω.cm         ASTM D257           Surface Resistance         5.2E+08         Ω         ASTM D257           Dielectric Constant, 1.1 GHz         3.02         -         SABIC method           Dielectric Constant, 1.9 GHz         2.96         -         SABIC method           Dielectric Constant, 1.9 GHz         2.93         -         SABIC method           Dielectric Constant, 5 GHz         2.93         -         SABIC method           Dielectric Constant, 10 GHz         2.93         -         SABIC method           Dielectric Constant, 10 GHz         0.02694         -         SABIC method           Dielectric Constant, 10 GHz         0.02242         -         SABIC method           Dielectric Constant, 20 GHz         0.02242         -         SABIC method           Dielectric Constant, 20 GHz         0.02251         -         SABIC method           Dielectric Constant, 20 GHz         -         SABIC method         -           Dielectric Constant, 20 GHz         -         SABIC method         -           Dielectric Constant, 20 GHz         -         -         SABIC method         -	Mold Shrinkage, xflow <sup>(2)</sup>	0.93	%	SABIC method
Volume Resistivity         5.4E+10         Ω.cm         ASTM D257           Surface Resistance         5.2E+08         Ω         ASTM D257           Dielectric Constant, 1.1 GHz         3.02         -         SABIC method           Dielectric Constant, 1.9 GHz         2.96         -         SABIC method           Dielectric Constant, 1.9 GHz         0.03144         -         SABIC method           Dielectric Constant, 5 GHz         2.93         -         SABIC method           Dielectric Constant, 10 GHz         0.02694         -         SABIC method           Diesipation Factor, 10 GHz         0.02694         -         SABIC method           Dissipation Factor, 10 GHz         0.02242         -         SABIC method           Dissipation Factor, 20 GHz         0.02242         -         SABIC method           Dissipation Factor, 20 GHz         0.02251         -         SABIC method           Dissipation Factor, 20 GHz         0.0251         -         SABIC method           Dissipation Factor, 20 GHz         0.0251         -         SABIC method           Dissipation Factor, 20 GHz         -         SABIC method         SABIC method           Dissipation Factor, 20 GHz         -         SABIC method         SABIC method	ELECTRICAL (1)			
defende Resistance         5.2E+08         Ω         ASTM D257           Delectric Constant, 1.1 GHz         3.02         -         SABIC method           Dissipation Factor, 1.1 GHz         0.03358         -         SABIC method           Dissipation Factor, 1.9 GHz         2.96         -         SABIC method           Dissipation Factor, 1.9 GHz         0.03144         -         SABIC method           Dissipation Factor, 5 GHz         0.02694         -         SABIC method           Dissipation Factor, 10 GHz         0.02242         SABIC method           Dissipation Factor, 10 GHz         0.02242         SABIC method           Dissipation Factor, 20 GHz         0.02251         SABIC method           Dissipation Factor, 20 GHz         FO         SABIC method           Dissipation Factor, 20 GHz         0.02251         SABIC method           Dissipation Factor, 20 GHz         2.0         SABIC method           Dissipation Factor, 20 GHz         2.0         SABIC method           Dissipation Factor, 20 GHz         SA	Surface Resistivity	2.8E+10	Ω/sq	ASTM D257
SABIC method   SABI	Volume Resistivity	5.4E+10	Ω.cm	ASTM D257
Dissipation Factor, 1.1 GHz         0.03358         -         SABIC method           Disleptoric Constant, 1.9 GHz         2.96         -         SABIC method           Dissipation Factor, 1.9 GHz         0.03144         -         SABIC method           Dissipation Factor, 5 GHz         2.93         -         SABIC method           Dissipation Factor, 5 GHz         0.02694         -         SABIC method           Dissipation Factor, 10 GHz         2.95         -         SABIC method           Dissipation Factor, 20 GHz         0.02242         -         SABIC method           Dissipation Factor, 20 GHz         0.02251         -         SABIC method           Dissipation Factor, 20 GHz         0.02251         -         SABIC method           Dissipation Factor, 20 GHz         -         SABIC method         -           Dissipation Factor, 20 GHz         -	Surface Resistance	5.2E+08	Ω	ASTM D257
