

# ULTEM™ RESIN 1000P200

### **DESCRIPTION**

ULTEM 1000P200 Resin is an unreinforced amorphous polyetherimide (PEI) powder. This powder is available with an average particle size (D50) of 200 micron and a maximum particle size (D100) of 450 micron. It may offer a high glass transition temperature (Tg) of 217°C. Features are excellent mechanical, electrical and dimensional properties up to high temperatures. The material may offer very good chemical resistance for an amorphous material and is inherently flame retardant. The material is RoHS Compliant. The base material is transparent amber colored.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Hydrolytic Stability, Low Smoke and Toxicity, Amorphous, Sustainable (bio-based offerings), Food contact, Non halogenated flame retardant, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Sintering, Powder Coating, Impregnation (composites)
Regional Availability	Europe

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Under the Hood, Aerospace, Motorcycle, Recreational/Specialty Vehicles
Building and Construction	Building Component
Consumer	Personal Accessory, Home Appliances, Commercial Appliance, Furniture
Electrical and Electronics	Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards / Additives, Lighting, Printer Copier, Speaker - Earphone, Wireless Communication
Industrial	Electrical, Material Handling, Eyewear
Mass Transportation	Rail
Packaging	Industrial Packaging

## **TYPICAL PROPERTY VALUES**

Revision 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Stress, yield, 50 mm/min	110	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	160	MPa	ISO 178
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
Ball Indentation Hardness, H358/30	140	MPa	ISO 2039-1
Hardness, Rockwell M	106	-	ISO 2039-2
Tensile Stress, yld, Type I, 50 mm/min	115	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D638



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D638
Tensile Modulus, 5 mm/min	3350	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	165	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3200	MPa	ASTM D790
Flexural Stress, yld, 2.6 mm/min, 100 mm span	160	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	3400	MPa	ASTM D790
Hardness, Rockwell M	109	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
IMPACT (1)			
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	6	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Izod Impact, unnotched, 23°C	1800	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	1540	J/m	ASTM D4812
Izod Impact, notched, 23°C	53	J/m	ASTM D256
Izod Impact, notched, -30°C	50	J/m	ASTM D256
Izod Impact, Reverse Notched, 3.2 mm	1335	J/m	ASTM D256
Gardner, 23°C	36	J	ASTM D3029
THERMAL (1)			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	209	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	192	°C	ISO 75/Af
Vicat Softening Temp, Rate A/50	215	°C	ISO 306
Vicat Softening Temp, Rate B/50	211	°C	ISO 306
Vicat Softening Temp, Rate B/120	212	°C	ISO 306
CTE, -40°C to 150°C, flow	5.2E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow	5.2E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Thermal Conductivity	0.22	W/m-°C	ISO 8302
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	201	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	207	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	190	°C	ASTM D648
Vicat Softening Temp, Rate B/50	211	°C	ASTM D1525
CTE, -20°C to 150°C, flow	5.6E-05	1/°C	ASTM E831
CTE, -20°C to 150°C, xflow	5.4E-05	1/°C	ASTM E831
Thermal Conductivity	0.22	W/m-°C	ASTM C177
PHYSICAL (1)			
Density	1.27	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs)	0.2	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.7	%	ISO 62-4
Water Absorption, (23°C/24hrs)	0.25	%	ISO 62-1
Water Absorption, (23°C/saturated)	1.25	%	ISO 62-1



