

ULTEM™ RESIN CRS5001

REGION EUROPE

DESCRIPTION

Transparent, Standard flow Polyetherimide copolymer (Tg 225C) with enhanced chemical resistance to strong acids, bases, aromatics, and ketones. ECO conforming, UL94 VO listing.

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
Electrical and Electronics	Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards/Additives, Printer Copier, Speaker - Earphone
Industrial	Electrical, Material Handling
Mass Transportation	Rail
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

MECHANICAL Tensile Stress, yield, 50 mm/min 100 Tensile Stress, break, 50 mm/min 95			
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Tensile Stress, break, 50 mm/min 95	10	MPa	ISO 527
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Tensile Strain, yield, 50 mm/min 8	9	%	ISO 527
Tensile Strain, break, 50 mm/min 50)	%	ISO 527
Tensile Modulus, 1 mm/min 320	200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min 110	0	MPa	ISO 178
Flexural Stress, break, 2 mm/min 105)5	MPa	ISO 178
Flexural Modulus, 2 mm/min 250	500	MPa	ISO 178
Ball Indentation Hardness, H358/30 135	5	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C NB	3	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C NB	3	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C 8		kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C 8	I	kJ/m²	ISO 180/1A
THERMAL			
Thermal Conductivity 0.2	29	W/m-°C	ISO 8302
CTE, -40°C to 150°C, flow 5.4	4E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow 5.7	7E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C PAS	SSES -	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50 225	25	°C	ISO 306
Vicat Softening Temp, Rate B/50 220	0	°C	ISO 306
Vicat Softening Temp, Rate B/120 222	22	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm 210	0	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm 200	00	°C	ISO 75/Ae



