

PROPERTIES PEEK-NAT/BLK

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

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PROPERTIES	ITEM		Method	Unit	PEEK-NAT/BLK	
			ISO/(IEC)			
	Color		-	-	natural/black	
	Density		1183	g/cm ³	1.31	
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	5/10	
			62	%	0.06/0.12	
			-	%	0.20	
-			%	0.45		
Thermal Properties	Melting Temperature		-	°C	340	
	Thermal conductivity at 23°C		-	W/(K-m)	0.25	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	50•10 ⁻⁶	
		Average value btw23~100°C	-	m/(m-K)	50•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	160	
	Max. allowable Service temp. in air	For short periods Continously : 5,000/20,000h	-	°C	310	
			-	°C	250	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	V-O/V-O		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	100	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	15/10	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3900	
		★★	527	MPa	-	
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	29/57/119	
	Izod impact strength-Notched		★	180/2A	J/m	41
			★★	180/2A	J/m	-
	Rockwell hardness		★	2039-2	-	R120
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	24.0
			★★	(60243)	kV/mm	-
	Volume resistivity		★	(60093)	Ω-cm	>10 ¹⁴
			★★	(60093)	Ω-cm	-
	Surface resistivity		★	(60093)	Ω	>10 ¹³
			★★	(60093)	Ω	-
	Relative permittivity:	100Hz	★	(60250)	-	3.2
			★★	(60250)	-	-
			★	(60250)	-	3.2
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	0.001	
		★★	(60250)	-	-	
		★	(60250)	-	0.002	
		★★	(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	150	
		★★	(60112)	-	-	

PROPERTIES PEEK-CNT-R6

Legend

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PROPERTIES	ITEM		Method	Unit	PEEK-CNT-R6	
			ISO/(IEC)			
	Color		-	-	black	
	Density		1183	g/cm ³	1.31	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	-	
At saturation in water of 23°C		-	%	-		
Thermal Properties	Melting Temperature		-	°C	340	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	-	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	160	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	250	
Min.service temperature		-	°C	-		
Flammability	UL94 (3/6mm thickness)	-	-	V-O/V-O		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	100	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	15	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	4000	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	41	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R120	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω·cm	10 ⁶ ~10 ¹⁰	
		★★	(60093)	Ω·cm	-	
	Surface resistivity	★	(60093)	Ω	10 ⁵ ~10 ⁹	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	-	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	-		
	★★	(60112)	-	-		

PROPERTIES POM-NAT/BLK

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PROPERTIES	ITEM		Method	Unit	POM-NAT/BLK	
			ISO/(IEC)			
	Color		-	-	white/black	
	Density		1183	g/cm ³	1.41	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	20/37	
		At saturation air 23°C, 50%RH	62	%	0.24/0.45	
		At saturation in water of 23°C	-	%	0.20	
Thermal Properties	Melting Temperature		-	°C	165	
	Thermal conductivity at 23°C		-	W/(K·m)	0.31	
	Coefficient of linear Thermal expansion	Average value btw 23~60°C	-	m/(m·K)	110·10 ⁻⁶	
		Average value btw 23~100°C	-	m/(m·K)	125·10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	105	
	Max. allowable Service temp. in air	For short periods	-	°C	140	
		Continuously : 5,000/20,000h	-	°C	115/100	
	Min.service temperature		-	°C	-50	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	62	
		★★	527	MPa	-	
		Tensile strain at break ★	527	%	30	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3100	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5% nominal strain ★	604	MPa	19/35/67	
	Izod impact strength-Notched	★	180/2A	J/m	40	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R115	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	20	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω·cm	>10 ¹⁴	
		★★	(60093)	Ω·cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹³	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	3.8
			★★	(60250)	-	-
		1MHz	★	(60250)	-	3.8
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	0.003	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	0.008	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	600		
	★★	(60112)	-	-		

