

## LNPTM FARADEXTM COMPOUND 9X23246

## **DESCRIPTION**

LNP FARADEX 9X23246 compound is based on Polycarbonate/Acrylonitrile Styrene Acrylate (PC/ASA) blend containing a stainless steel fiber. Added features of this grade include: Electrically Conductive, EMI/RFI shielding

GENERAL INFORMATION	
Features	Electrically Conductive, EMI/RFI Shielding, No PFAS intentionally added
Fillers	Stainless Steel Fiber
Polymer Types	Polycarbonate + ASA (PC+ASA)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Electrical and Electronics	Electrical Components and Infrastructure

## **TYPICAL PROPERTY VALUES**

Revision 20240201

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Tensile Strain, break, 5 mm/min	45	%	ISO 527
Tensile Nominal Strain, break, 5 mm/min	5	%	ISO 527
Tensile Stress, yield, 5 mm/min	53	MPa	ISO 527
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
Flexural Strength, 2 mm/min	85	MPa	ISO 178
Tensile Modulus, 5 mm/min	2700	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	53	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2700	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
IMPACT (1)			
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	70	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	65	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	60	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	130	J/m	ASTM D256
Izod Impact, notched, -30°C	85	J/m	ASTM D256
Izod Impact, unnotched, 23°C	850	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	850	J/m	ASTM D4812
THERMAL (1)			