PRODERIES         TYPICAL VALUES         UNITS         TEST METHODS           Melt Volume Rate, MNR at 360°C/5.0 kg         13         cm²/10 min         SO 1133         ASTM D792           Water Absorption, (23°C/24hrs)         0.25         %         ASTM D570           Water Absorption, (23°C/55 sturated)         1.25         %         ASTM D570           Water Absorption, (23°C/56 kg)         9         9.0 min         ASTM D570           Whelf Flow Rate, 337°C/6.6 kg         9         9.0 min         ASTM D1238           Poisson's Ratio         0.36         0.0 min         D1238           Poisson's Ratio         0.0 min         10003         10003           Startice, Resistivity         AD         0.0 min         10003           Unification Strength, in oil, 0.8 mm         33         W/mm         10006           Dielectric Strength, in oil, 0.8 mm         16         W/mm         10006           Belative Permittivity, 1 MHz         2.9         "C0003         10006           Belative Permittivity, 1 MHz         2.9         "C0004         "C0002           Belative Permittivity, 1 MHz         3.0         "C0002         "C0002           Belative Permittivity, 1 MHz         0.0005         "C0002         "C0002	DRODEDTIES	TVDICAL VALUES	LIMITS	TEST METHODS
Specific Gravity         1.27         4.5TM 0.792           Water Absorption, (23°C)24hrs)         0.25         %         ASTM 0.570           Water Absorption, (23°C)54hrsated)         1.25         %         ASTM 0.720           Melt Flow Rate, 3.37°C)6.6 kgf         9         9         10 min         ASTM 0.1238           Poisson Statio         1.24 min         3.06         2.00         ASTM 0.1238           ELECTICAL <sup>15</sup> U         C         EC6093           Surface Resistivity, ROA         1.24 15         0.0         IEC 60093           Dielectric Strength, in oil, 0.8 mm         3         3/mm         IEC 60243-1           Dielectric Strength, in oil, 3.2 mm         16         W/mm         IEC 60243-1           Belactric Strength, in oil, 3.5 mm         16         W/mm         IEC 6024-1           Belactric Strength, in oil, 3.2 mm         16         W/mm         IEC 6024-1           Relative Permitthity, 50f60 ftz         2.9         10         IEC 60250           Dissipation Factor, 50f60 ftz         3.01         2         IEC 60250           Strate Companition Factor, 50f60 ftz         3.01         2         IEC 60250           Strate Companition Factor, 106 ftz         3.00         2         IEC 60250	PROPERTIES	TYPICAL VALUES	UNITS	LEST METHODS
Water Absorption, (23°C; Pathrist)         0.25         %         ASTM D570           Water Absorption, (23°C; Saturated)         1.25         %         ASTM D123R           Water Absorption, (23°C; Saturated)         1.25         %         ASTM D123R           Poisson's Ratio         0.36         1.2         ASTM D123R           ELECTRICAL.************************************	Melt Volume Rate, MVR at 360°C/5.0 kg	13	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)         1.25         % Met Town Aste, 33°C/6.6 kg/         ASTM D278           Met Flow Rate, 33°C/6.6 kg/         9         90         910 min         ASTM D1238           Poisson's Ratio         0.36         3         Met Town         ASTM D1238           ELECTRICATION         VICTUAL         VICTUAL         VICTUAL         IEC 60093           Surface Resistivity, ROA         1.64-15         0.0m         IEC 60093           Dielectric Strength, in oil, 0.16 mm         33         W/mm         IEC 60243-1           Dielectric Strength, in oil, 1.5 mm         25         W/mm         IEC 60243-1           Relative Permittivity, 1 MHz         29         0.0m         IEC 60250           Relative Permittivity, 50/60 kg         0.006         0.0m         IEC 60250           Relative Permittivity, 50/60 kg         3.0         0.0m         IEC 60250           Relative Permit	Specific Gravity	1.27	-	ASTM D792