PROPERTIES POM-CNT-R6

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PROPERTIES	ITEM		Method	Unit	POM-CNT-R6	
			ISO/(IEC)			
	Color		-	-	black	
	Density		1183	g/cm ³	1.41	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	-	
At saturation in water of 23°C		-	%	-		
Thermal Properties	Melting Temperature		-	°C	-	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	-	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	100	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	95	
Min.service temperature		-	°C	-		
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	52	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	15	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	2200	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	50	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R113
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	10 ⁶ ~10 ¹⁰	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	10 ⁵ ~10 ⁹	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
★★			(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES POM-ESD-R9

Legend

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PROPERTIES	ITEM		Method	Unit	POM-ESD-R9	
			ISO/(IEC)			
	Color		-	-	white	
	Density		1183	g/cm ³	1.33	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	-	
At saturation in water of 23°C		-	%	-		
Thermal Properties	Melting Temperature		-	°C	165	
	Thermal conductivity at 23°C		-	W/(K·m)	-	
	Coefficient of linear Thermal expansion	Average value btw23~60°C	-	m/(m·K)	-	
		Average value btw23~100°C	-	m/(m·K)	150·10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	90	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continuously : 5,000/20,000h	-	°C	80	
Min.service temperature		-	°C	-		
Flammability		UL94 (3/6mm thickness)	-	-	HB/HB	
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	37	
		★★	527	MPa	-	
		Tensile strain at break ★	527	%	15	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	1500	
	★★	527	MPa	-		
	Compression test		Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-
	Izod impact strength-Notched	★	180/2A	J/m	40	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R106
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	-
			★★	(60243)	kV/mm	-
	Volume resistivity	★	(60093)	Ω·cm	10 ⁹ ~10 ¹⁰	
		★★	(60093)	Ω·cm	-	
	Surface resistivity	★	(60093)	Ω	10 ⁸ ~10 ⁹	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
★★			(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES MC-NAT/BLK

Legend

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PROPERTIES	ITEM		Method	Unit	MC-NAT/BLK	
			ISO/(IEC)			
	Color		-	-	ivory/black	
	Density		1183	g/cm ³	1.15	
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	44/83	
			62	%	0.65/1.22	
			-	%	2.20	
-			%	6.50		
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K·m)	0.29	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m·K)	80•10 ⁻⁶	
		Average value btw23~100°C	-	m/(m·K)	90•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	180	
	Max. allowable Service temp. in air	For short periods Continously : 5,000/20,000h	-	°C	170	
			-	°C	105/90	
	Min.service temperature		-	°C	-30	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	85	
		★★	527	MPa	55	
		Tensile strainat break ★	527	%	25	
		★★	527	%	> 50	
		Tensile modulus of elasticity ★	527	MPa	3500	
		★★	527	MPa	1700	
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	26/51/92	
	Izod impact strength-Notched		★	180/2A	J/m	35
			★★	180/2A	J/m	70
	Rockwell hardness		★	2039-2	-	R118
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	25.0
			★★	(60243)	kV/mm	17
	Volume resistivity		★	(60093)	Ω·cm	>10 ¹⁴
			★★	(60093)	Ω·cm	>10 ¹²
	Surface resistivity		★	(60093)	Ω	>10 ¹³
			★★	(60093)	Ω	>10 ¹²
	Relative permittivity:	100Hz	★	(60250)	-	3.6
			★★	(60250)	-	6.6
		1MHz	★	(60250)	-	3.2
			★★	(60250)	-	3.7
★			(60250)	-	0.012	
★★			(60250)	-	0.14	
Dielectric dissipation factor:	1MHz	★	(60250)	-	0.016	
		★★	(60250)	-	0.05	
Comparative tracking index(CTI)		★	(60112)	-	600	
		★★	(60112)	-	600	