PROPERTIES         TYPICAL VALUES         UNITS         REST METHODS           HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm         112         °C         150.75/M           HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm         127         °C         150.75/M           Vicat Softening Temp, Rate 8/50         132         °C         150.306           Vicat Softening Temp, Rate 8/120         134         °C         150.306           CFC, 23°C to 50°C, flow         50.605         1/°C         150.11359-2           CFC, 23°C to 50°C, flow         60.605         1/°C         ASTM D648           HDT, 1.82 MPa, 3.2 mm, unannealed         12         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D649           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         g/cm         ASTM D649           Mold Shrinkage, sflow         0.1 – 0.3         \$         SM					
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm         127         °C         ISO 306           Vicat Softening Temp, Rate B/50         132         °C         ISO 306           Vicat Softening Temp, Rate B/120         134         °C         ISO 306           CTE, 23°C to 50°C, flow         50.60 S         1/°C         ISO 11359-2           CTE, 23°C to 50°C, flow         60€05         1/°C         ASTM D648           HDT, 1.82 MPa, 3.2mm, unannealed         112         °C         ASTM D648           HDT, 1.82 MPa, 3.2mm, unannealed         123         °C         ASTM D648           HDT, O45 MPa, 3.2mm, unannealed         1.23         g/cm         ASTM D648           PHYSICAL**         L23         g/cm         ASTM D792           Density         1.23         g/cm         ASTM D792           Mold Shrinkage, flow         0.1 − 0.3         %         SASIC method           Mold Shrinkage, flow         0.1 − 0.4         %         SASIC method           Mold Shrinkage, flow         0.1 − 0.4         %         SASIC method           Water Absorption (23°C) Sox RH)         0.1         %         SASIC method           Wollder Absorption (23°C) Sox Statuted)         1.0€+02 − 1.0€+03         Q         ASTM D459           Shie	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS	
Vicat Softening Temp, Rate B/120         132         °C         ISO 306           Vicat Softening Temp, Rate B/120         134         °C         ISO 306           CTE, 23°C to 50°C, flow         50.050         11°C         ISO 11359-2           CTE, 23°C to 50°C, xflow         6.06-05         11°C         ISO 11359-2           HDT, 132 Mpa, 3.2 mm, unannealed         12         °C         ASTM D648           HDT, 19.4 Mpa, 3.2 mm, unannealed         127         °C         ASTM D648           HDT, 19.4 Mpa, 3.2 mm, unannealed         123         °C         ASTM D648           HDT, 19.4 Mpa, 3.2 mm, unannealed         123         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         123         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         123         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         123         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         1.23         °C         ASTM D648           BOLTON         1.23         9/cm³         ASTM D648           BOLTON MOLD Mpa, 2000         1.23         9/cm³         ASTM D792           Volume Resistivity         1.06-102 - 1.08+04         9/cm²         ASTM D4496	HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	112	°C	ISO 75/Af	
Vicat Softening Temp, Rate B/120         134         °C         ISO 306           CTE, 23°C to 50°C, flow         5.06.05         1/°C         ISO 11359-2           CTE, 23°C to 50°C, flow         6.06.05         1/°C         ISO 11359-2           CTE, 23°C to 50°C, flow         6.06.05         1/°C         ISO 11359-2           CTE, 23°C to 50°C, flow         6.06.05         1/°C         ISO 11359-2           CTE, 23°C to 50°C, flow         1.22         °C         ASTM D648           HDT, 1.82 MPa, 3.2 mm, unannealed         127         "STM D648           PHYSICAL.****         "STM D648         "STM D648           PHYSICAL.****         "STM D648           Density         1.23         g/cm³         ISO 1183           Specific Gravity         1.23         g/cm³         ASTM D792           Mold Shrinkage, flow         0.1–0.3         %         SABIC method           Mold Shrinkage, flow         0.1–0.4         %         SATM D570           Water Absorption (23°C / 50% RH)         1.0e-0.4         %         ASTM D570           Volume Resistivity         1.0e+021-1.0E+03         Ω         ASTM D479           Shelding Effectives @ 3mm         50-65         ds         ASTM D446           Static	HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	127	°C	ISO 75/Bf	
CTE, 23°C to 50°C, flow         5.0E05         1/°C         ISO 11359-2           CTE, 23°C to 50°C, xflow         6.0E05         1/°C         ISO 11359-2           HDT, 1.82 MPa, 3.2mm, unannealed         112         °C         ASTM D648           HDT, 0.45 MPa, 3.2mm, unannealed         127         °C         ASTM D648           HHYSICAL <sup>(1)</sup> V         V         SC 1183           PHYSICAL <sup>(1)</sup> V         ISO 1183           Specific Gravity         1.23         9/cm³         ISO 1183           Specific Gravity         1.23         √         ASTM D792           Mold Shrinkage, flow         0.1 − 0.3         %         SABIC method           Mold Shrinkage, xflow         0.1 − 0.4         %         SABIC method           Mold Shrinkage, xflow         0.1 − 0.4         %         SABIC method           Water Absorption (23°C/ 50% RH)         0.1         %         SABIC method           Water Absorption (23°C/ 50% RH)         1.0E+01 − 1.0E+03         Ω         ASTM D570           Volume Resistivity         1.0E+01 − 1.0E+03         Ω         ASTM D575           Volume Resistivity         1.0E-02 − 1.0E+04         Ω         Cm         STM D496           Static Decay, 5000'v to 50v         <	Vicat Softening Temp, Rate B/50	132	°C	ISO 306	