Melt Flow Rate, 33°C/6.6kgf         9         gl 10 min         ASTM D238           Polson's Ratio         0.36         -         ASTM D238           ELECTRICAL <sup>17</sup> V           Volume Rasistivity         1.£+15         ∆.cm         IC 60093           Surface Resistivity, ROA         1.£+15         ∆.cm         IC 60093           Dielectric Strength, in oil, 1.6 mm         33         ¼/mm         IC 60024-1           Dielectric Strength, in oil, 1.6 mm         16         ¼/mm         IC 60024-1           Relative Permittivity, 1 MHz         2.9         √/mm         IC 60050           Dissipation Factor, 1 MHz         0.006         -         IC 60250           Relative Permittivity, 50/60 Hz         0.009         -         IC 60250           Dissipation Factor, 50/60 Hz         0.009         -         IC 60250           Dissipation Factor, 50/60 Hz         3.01         -         -         -           61.5 CHZ         3.02         -         -         -         -           61.5 CHZ         3.02         -         -         -         -           61.5 CHZ         4.5 CHZ         -         -         -         -         -         -         -         - <th>Water Absorption, (23°C/24hrs)</th> <th>0.25</th> <th>%</th> <th>ASTM D570</th>	Water Absorption, (23°C/24hrs)	0.25	%	ASTM D570
Poisson's Ratio         0.36         **         ASTME132           ELECTRICAL.************************************	Water Absorption, (23°C/Saturated)	1.25	%	ASTM D570
ELECTRICAL (**)           Volume Resistivity         1.E+15         0.cm         EC-60093           Surface Resistivity, ROA         >1.E+15         0         EC-60093           Dielectric Strength, in oil, 3.6 mm         3.3         W/mm         IEC 60243-1           Dielectric Strength, in oil, 3.2 mm         16         W/mm         IEC 60243-1           Relative Permittivity, TMH2         2.9         4         IEC 60250           Dissipation Factor, 1 MHz         0.006         -         IEC 60250           Relative Permittivity, 50/60 Hz         2.9         -         IEC 60250           Dissipation Factor, 50/60 Hz         0.0005         -         IEC 60250           Tell 1.1 CH2         3.0         -         -         IEC 60250           8 ct 1.1 CH2         3.0         -	Melt Flow Rate, 337°C/6.6 kgf	9	g/10 min	ASTM D1238
Volume Resistivity, ROA         1,E+15         Ω cm         EC 60093           Dielectric Strength, In Oil, 0.8 mm         33         M/m         EC 60243-1           Dielectric Strength, In Oil, 1.8 mm         25         M/m         EC 60243-1           Dielectric Strength, In Oil, 3.2 mm         16         M/m         EC 60243-1           Relative Permittivity, 1 MHz         2.9         -         EC 60250           Dissipation Factor, 1 MHz         0.006         -         EC 60250           Relative Permittivity, 50/60 Mz         2.9         -         EC 60250           Dissipation Factor, 50/60 Mz         0.0005         -         EC 60250           Bisipation Factor, 50/60 Mz         3.0         -         EC 60250           Dielectric Constant <sup>(2)</sup> -         EC 60250           Bisipation Factor, 50/60 Mz         3.0         -         -         CC 60250           Bisipation Factor, 100 Mz         3.0         -	Poisson's Ratio	0.36	-	ASTM E132
Surface Resistivity, ROA         51.E+15         Q         IEC6093           Dielectric Strength, in oil, 0.8 mm         33         W/mm         IEC60243-1           Dielectric Strength, in oil, 1.6 mm         25         W/mm         IEC60243-1           Dielectric Strength, in oil, 3.2 mm         16         W/mm         IEC60243-1           Relative Permittivity, 1 Mriz         2.9         -         IEC60250           Relative Permittivity, 50/60 Hz         2.9         -         IEC60250           Dissipation Factor, 1 Mrz         3.00         -         -         C60250           Relative Permittivity, 50/60 Hz         3.00         -         -         C60250           Dissipation Factor, 50/60 Hz         3.01         -         <	ELECTRICAL (1)			
Dielectric Strength, in oil, 0.8 mm         33         W/mm         IEC 60243-1           Dielectric Strength, in oil, 1.6 mm         25         W/mm         IEC 60243-1           Dielectric Strength, in oil, 3.2 mm         16         W/mm         IEC 60243-1           Relative Permittivity, 1 MHz         2.9         -         IEC 60250           Dissipation Factor, 1 MHz         0.0005         -         IEC 60250           Relative Permittivity, 50/60 Hz         2.9         -         IEC 60250           Dissipation Factor, 1 MHz         0.0005         -         IEC 60250           Relative Permittivity, 50/60 Hz         0.0005         -         IEC 60250           Dissipation Factor, 10 Mtz         3.01         -         IEC 60250           Dissipation Factor, 10 Mtz         3.02         -         -         -           at 1.0 Hz         3.02         -	Volume Resistivity	1.E+15	$\Omega.cm$	IEC 60093