PROPERTIES TYPICAL VALUES UNITS EEST METHODS Relative Temp Index, Beck (Men A) impact (**) 160 **C U7-468 Relative Temp Index, Mech Mylimpact (**) 160 **C U7-468 Relative Temp Index, Mech Mylimpact (**) 160 **C U7-468 PHYSICAL **W **V **V Density 1.2 \$ \$ \$0.02 Moles the Absorption (23°C) Sub Ryl) 0.0 **C \$0.02 \$ Moles the Absorption (23°C) Sub Ryl) 0.0 **C \$ \$0.0 \$ Moles the Absorption (23°C) Sub Ryl) 0.0 **C \$ \$ \$0.0 \$ Moles the Absorption (23°C) Sub Ryl) 0.0 **C \$				
Relative Temp Index, Mech Wyl Impact (1) 160 "C U.746 Relative Temp Index, Mech Wyl Impact (1) 160 "C U.746 PMYSYCAL C U.746 West Company Density 0.6-0.8 \$ 0.90 SD 1183 Moist Agoption (23°C) sok Hyl 0.06 \$ 0.00 \$ 0.00 Mel Valuer Rate, MYR at 360°C) 5.08 Hyl 0.06 "Will 100 \$ 0.00 Mel Valuer Rate, MYR at 360°C) 5.08 Hyl 1.815 0.00 10.00 \$ 0.00 EICETRICA U 0.00 1.00 10.00 \$ 0.00 USA Diale Selstivity, SAOA 1.815 0.00 10.00 10.00 10.00 Dielectric Strength, in oil, 3.2 mm 1.815 0.00 1	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Indices, Mich of Jimpseck (**) 165 Commender United WINSTACK VIEW Association		160	°C	UL 746B
Physical Mod Srinkings on Tensile Bar, flow 0.6 - 0.8 - 0.8 % Boll Chindrago 50 Bill Chindrago Water Absorption, (23°C / saturated) 1.2 9 cm² 10 0.6 1	Relative Temp Index, Mech w/impact (1)	160	°C	UL 746B
Mod Shrinkage on Tensile Barr, flow 06-0.8 % (More) 50 km (More) <th< th=""><th>Relative Temp Index, Mech w/o impact (1)</th><th>160</th><th>°C</th><th>UL 746B</th></th<>	Relative Temp Index, Mech w/o impact (1)	160	°C	UL 746B
Denix of Mater Absorption (23°C/s burded) 1.28 general Section (23°C/s burded) 1.28	PHYSICAL			
Water Absorption (23°C / sok RH) 12 8 506 26 Moistur Absorption (23°C / 50 kRH) 0 8 105 62 Melt Volume Rate, MVR at 360°C / 50 kRH) 0 7 10 mill more in the Method of Park (25 kRH) 10 mill more in	Mold Shrinkage on Tensile Bar, flow	0.6 - 0.8	%	SABIC method
Mole volume Rate, Nor Rat Soft (75 OK PH) 0.06 % % 0.013 Melt volume Rate, MVR at 360°C/5.0 kg 7 cm/10 min 50 133 ELECTRICA Summe Resistivity ∆ ∞ 16 60093 Volume Resistivity, ROA 1.6±15 ∆ Q 60 60093 Dielectric Strength, in oil, 1.6 mm 2 0 12 60093 12 (60043) Dielectric Strength, in oil, 1.5 mm 3 0 12 (60043) 12 (60043) Dielectric Strength, in oil, 1.5 mm 3 0 12 (60043) 12 (60043) Dielectric Strength, in oil, 1.5 mm 3 0 12 (60043) <	Density	1.28	g/cm³	ISO 1183
Melt Volume Rate, MVR at 360°C/5 okg 7 mortifolity (m/1 m/1 m/1 m/1 m/1 m/1 m/1 m/1 m/1 m/1	Water Absorption, (23°C/saturated)	1.2	%	ISO 62-1
ELECTRICA Volume Resistivity. I.E+15 O. C.m. IEC 60093 Surface Resistivity. ROA >1.E+15 O. C.m. IEC 60093 Dielectric Strength, in oil, 1.6 mm 26 W/mm IEC 60024-31 Dielectric Strength, in oil, 3.2 mm 16 W/mm IEC 6024-31 Relative Permittivity, 1.MHz 3 - IEC 60250 Dissipation Factor, 50/60 Hz 0.0016 - IEC 60250 Comparative Tracking Index, M ⁽²⁾ 175 V IEC 60112 Comparative Tracking Index, M ⁽²⁾ 3.2 P. C. Code IEC 60250 Relative Permittivity, 50/60 Hz 3.2 W. C. Code IEC 60112 Comparative Tracking Index, M ⁽²⁾ 4.9 W. C. Code U. T 46A Hot-Wire Ignition (HMI), PLC 0 1.5 mm U. T 46A High Amp Arc Ignition (HMI), PLC 0 2.1 N. C. Code M. T M05 High Voltage Arc Track Rate (PLC) 3.2 N. C. Code M. T 40A Use Creation (HMI), PLC 0 1.5 mm U. T 46A Use Creation (HMI), PLC 0 1	Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Volume Resistivity, ROA1.61-150cm1.60-003Burlace Resistivity, ROA1.61-150cm1.60-003Dielectric Strength, in oil, 3.5 mm160cm1.60-004-10Biolectric Strength, in oil, 3.2 mm160cm0cm1.60-004-10Biolectric Strength, in oil, 3.2 mm160cm0cm1.60-005-10Biospation Factor, 50/60 ftz3.00cm1.60-005-10Dissipation Factor, 50/60 ftz0cm0cm1.60-005-10Comparative Tracking Index (1)172.01.60-001-10Comparative Tracking Index (1)1.22.01.60-001-10Comparative Tracking Index (1)1.22.01.60-001-10Comparative Tracking Index (1)1.22.01.01.0Comparative Tracking Index (1)1.21.21.01.0Comparative Tracking Index (1)1.21.21.01.01.0Comparative Tracking Index (1)1.21.21.01.01.0Bigh Amp Are Ignition (141), PLC 02.11.21.01.01.0Alter Care Stratege (PLC)2.11.21.01.01.0Charace Track Rate (PLC)2.11.2	Melt Volume Rate, MVR at 360°C/5.0 kg	7	cm³/10 min	ISO 1133
Surface Resistivin, NOA 51-lin 15 Color (Color Internation) Color (Color Interna	ELECTRICAL			