CTE, 23°C to 50°C, xllow         6.0€05         1,°C         8D 11359-2           HDT, 1.82 MPa, 3.2mm, unannealed         112         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         127         °C         ASTM D648           PHYSICAL <sup>(1)</sup> V         C         ASTM D648           PHYSICAL <sup>(1)</sup> V         V         SO 1183           Density         1.23         g/cm³         SO 1183           Specific Gravity         1.23         %         ASTM D792           Mold Shrinkage, filow         0.1 – 0.3         %         ASBIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         ASIM D65           Water Absorption (23°C / 54 Mr44)         0.1         %         ASIM D257           Water Absorption (23°C / 54 Mr44)         0.0         %         ASIM D257           Volume Resistivity         1.0€+01 – 1.0€+03         Q         ASIM D257           Volume Resistivity         1.0€+02 – 1.0€+04         Q         ASIM D496           Static Decay, 5000'v to 50V         0.0         R         ASIM D496           Static Decay, 5000'v to 50V         0         C         Image: V           Drying Time         2         4         Hrs	Vicat Softening Temp, Rate B/120	134	°C	ISO 306	
HDT, 1.82 MPa, 3.2mm, unannealed         112         °C         ASTM D648           HDT, 0.45 MPa, 3.2 mm, unannealed         127         °C         ASTM D648           PHYSICAL ************************************	CTE, 23°C to 50°C, flow	5.0E-05	1/°C	ISO 11359-2	
HDT, 0.45 MPa, 3.2 mm, unannealed         127         C         ASTM D648           PHYSICAL <sup>(1)</sup> JC3         g/cm³         ISO 1183           Specific Gravity         1.23         -         ASTM D792           Mold Shrinkage, flow         0.1 – 0.3         %         SABIC method           Moid Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         SABIC method           Water Absorption, (23°C / saturated)         0.1         %         SATM D570           Water Absorption, (23°C / saturated)         0.1         %         SATM D570           Volume Resistivity         1.0€+01 – 1.0€+03         Ω         ASTM D570           Volume Resistivity         1.0€+02 – 1.0€+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	CTE, 23°C to 50°C, xflow	6.0E-05	1/°C	ISO 11359-2	
PHYSICAL <sup>(1)</sup> Density         1.23         g/cm³         ISO 1183           Specific Gravity         1.23         -         ASTM D792           Mold Shrinkage, flow         0.1 – 0.3         %         SABIC method           Mold Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         ISO 62           Water Absorption (23°C / saturated)         0.1         %         ISO 62           Water Absorption (23°C / saturated)         0.1         %         ASTM D570           Water Absorption (23°C / saturated)         1.0€+01 – 1.0€+03         Ω         ASTM D257           Volume Resistivity         1.0€+02 – 1.0€+04         Ω.cm         ASTM D4496           Volume Resistivity         0.0.1         %         SABIC method           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	HDT, 1.82 MPa, 3.2mm, unannealed	112	°C	ASTM D648	
Density         1.23         g/cm³         ISO 1183           Specific Gravity         1.23         -         ASTM D792           Mold Shrinkage, flow         0.1 – 0.3         %         SABIC method           Mold Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         SASIM D570           Water Absorption, (23°C / saturated)         0.4         %         ASTM D570           ELECTRICAL <sup>(1)</sup> **         ASTM D570           Volume Resistivity         1.0E+01 – 1.0E+03         Ω         ASTM D479           Volume Resistivity         0.0E+02 – 1.0E+04         Ω.cm         ASTM D496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	HDT, 0.45 MPa, 3.2 mm, unannealed	127	°C	ASTM D648	
Specific Gravity         1.23         - C         ASTM D792           Mold Shrinkage, flow         0.1 – 0.3         %         SABIC method           Mold Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         SASIM D570           Water Absorption, (23°C / 50% RH)         0.4         %         ASTM D570           ELECTRICAL <sup>(1)</sup> **         **         STM D570           Volume Resistivity         1.0€+01−1.0€+03         Ω         ASTM D257           Volume Resistivity         1.0€+02−1.0€+04         Ω.cm         ASTM D4496           Shielding Effectiveness @ 3mm         50−65         dB         SABIC method           Static Decay, 5000V to <50V	PHYSICAL (1)				
Mold Shrinkage, flow         0.1 – 0.3         %         SABIC method           Mold Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         ISO 62           Water Absorption, (23°C / saturated)         0.4         %         ASTM D570           ELECTRICAL (¹¹)         **         **         ASTM D257           Volume Resistivity         1.0E+01 – 1.0E+03         Ω         ASTM D457           Volume Resistivity         1.0E+02 – 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	Density	1.23	g/cm³	ISO 1183	
Mold Shrinkage, xflow         0.1 – 0.4         %         SABIC method           Moisture Absorption (23°C / 50% RH)         0.1         %         150 62           Water Absorption, (23°C / saturated)         0.4         %         ASTM D570           ELECTRICAL (1)         **         ASTM D570           Surface Resistivity         1.0E+01 – 1.0E+03         Ω         ASTM D257           Volume Resistivity         1.0E+02 – 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	Specific Gravity	1.23	-	ASTM D792	