Dielectric Strength, in oil, 1.6 mm         25         kV/mm         IEC 60243-1           Dielectric Strength, in oil, 3.2 mm         16         kV/mm         IEC 60243-1           Relative Permittivity, 1 MHz         2.9         -         IEC 60250           Dissipation Factor, 1 MHZ         0.0006         -         IEC 60250           Relative Permittivity, 50/60 Hz         2.9         6.005         IEC 60250           Dissipation Factor, 50/60 Hz         0.0005         -         IEC 60250           Dissipation Factor, 50/60 Hz         0.0005         -         IEC 60250           Belative Permittivity, 50/60 Hz         0.0005         -         IEC 60250           Dissipation Factor (20)         -         IEC 60250           Belative Parmittivity         3.01         -         <	Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Delectric Strength, in oil, 3.2 mm         16         M/m         IEC 60243-1           Relative Permittivity, 1 MHz         2.9         -         IEC 60250           Dissipation Factor, 1 MHz         0.006         -         IEC 60250           Relative Permittivity, 50/60 Hz         0.005         -         IEC 60250           Dissipation Factor, 50/60 Hz         0.005         -         IEC 60250           Dissipation Factor, 50/60 Hz         3.01         -         -         -           of I-1 LF GHZ         3.02         -	Dielectric Strength, in oil, 0.8 mm	33	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz         2.9         -         IEC 60250           Dissipation Factor, 1 MHz         0.006         -         IEC 60250           Relative Permittivity, 50/60 Hz         2.9         -         IEC 60250           Dissipation Factor, 50/60 Nz         0.0005         -         IEC 60250           Dielectric Constant IR         -         -         -         -           at 1.1 GHz         3.02         -         -         -           at 1.0 GHz         3.02         -         -         -           at 1.1 GHz         3.02         -         -         -           at 1.1 GHz         0.0012         -         -         -           at 1.1 GHz         0.0024         -         -         -           at 1.1 GHz         0.0024         -         -         -           at 1.0 GHz         0.0024         -         -         -           at 1.0 GHz         0.0027         -         -         -           Comparative Tracking Index M <sup>(3)</sup> 10         V         IEC 60112           Volume Resistivity         1.6 LF17         0.cm         ASTM D159           Dielectric Strength, in oil, 1.6 mm         3.2 M	Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dissipation Factor, 1 MHz         0.006          IEC 60250           Relative Permittivity, 50/60 Hz         2.9          IEC 60250           Dissipation Factor, 50/60 Hz         0.0005          IEC 60250           Dielectric Constant <sup>(2)</sup> IEC 60250           at 1.1 GHz         3.01             at 5 GHz         3.02             Dissipation Factor <sup>(2)</sup> B 1.1 GHz         0.0012             at 1.1 GHz         0.0012             at 1.1 GHz         0.0024             at 1.1 GHz         0.0024             at 1.1 GHz         0.0024             at 1.1 GHz         0.0027             Comparative Tracking Index M <sup>(3)</sup> 100         ∨         IEC 60112           Comparative Tracking Index M <sup>(3)</sup> 100         ∨         ASTM 0257           Dielectric Strength, in air, 1.6 mm         3.27         k///mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         3.15         x//mm	Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz         2.9         ic C60250           Dissipation Factor, 50/60 Hz         0.0005         - 2         ic C60250           Dielectric Constant (8)         - 3         - 3         - 3           at 1.1 GHz         3.01         - 2         - 2           at 5 GHz         3.02         - 2         - 2           bisipation Factor (8)          - 2           Total (1 GHz)         0.0012             at 1.1 GHz         0.0024             at 5 GHz         0.0024             at 1.0 GHz         0.0024             