PROPERTIES MC-BLUE

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PROPERTIES	ITEM		Method	Unit	MC-BLUE	
			ISO/(IEC)			
	Color		-	-	blue	
	Density		1183	g/cm ³	1.15	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	49/93	
		At saturation air 23°C, 50%RH	62	%	0.72/1.37	
		At saturation in water of 23°C	-	%	2.30	
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K·m)	0.29	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m·K)	80•10 ⁻⁶	
		Average value btw23~100°C	-	m/(m·K)	90•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	180	
	Max. allowable Service temp. in air	For short periods	-	°C	170	
		Continously : 5,000/20,000h	-	°C	105/90	
	Min.service temperature		-	°C	-30	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	81	
		★★	527	MPa	50	
		Tensile strainat break ★	527	%	25	
		★★	527	%	> 50	
		Tensile modulus of elasticity ★	527	MPa	3200	
	★★	527	MPa	1550		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	24/47/86	
	Izod impact strength-Notched	★	180/2A	J/m	35	
		★★	180/2A	J/m	70	
	Rockwell hardness	★	2039-2	-	R118	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	25	
		★★	(60243)	kV/mm	17	
	Volume resistivity	★	(60093)	Ω·cm	>10 ¹⁴	
		★★	(60093)	Ω·cm	>10 ¹²	
	Surface resistivity	★	(60093)	Ω	>10 ¹³	
		★★	(60093)	Ω	>10 ¹²	
	Relative permittivity:	100Hz	★	(60250)	-	3.6
			★★	(60250)	-	6.6
		1MHz	★	(60250)	-	3.2
			★★	(60250)	-	3.7
Dielectric dissipation factor:	100Hz	★	(60250)	-	0.012	
		★★	(60250)	-	0.14	
	1MHz	★	(60250)	-	0.016	
		★★	(60250)	-	0.05	
Comparative tracking index(CTI)	★	(60112)	-	600		
	★★	(60112)	-	600		

PROPERTIES MC-Moly

Legend

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PROPERTIES	ITEM		Method	Unit	MC-Moly	
			ISO/(IEC)			
	Color		-	-	Gray-black	
	Density		1183	g/cm ³	1.16	
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	52/98	
			62	%	0.76/1.43	
			-	%	2.40	
-			%	6.70		
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K·m)	0.30	
	Coefficient of linear Thermal expansion	Average value btw 23~60°C	-	m/(m·K)	80·10 ⁻⁶	
		Average value btw 23~100°C	-	m/(m·K)	90·10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	180	
	Max. allowable Service temp. in air	For short periods Continuously : 5,000/20,000h	-	°C	170	
			-	°C	105/90	
	Min.service temperature		-	°C	-30	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	78	
		★★	527	MPa	50	
		Tensile strain at break ★	527	%	25	
		★★	527	%	> 50	
		Tensile modulus of elasticity ★	527	MPa	3300	
		★★	527	MPa	1600	
	Compression test	Compressive stress at 1/2/5% nominal strain ★	604	MPa	25/49/88	
	Izod impact strength-Notched		★	180/2A	J/m	35
			★★	180/2A	J/m	70
	Rockwell hardness		★	2039-2	-	R118
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	24.0
			★★	(60243)	kV/mm	16
	Volume resistivity		★	(60093)	Ω·cm	>10 ¹⁴
			★★	(60093)	Ω·cm	>10 ¹²
	Surface resistivity		★	(60093)	Ω	>10 ¹³
			★★	(60093)	Ω	>10 ¹²
	Relative permittivity:	100Hz	★	(60250)	-	3.6
			★★	(60250)	-	6.6
		1MHz	★	(60250)	-	3.2
			★★	(60250)	-	3.7
Dielectric dissipation factor:		100Hz	★	(60250)	-	0.012
			★★	(60250)	-	0.14
1MHz	★	(60250)	-	0.016		
	★★	(60250)	-	0.05		
Comparative tracking index(CTI)		★	(60112)	-	600	
		★★	(60112)	-	600	

PROPERTIES MC-OIL

Legend

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PROPERTIES	ITEM		Method	Unit	MC-OIL	
			ISO/(IEC)			
	Color		-	-	yellow	
	Density		1183	g/cm ³	1.11	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	0.5/-	
At saturation in water of 23°C		-	%	-		
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	90•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	115	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)		-	-	HB/HB	
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	68	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	14	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3000	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-/-/75	
	Izod impact strength-Notched	★	180/2A	J/m	39	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R110
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	-
			★★	(60243)	kV/mm	-
	Volume resistivity		★	(60093)	Ω-cm	>10 ¹⁴
			★★	(60093)	Ω-cm	-
	Surface resistivity		★	(60093)	Ω	>10 ¹³
			★★	(60093)	Ω	-
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES MC-WAX