Moisture Absorption (23°C / 50% RH)         0.1         %         ISO 62           Water Absorption, (23°C / saturated)         0.4         %         ASTM D570           ELECTRICAL (1)         FUND (100 moles)         %         ASTM D570           Surface Resistivity         1.0E+01 – 1.0E+03         Ω         ASTM D257           Volume Resistivity         1.0E+02 – 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	Mold Shrinkage, flow	0.1 – 0.3	%	SABIC method	
ELECTRICAL (¹)         Surface Resistivity         1.0E+01 - 1.0E+03         Ω         ASTM D257           Volume Resistivity         1.0E+02 - 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 - 65         dB         SABIC method           Static Decay, 5000V to <50V	Mold Shrinkage, xflow	0.1 – 0.4	%	SABIC method	
ELECTRICAL <sup>(1)</sup> Surface Resistivity         1.0E+01 − 1.0E+03         Ω         ASTM D257           Volume Resistivity         1.0E+02 − 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 − 65         dB         SABIC method           Static Decay, 5000V to <50V	<th>Moisture Absorption (23°C / 50% RH)</th> <th>0.1</th> <th>%</th> <th>ISO 62</th>	Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Surface Resistivity         1.0E+01 – 1.0E+03         Ω         ASTM D257           Volume Resistivity         1.0E+02 – 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 – 65         dB         SABIC method           Static Decay, 5000V to <50V	Water Absorption, (23°C/ saturated)	0.4	%	ASTM D570	
Volume Resistivity         1.0E+02 − 1.0E+04         Ω.cm         ASTM D4496           Shielding Effectivness @ 3mm         50 − 65         dB         SABIC method           Static Decay, 5000V to <50V         <0.01         Seconds         FTMS101B           INJECTION MOLDING (²)           Drying Temperature         100 − 110         °C           Drying Time (Cumulative)         8         Hrs           Maximum Moisture Content         0.02         %           Melt Temperature         260 − 290         °C           Rear - Zone 1 Temperature         240 − 270         °C           Middle - Zone 2 Temperature         250 − 280         °C           Front - Zone 3 Temperature         260 − 290         °C           Nozzle Temperature         260 − 290         °C	ELECTRICAL (1)				
Shielding Effectivness @ 3mm         50 - 65         dB         SABIC method           Static Decay, 5000V to <50V	Surface Resistivity	1.0E+01 - 1.0E+03	Ω	ASTM D257	
Static Decay, 5000V to <50V	Volume Resistivity	1.0E+02 - 1.0E+04	$\Omega.$ cm	ASTM D4496	
INJECTION MOLDING   C	Shielding Effectivness @ 3mm	50 – 65	dB	SABIC method	
Drying Temperature         100 – 110         °C           Drying Time         2 – 4         Hrs           Drying Time (Cumulative)         8         Hrs           Maximum Moisture Content         0.02         %           Melt Temperature         260 – 290         °C           Rear - Zone 1 Temperature         240 – 270         °C           Middle - Zone 2 Temperature         250 – 280         °C           Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Static Decay, 5000V to <50V	<0.01	Seconds	FTMS101B	
Drying Time         2-4         Hrs           Drying Time (Cumulative)         8         Hrs           Maximum Moisture Content         0.02         %           Melt Temperature         260 - 290         °C           Rear - Zone 1 Temperature         240 - 270         °C           Middle - Zone 2 Temperature         250 - 280         °C           Front - Zone 3 Temperature         260 - 290         °C           Nozzle Temperature         260 - 290         °C	INJECTION MOLDING (2)				
Drying Time (Cumulative)         8         Hrs           Maximum Moisture Content         0.02         %           Melt Temperature         260 – 290         °C           Rear - Zone 1 Temperature         240 – 270         °C           Middle - Zone 2 Temperature         250 – 280         °C           Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Drying Temperature	100 – 110	°C		
Maximum Moisture Content         0.02         %           Melt Temperature         260 - 290         °C           Rear - Zone 1 Temperature         240 - 270         °C           Middle - Zone 2 Temperature         250 - 280         °C           Front - Zone 3 Temperature         260 - 290         °C           Nozzle Temperature         260 - 290         °C	Drying Time	2 – 4	Hrs		
Melt Temperature         260 – 290         °C           Rear - Zone 1 Temperature         240 – 270         °C           Middle - Zone 2 Temperature         250 – 280         °C           Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Drying Time (Cumulative)	8	Hrs		
Rear - Zone 1 Temperature         240 – 270         °C           Middle - Zone 2 Temperature         250 – 280         °C           Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Maximum Moisture Content	0.02	%		
Middle - Zone 2 Temperature         250 – 280         °C           Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Melt Temperature	260 – 290	°C		
Front - Zone 3 Temperature         260 – 290         °C           Nozzle Temperature         260 – 290         °C	Rear - Zone 1 Temperature	240 – 270	°C		
Nozzle Temperature 260 – 290 °C	Middle - Zone 2 Temperature	250 – 280	°C		
	Front - Zone 3 Temperature	260 – 290	°C		
<b>Mold Temperature</b> 60 − 90 °C	Nozzle Temperature	260 – 290	°C		
	Mold Temperature	60 – 90	°C		

<sup>(1)</sup> 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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<sup>(2)</sup> 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.