at 1.0 GHz         0.0027             Comparative Tracking Index (8)         100         V         Ic C60112           Comparative Tracking Index (8)         1.51         0.00         0.00         0.00         0.00           Volume Resistivity         1.6 mm         3.27         W/mm         ASTM D159           Dielectric Strength, in oil, 1.6 mm         3.15         W/mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         3.15         0.00         ASTM D150           Relative Perm	Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 50/60 Hz         0.0005         e. Co250         EC 60250           Dielectric Constant (²)         c. Co250         e. Co250	Dissipation Factor, 1 MHz	0.006	-	IEC 60250
Dielectric Constant (²)           at 1.1 GHz         3.01         -	Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
at 1.1 GHz         3.01	Dissipation Factor, 50/60 Hz	0.0005	-	IEC 60250
ASTM D149   ASTM D150   ASTM	Dielectric Constant (2)			
bissipation Factor <sup>(2)</sup> at 1.1 GHz         0.0012	at 1.1 GHz	3.01	-	
Dissipation Factor (²)           at 1.1 GHz         0.0012         -         -           at 5 GHz         0.0024         -         -           at 10 GHz         0.0027         -         -           Comparative Tracking Index (³)         150         V         IEC 60112           Comparative Tracking Index, M (³)         1.6±17         0.cm         ASTM 0257           Dielectric Strength, in air, 1.6 mm         32.7         kV/mm         ASTM 0149           Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM 0149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0012         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           Comparative Tracking Index (LOI)         47         -         ASTM D150	at 5 GHz	3.02	-	
at 1.1 GHz         0.0012         -         -           at 5 GHz         0.0024         -         -           at 10 GHz         0.0027         -         -           Comparative Tracking Index (3)         150         V         IEC 60112           Comparative Tracking Index, M (3)         100         V         IEC 60112           Volume Resistivity         1.E+17         0.cm         ASTM D257           Dielectric Strength, in air, 1.6 mm         32.7         kV/mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         28.0         kV/mm         ASTM D149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Relative Permittivity, 1 kHz         0.0015         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS         -         ASTM D150	at 10 GHz	3.02	-	
at 5 GHz         0.0024             at 10 GHz         0.0027             Comparative Tracking Index (3)         150         V         IEC 60112           Comparative Tracking Index, M (3)         100         V         IEC 60112           Volume Resistivity         1.E+17         0.cm         ASTM D257           Dielectric Strength, in air, 1.6 mm         32.7         KV/mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         28.0         KV/mm         ASTM D149           Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM D150           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         0.0012         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           Cyggen Index (LOI)         47         %         ASTM D2863	Dissipation Factor <sup>(2)</sup>			
at 10 GHz         0.0027         -         -           Comparative Tracking Index (3)         150         V         IEC 60112           Comparative Tracking Index, M (3)         100         V         IEC 60112           Volume Resistivity         1.E+17         Ω.cm         ASTM D257           Dielectric Strength, in air, 1.6 mm         32.7         KV/mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         28.0         kV/mm         ASTM D149           Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM D149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS         T         ASTM D150	at 1.1 GHz	0.0012	-	
Comparative Tracking Index (3)150VIEC 60112Comparative Tracking Index, M (3)100VIEC 60112Volume Resistivity1.E+17Ω.cmASTM D257Dielectric Strength, in air, 1.6 mm32.7kV/mmASTM D149Dielectric Strength, in oil, 1.6 mm28.0kV/mmASTM D149Dielectric Strength, in oil, 3.2 mm19.7kV/mmASTM D149Relative Permittivity, 100 Hz3.15-ASTM D150Dissipation Factor, 100 Hz0.0015-ASTM D150Relative Permittivity, 1 kHz3.15-ASTM D150Dissipation Factor, 1 kHz0.0012-ASTM D150FLAME CHARACTERISTICSOxygen Index (LOI)47%ASTM D2863	at 5 GHz	0.0024	-	