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall with in the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	MC-WAX	
			ISO/(IEC)			
	Color		-	-	Gray	
	Density		1183	g/cm ³	1.11	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	0.50/-	
At saturation in water of 23°C		-	%	-		
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	90•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	115	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	66	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	19	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3000	
		★★	527	MPa	-	
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-/-/75	
	Izod impact strength-Notched	★	180/2A	J/m	39	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R110
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	>10 ¹⁴	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹³	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES MC-ESD-R6

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall with in the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	MC-ESD-R6			
			ISO/(IEC)					
	Color		-	-	black			
	Density		1183	g/cm ³	1.20			
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	-			
			62	%	-			
			-	%	-			
-			%	-				
Thermal Properties	Melting Temperature		-	°C	225			
	Thermal conductivity at 23°C		-	W/(K-m)	-			
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-			
		Average value btw23~100°C	-	m/(m-K)	80•10 ⁻⁶			
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	180			
	Max. allowable Service temp. in air	For short periods Continously : 5,000/20,000h	-	°C	-			
			-	°C	-			
	Min.service temperature		-	°C	-			
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB				
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	78			
		★★	527	MPa	-			
		Tensile strainat break ★	527	%	4			
		★★	527	%	-			
		Tensile modulus of elasticity ★	527	MPa	4200			
		★★	527	MPa	-			
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-/-/98			
	Izod impact strength-Notched		★	180/2A	J/m	35		
			★★	180/2A	J/m	-		
	Rockwell hardness		★	2039-2	-	R119		
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	-		
			★★	(60243)	kV/mm	-		
	Volume resistivity		★	(60093)	Ω·cm	10 ⁶ ~10 ¹⁰		
			★★	(60093)	Ω·cm	-		
	Surface resistivity		★	(60093)	Ω	10 ⁵ ~10 ⁹		
			★★	(60093)	Ω	-		
	Relative permittivity:	100Hz	★	(60250)	-	-		
			★★	(60250)	-	-		
		1MHz	★	(60250)	-	-		
			★★	(60250)	-	-		
			Dielectric dissipation factor:	100Hz	★	(60250)	-	-
				★★	(60250)	-	-	
	1MHz	★	(60250)	-	-			
		★★	(60250)	-	-			
Comparative tracking index(CTI)		★	(60112)	-	-			
		★★	(60112)	-	-			

PROPERTIES MC-ESD-R10

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall with in the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	MC-ESD-R10	
			ISO/(IEC)			
	Color		-	-	Black	
	Density		1183	g/cm ³	1.15	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	-	
		At saturation in water of 23°C	-	%	-	
Thermal Properties	Melting Temperature		-	°C	220	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	-	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	-	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	60	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	30	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	1700	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	57	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R98
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	10 ¹⁰ ~10 ¹²	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	10 ⁹ ~10 ¹¹	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES PET

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall with in the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	PET	
			ISO/(IEC)			
	Color		-	-	white	
	Density		1183	g/cm ³	1.40	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	-	
		At saturation in water of 23°C	-	%	0.30	
Thermal Properties	Melting Temperature		-	°C	255	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	80•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	67	
	Max. allowable Service temp. in air	For short periods	-	°C	160	
		Continously : 5,000/20,000h	-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	80	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	20	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3200	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	-	
		★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R120
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	>10 ¹³	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹²	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	-	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

