

# LNPTM STAT-KONTM COMPOUND ZJK20I

## DESCRIPTION

LNP STAT-KON ZJK20I is a static dissipative CNT compound based on polyphenylene ether (PPE) + polystyrene (PS) resin with low particulate count and good high heat properties. This material is an intended for IC tray, Wafer cassette and Slider tray parts in the semiconductor industry.

GENERAL INFORMATION	
Features	Electrically Conductive, Good Processability, Dimensional stability, No PFAS intentionally added
Fillers	Carbon nanotube
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Electrical, Material Handling

## TYPICAL PROPERTY VALUES

Revision 20241025

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL <sup>(1)</sup>			
Tensile Stress, break, 50 mm/min	85	MPa	ISO 527
Tensile Strain, break, 50 mm/min <sup>(2)</sup>	3.6	%	ISO 527
Tensile Modulus, 1 mm/min	4200	MPa	ISO 527
Flexural Strength, 2 mm/min	124	MPa	ISO 178
Flexural Modulus, 2 mm/min	4020	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	85	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	82	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.2	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min <sup>(2)</sup>	5	%	ASTM D638
Tensile Modulus, 50 mm/min	4320	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	133	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4320	MPa	ASTM D790
IMPACT <sup>(1)</sup>			
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, unnotched, 23°C	345	J/m	ASTM D4812
Izod Impact, notched, 23°C	38	J/m	ASTM D256
THERMAL <sup>(1)</sup>			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	164	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	153	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	4.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.1E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	153	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	164	°C	ASTM D648
<b>PHYSICAL <sup>(1)</sup></b>			
Melt Volume Rate, MVR at 300°C/ 10.0 kg	11	cm <sup>3</sup> / 10 min	ISO 1133
Density	1.15	g/cm <sup>3</sup>	ISO 1183
Mold Shrinkage, xflow <sup>(3)</sup>	0.31	%	SABIC method
Mold Shrinkage, flow <sup>(3)</sup>	0.27	%	SABIC method
Specific Gravity	1.15	-	ASTM D792
<b>ELECTRICAL <sup>(1)</sup></b>			
Surface Resistivity	1E+05 – 1E+08	Ω	ANSI/ESD STM11.11
Surface Resistivity	1E+05 – 1E+08	Ω	ASTM D257
Volume Resistivity	1E+00 – 1E+02	Ω.cm	SABIC method
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	80 – 100	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Hopper Temperature	40	°C	
Melt Temperature	310 – 320	°C	
Rear - Zone 1 Temperature	300 – 310	°C	
Middle - Zone 2 Temperature	300 – 310	°C	
Front - Zone 3 Temperature	310 – 320	°C	
Nozzle Temperature	310 – 320	°C	
Mold Temperature	100 – 120	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw speed (Circumferential speed)	0.15 – 0.20	m/s	

(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) Nominal strain at break

(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) 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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