	Dielectric Constant, 1.1 GHz	3.02	-	SABIC method
Dissipation Factor, 1.9 GHz  Dissipation Factor, 5 GHz  2.93  0.02694  2.95  2.95  3ABIC method  Dissipation Factor, 10 GHz  Dissipation Factor, 20 GHz  Dissipation Facto	Dissipation Factor, 1.1 GHz	0.03358	-	SABIC method
2.93 SABIC method Dissipation Factor, 5 GHz Dissipation Factor, 5 GHz Dissipation Factor, 10 GHz Dissipation Factor, 10 GHz Dissipation Factor, 10 GHz Dissipation Factor, 10 GHz Dissipation Factor, 20 GHz Dissipation Factor, 10 GHz D	Dielectric Constant, 1.9 GHz	2.96	-	SABIC method
Dissipation Factor, 5 GHz Dissipation Factor, 10 GHz Dissipation Factor, 20	Dissipation Factor, 1.9 GHz	0.03144	-	SABIC method
Diselectric Constant, 10 GHz Dissipation Factor, 10 GHz Dissipation Factor, 10 GHz Dissipation Factor, 20 GHz Dissipation Factor,	Dielectric Constant, 5 GHz	2.93	-	SABIC method
Dissipation Factor, 10 GHz Dissipation Factor, 20 GHz Dissipation Factor, 2	Dissipation Factor, 5 GHz	0.02694	-	SABIC method
Diseipation Factor, 20 GHz Dissipation Factor, 20 GHz Dissipation Factor, 20 GHz Dispitation Factor, 2	Dielectric Constant, 10 GHz	2.95	-	SABIC method
Dissipation Factor, 20 GHz  NJECTION MOLDING (3)  Drying Temperature  Propring Time  Melt Temperature  Nozzle Temperature  140 – 260  150 – 260  160 – 260	Dissipation Factor, 10 GHz	0.02242	-	SABIC method
NIECTION MOLDING (3)         C           Orying Temperature         75 – 80         °C           Orying Time         6 – 8         Hrs           Melt Temperature         240 – 260         °C           Nozzle Temperature         240 – 260         °C           Front - Zone 3 Temperature         240 – 260         °C           Middle - Zone 2 Temperature         240 – 260         °C           Mear - Zone 1 Temperature         240 – 260         °C	Dielectric Constant, 20 GHz	2.77	-	SABIC method
Orying Temperature         75 – 80         °C           Orying Time         6 – 8         Hrs           Melt Temperature         240 – 260         °C           Nozzle Temperature         240 – 260         °C           Front - Zone 3 Temperature         240 – 260         °C           Middle - Zone 2 Temperature         240 – 260         °C           Rear - Zone 1 Temperature         240 – 260         °C	Dissipation Factor, 20 GHz	0.02251	-	SABIC method
Orying Time         6 – 8         Hrs           Melt Temperature         240 – 260         °C           Nozzle Temperature         240 – 260         °C           Front - Zone 3 Temperature         240 – 260         °C           Middle - Zone 2 Temperature         240 – 260         °C           Rear - Zone 1 Temperature         240 – 260         °C	INJECTION MOLDING (3)			
Melt Temperature         240 – 260         °C           Nozzle Temperature         240 – 260         °C           Front - Zone 3 Temperature         240 – 260         °C           Middle - Zone 2 Temperature         240 – 260         °C           Rear - Zone 1 Temperature         240 – 260         °C	Drying Temperature	75 – 80	°C	
Nozzle Temperature         240 – 260         °C           Front - Zone 3 Temperature         240 – 260         °C           Middle - Zone 2 Temperature         240 – 260         °C           Rear - Zone 1 Temperature         240 – 260         °C	Drying Time	6 – 8	Hrs	
Front - Zone 3 Temperature       240 – 260       °C         Middle - Zone 2 Temperature       240 – 260       °C         Rear - Zone 1 Temperature       240 – 260       °C	Melt Temperature	240 – 260	°C	
Middle - Zone 2 Temperature         240 – 260         °C           Rear - Zone 1 Temperature         240 – 260         °C	Nozzle Temperature	240 – 260	°C	
Rear - Zone 1 Temperature 240 – 260 °C	Front - Zone 3 Temperature	240 – 260	°C	
•	Middle - Zone 2 Temperature	240 – 260	°C	
Mold Temperature 40 − 60 °C	Rear - Zone 1 Temperature	240 – 260	°C	
	Mold Temperature	40 – 60	°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) 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.

## **DISCLAIMER**

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