PROPERTIES PEI

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standard atmosphere 23°C/50% RH (mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	PEI	
			ISO/(IEC)			
	Color		-	-	Amber translucent	
	Density		1183	g/cm ³	1.27	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	20/41	
		At saturation air 23°C, 50%RH	62	%	0.26/0.54	
		At saturation in water of 23°C	-	%	0.75	
Thermal Properties	Melting Temperature		-	°C	-	
	Thermal conductivity at 23°C		-	W/(K·m)	0.22	
	Coefficient of linear Thermal expansion	Average value btw 23~60°C	-	m/(m·K)	45·10 ⁻⁶	
		Average value btw 23~100°C	-	m/(m·K)	45·10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	190	
	Max. allowable Service temp. in air	For short periods	-	°C	200	
		Continuously : 5,000/20,000h	-	°C	170	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	V-O/V-O		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	105	
		★★	527	MPa	-	
		Tensile strain at break ★	527	%	10	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	3400	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5% nominal strain ★	604	MPa	25/49/-	
	Izod impact strength-Notched	★	180/2A	J/m	-	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R126	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	27.0	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω·cm	>10 ¹⁴	
		★★	(60093)	Ω·cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹³	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	3.0
			★★	(60250)	-	-
		1MHz	★	(60250)	-	3.0
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	0.002	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	0.002	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	175		
	★★	(60112)	-	-		

PROPERTIES PC-NAT/BLK

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

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PROPERTIES	ITEM		Method	Unit	PC-NAT/BLK	
			ISO/(IEC)			
	Color		-	-	Clear translucent/black	
	Density		1183	g/cm³	1.20	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	12/-	
		At saturation air 23°C, 50%RH	62	%	0.15/-	
		At saturation in water of 23°C	-	%	-	
Thermal Properties	Melting Temperature		-	°C	-	
	Thermal conductivity at 23°C		-	W/(K-m)	0.20	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	56•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	136	
	Max. allowable Service temp. in air	For short periods	-	°C	135	
		Continously : 5,000/20,000h	-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	V-2/V-2		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	72	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	20/5	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	2000	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	65	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R120	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	> 10 ¹⁶	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	> 10 ¹⁵	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	2.8
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
1MHz		★	(60250)	-	0.009	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	-		
	★★	(60112)	-	-		

PROPERTIES PC-GF20

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

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PROPERTIES	ITEM		Method	Unit	PC-GF20		
			ISO/(IEC)				
	Color		-	-	black		
	Density		1183	g/cm ³	1.36		
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	10/-		
			62	%	0.12/-		
			-	%	-		
-			%	0.29			
Thermal Properties	Melting Temperature		-	°C	-		
	Thermal conductivity at 23°C		-	W/(K-m)	0.17		
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-		
		Average value btw23~100°C	-	m/(m-K)	27•10 ⁻⁶		
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	146		
	Max. allowable Service temp. in air	For short periods Continously : 5,000/20,000h	-	°C	-		
			-	°C	-		
	Min.service temperature		-	°C	-		
Flammability		UL94 (3/6mm thickness)	-	-	V-O/V-O		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	110		
		★★	527	MPa	-		
		Tensile strainat break ★	527	%	5		
		★★	527	%	-		
		Tensile modulus of elasticity ★	527	MPa	5000		
		★★	527	MPa	-		
	Compression test		Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched		★	180/2A	J/m	107	
			★★	180/2A	J/m	-	
	Rockwell hardness		★	2039-2	-	R125	
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	19.3	
			★★	(60243)	kV/mm	-	
	Volume resistivity		★	(60093)	Ω-cm	>10 ¹⁷	
			★★	(60093)	Ω-cm	-	
	Surface resistivity		★	(60093)	Ω	>10 ¹⁶	
			★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-	
			★★	(60250)	-	-	
		1MHz	★	(60250)	-	3.1	
			★★	(60250)	-	-	
		Dielectric dissipation factor:	100Hz	★	(60250)	-	-
				★★	(60250)	-	-
	1MHz		★	(60250)	-	0.007	
			★★	(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-		
		★★	(60112)	-	-		

PROPERTIES HDPE

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

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PROPERTIES	ITEM		Method	Unit	HDPE	
			ISO/(IEC)			
	Color		-	-	White/black	
	Density		1183	g/cm ³	0.95	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	0.01/-	
		At saturation in water of 23°C	-	%	-	
Thermal Properties	Melting Temperature		-	°C	134	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	150•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	47	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
		Continously : 5,000/20,000h	-	°C	-/-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	23	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	>300	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	1000	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-/-/29	
	Izod impact strength-Notched	★	180/2A	J/m	no break	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R60	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω-cm	>10 ¹⁴	
		★★	(60093)	Ω-cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹³	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	-	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	-		
	★★	(60112)	-	-		

PROPERTIES PP

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standad atmosphere 23°C/50% RH(mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall with in the normal range of product properties.