Comparative Tracking Index, M (3)100VIEC 60112Volume Resistivity1.E+170.cmASTM D257Dielectric Strength, in air, 1.6 mm32.7kV/mmASTM D149Dielectric Strength, in oil, 1.6 mm28.0kV/mmASTM D149Dielectric Strength, in oil, 3.2 mm19.7kV/mmASTM D149Relative Permittivity, 100 Hz3.15-ASTM D150Dissipation Factor, 100 Hz0.0015-ASTM D150Relative Permittivity, 1 kHz3.15-ASTM D150Dissipation Factor, 1 kHz0.0012-ASTM D150FLAME CHARACTERISTICSOxygen Index (LOI)47%ASTM D2863	at 10 GHz	0.0027	-	-
Volume Resistivity1.E+17Ω.cmASTM D257Dielectric Strength, in air, 1.6 mm32.7kV/mmASTM D149Dielectric Strength, in oil, 1.6 mm28.0kV/mmASTM D149Dielectric Strength, in oil, 3.2 mm19.7kV/mmASTM D149Relative Permittivity, 100 Hz3.15-ASTM D150Dissipation Factor, 100 Hz0.0015-ASTM D150Relative Permittivity, 1 kHz3.15-ASTM D150Dissipation Factor, 1 kHz0.0012-ASTM D150FLAME CHARACTERISTICSOxygen Index (LOI)47%ASTM D2863	Comparative Tracking Index (3)	150	V	IEC 60112
Dielectric Strength, in air, 1.6 mm         32.7         kV/mm         ASTM D149           Dielectric Strength, in oil, 1.6 mm         28.0         kV/mm         ASTM D149           Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM D149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS           Oxygen Index (LOI)         47         %         ASTM D2863	Comparative Tracking Index, M <sup>(3)</sup>	100	V	IEC 60112
Dielectric Strength, in oil, 1.6 mm         28.0         kV/mm         ASTM D149           Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM D149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS           Oxygen Index (LOI)         47         %         ASTM D2863	Volume Resistivity	1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in oil, 3.2 mm         19.7         kV/mm         ASTM D149           Relative Permittivity, 100 Hz         3.15         -         ASTM D150           Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS           Oxygen Index (LOI)         47         %         ASTM D2863	Dielectric Strength, in air, 1.6 mm	32.7	kV/mm	ASTM D149
Relative Permittivity, 100 Hz       3.15       -       ASTM D150         Dissipation Factor, 100 Hz       0.0015       -       ASTM D150         Relative Permittivity, 1 kHz       3.15       -       ASTM D150         Dissipation Factor, 1 kHz       0.0012       -       ASTM D150         FLAME CHARACTERISTICS         Oxygen Index (LOI)       47       %       ASTM D2863	Dielectric Strength, in oil, 1.6 mm	28.0	kV/mm	ASTM D149
Dissipation Factor, 100 Hz         0.0015         -         ASTM D150           Relative Permittivity, 1 kHz         3.15         -         ASTM D150           Dissipation Factor, 1 kHz         0.0012         -         ASTM D150           FLAME CHARACTERISTICS           Oxygen Index (LOI)         47         %         ASTM D2863	Dielectric Strength, in oil, 3.2 mm	19.7	kV/mm	ASTM D149
Relative Permittivity, 1 kHz         3.15         - ASTM D150           Dissipation Factor, 1 kHz         0.0012         - ASTM D150           FLAME CHARACTERISTICS         - ASTM D2863           Oxygen Index (LOI)         47         %         ASTM D2863	Relative Permittivity, 100 Hz	3.15	-	ASTM D150
Dissipation Factor, 1 kHz  0.0012  - ASTM D150  FLAME CHARACTERISTICS  Oxygen Index (LOI)  47  47  8  ASTM D2863	Dissipation Factor, 100 Hz	0.0015	-	ASTM D150
FLAME CHARACTERISTICS Oxygen Index (LOI) 47 % ASTM D2863	Relative Permittivity, 1 kHz	3.15	-	ASTM D150
Oxygen Index (LOI)         47         %         ASTM D2863	Dissipation Factor, 1 kHz	0.0012	-	ASTM D150
	FLAME CHARACTERISTICS			
<b>Oxygen Index (LOI)</b> 47	Oxygen Index (LOI)	47	%	ASTM D2863
	Oxygen Index (LOI)	47	%	ISO 4589

<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.

## **ADDITIONAL PRODUCT NOTES**

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

<sup>(2)</sup> Based on SPDR testing technique on dry as molded specimens.

<sup>(3)</sup> Value shown here is based on internal measurement.



#### **MORE INFORMATION**

 $For curve \ data \ and \ CAE \ cards, \ please \ visit \ and \ register \ at \ https://materialfinder.sabic-specialties.com$ 

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