However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design

PROPERTIES	ITEM		Method	Unit	PP	
			ISO/(IEC)			
	Color		-	-	white	
	Density		1183	g/cm ³	0.90	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-	
		At saturation air 23°C, 50%RH	62	%	0.01/-	
		At saturation in water of 23°C	-	%	-	
Thermal Properties	Melting Temperature		-	°C	145	
	Thermal conductivity at 23°C		-	W/(K-m)	-	
	Coefficient of inear Thermal expansion	Average value btw23~60°C	-	m/(m-K)	-	
		Average value btw23~100°C	-	m/(m-K)	150•10 ⁻⁶	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	74	
	Max. allowable Service temp. in air	For short periods	-	°C	110	
		Continously : 5,000/20,000h	-	°C	65/-	
	Min.service temperature		-	°C	-10	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	26	
		★★	527	MPa	-	
		Tensile strainat break ★	527	%	>500	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	1300	
	★★	527	MPa	-		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched	★	180/2A	J/m	30	
		★★	180/2A	J/m	-	
	Rockwell hardness	★	2039-2	-	R75	
Electrical Properties at 23°C	Electric strength	★	(60243)	kV/mm	-	
		★★	(60243)	kV/mm	-	
	Volume resistivity	★	(60093)	Ω·cm	>10 ¹⁷	
		★★	(60093)	Ω·cm	-	
	Surface resistivity	★	(60093)	Ω	>10 ¹⁶	
		★★	(60093)	Ω	-	
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
Dielectric dissipation factor:	100Hz	★	(60250)	-	-	
		★★	(60250)	-	-	
	1MHz	★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)	★	(60112)	-	-		
	★★	(60112)	-	-		

PROPERTIES **ABS**

Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standard atmosphere 23°C/50% RH (mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties.

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PROPERTIES	ITEM		Method	Unit	ABS	
			ISO/(IEC)			
	Color		-	-	Beige/black	
	Density		1183	g/cm ³	1.07	
	Water absorption	After 24/96h immersion in water of 23°C At saturation air 23°C, 50%RH At saturation in water of 23°C	62	mg	-	
			62	%	-	
			-	%	-	
-			%	-		
Thermal Properties	Melting Temperature		-	°C	-	
	Thermal conductivity at 23°C		-	W/(K·m)	-	
	Coefficient of linear Thermal expansion	Average value btw23~60°C	-	m/(m·K)	-	
		Average value btw23~100°C	-	m/(m·K)	-	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	95	
	Max. allowable Service temp. in air	For short periods Continuously : 5,000/20,000h	-	°C	-	
			-	°C	-	
	Min.service temperature		-	°C	-	
Flammability	UL94 (3/6mm thickness)	-	-	HB/HB		
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	32	
		★★	527	MPa	-	
		Tensile strain at break ★	527	%	30/5	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	MPa	1900	
		★★	527	MPa	-	
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-	
	Izod impact strength-Notched		★	180/2A	J/m	230
			★★	180/2A	J/m	-
	Rockwell hardness		★	2039-2	-	R103
Electrical Properties at 23°C	Electric strength		★	(60243)	kV/mm	-
			★★	(60243)	kV/mm	-
	Volume resistivity		★	(60093)	Ω·cm	-
			★★	(60093)	Ω·cm	-
	Surface resistivity		★	(60093)	Ω	-
			★★	(60093)	Ω	-
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
		1MHz	★	(60250)	-	-
			★★	(60250)	-	-
			★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
1MHz		★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	