Dielectric Strength, in oil, 3.c mm 26 W/mm Ec 60243-1 Dielectric Strength, in oil, 3.c mm 16 W/mm Ec 60250-1 Relative Permittivity, 1 MHz 3 4 16 60250-1 Dissipation Factor, 50 fob Hz 0.0016 3 6 600250-1 Dissipation Factor, 1 MHz 0.0043 7 0 16 60250-1 Comparative Tracking Index (¹⁰ / ₁ 25 V 16 6012 16 6012 Relative Permittivity, 50 fo Hz 3 2 6 16 6012 16 6012 Relative Permittivity, 50 fo Hz 4 6 76 Code 17 64 Got 16 6012 Relative Permittivity, 50 fo Hz 4 8 76 Code 17 46 Got 17 46 Got 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 16 60250 17 46 Got 16 60250 17 46 Got 18 4 Got <td>Volume Resistivity</td> <td>1.E+15</td> <td>Ω.cm</td> <td>IEC 60093</td>	Volume Resistivity	1.E+15	Ω.cm	IEC 60093
Dielectric Strength, in oil, 3.2 mm 16 W/mm Ec 60243-1 Relative Permittivity, 1 MHz 3 - 1c 60250 Dissipation Factor, 50 f60 Hz 0.0016 - 1c 60250 Ossipation Factor, 50 f60 Hz 0.0043 - 1c 60250 Comparative Tracking Index (P) 175 V 1c 60112 Comparative Tracking Index, M(P) 25 V 1c 60250 Relative Permittivity, 50 f60 Hz 3.2 PC Code U.746A Comparative Tracking Index (UI) (PLC) 4.5 PC Code U.746A Chet-Wire Eightion (HMI), PLC O 3.5 mm U.746A High Amp Arc Ignition (HMI), PLC O 3.5 PC Code U.746A High Voltage Arc Track Rate (PLC) 3.5 PC Code U.746A But Recognized, 94V-0 Flame Class Rating 1.5 PC Code U.746A U Relow Card Link 1.5 PC Code U.746A Super Index (LO) 1.5 PC Code U.746A U Relow Card Link 1.5 PC Code U.94 U	Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Relative Permittivity, 1 MHz 3 c. Ic Co250 Dissipation Factor, 50/60 Hz 0.0016 - Ic Co250 Dissipation Factor, 1 MHz 0.0043 - Ic Co250 Comparative Tracking Index (*) 175 V Ic Co6012 Comparative Tracking Index (MI) (PIC) 125 V Ic Co60e Ic Co60 Relative Permittivity, 50/60 Hz 3.2 C Ic Code U.746A Comparative Tracking Index (UI) (PIC) 4 Mm U.746A HotWire Ignition (HMI), PLC 0 1.5 mm U.746A High Any Arc Ignition (HMI), PLC 0 2.5 mm U.746A High Voltage Arc Track Rete (PIC) 3 C Co U.746A High Voltage Arc Track Rete (PIC) 5 W C U.746A C Use Cross Index (LI) 15 S C C C C Use Index Cross Retains 1 2 C C C C C C C C C C C <td>Dielectric Strength, in oil, 1.6 mm</td> <td>26</td> <td>kV/mm</td> <td>IEC 60243-1</td>	Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dissipation Factor, 50/60 Hz 0.0016 - 0.004 -	Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Dissipation Factor, 1 MHz0.0043- 0.0043IEC 60250Comparative Tracking Index (2)175VIEC 60112Comparative Tracking Index, M(3)125VIEC 60112Relative Permittivity, 50 fot Hz3.2- 0.00IEC 60250Comparative Tracking Index (UL) (PLC)4PC CodeIEC 60250Chet-Wire Ignition (HWI), PLC 04PC CodeU 1.746ABigh Amp Are Ignition (HWI), PLC 03PC CodeU 7.46AAre Resistance, Tungsten (PLC)3PC CodeU 7.46AAre Resistance, Tungsten (PLC)5PC CodeV 7.40AUL Recognized, 94V-0 Flame Class Rating2.15mmU 9.4Glow Wire Flammability Index 960°C, passes at (2)2.2mmU 9.4Oxygen Index (LOI)2Codespized, 94V-0 Flame Class Rating3.2mmU 5.04595-2·12Drying Temperature52PCCodespized, 94V-0 Flame Class Rating3.210.94Oxygen Index (LOI)21.5mmU 9.94Drying Temperature591.51.5Drying Temperature4-61.51.5Maximum Moisture Content9-7-7-7Mozel Temperature300-4109-7-7Mozel Temperature300-4109-7-7Mozel Temperature300-4109-7-7Mozel Temperature300-4109-7-7Mozel Temperature300-4109-7	Relative Permittivity, 1 MHz	3	-	IEC 60250
Comparative Tracking Index (2)175VEC60112Comparative Tracking Index, M(2)125VEC60250Relative Permittivity, 50/60 Hz3.2CEC 60250Comparative Tracking Index (UL) (PLC)4RC CodeU. 746ABrow Wire Ignition (HWI), PLC 01.5mmU. 746AHigh And Arc Ignition (HAI), PLC 02.5mmU. 746AHigh Voltage Arc Track Rate (PLC)3CCVArc Resistance, Tungsten (PLC)2CXDLY Vellow Card Link121562-2211142CVUR Vellow Card Link12.5mmU. 94COwygen Index (LOI)2.2mmU. 94CObygen Index (LOI)2XSSDY Jing Time5CSSMaximum Molsture Content9CYSMaximum Molsture Content30-40CYYMek Temperature30-40CYPort. Zone 3 Temperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40CYMonth Capperature30-40C	Dissipation Factor, 50/60 Hz	0.0016	-	IEC 60250
Comparative Tracking Index, M ⁽²⁾ Relative Permittivity, 50/60 Hz Relative Indication (Hall), PLC 0 Relation (Hall), PLC 0 Relatio	Dissipation Factor, 1 MHz	0.0043	-	IEC 60250
Relative Permittivity, 50/60 Hz3.2<	Comparative Tracking Index (2)	175	V	IEC 60112
Comparative Tracking Index (UL) (PLC)4PLC CodeUL 746AHot-Wire Ignition (HWI), PLC 0≥1.5mmUL 746AHigh Amp Arc Ignition (HAI), PLC 0≥1.5mmUL 746AHigh Amp Arc Ignition (HAI), PLC 0≥1.5mmUL 746AHigh Voltage Arc Track Rate (PLC)3PLC CodeUL 746AArc Resistance, Tungsten (PLC)5PLC CodeX5TM D495HAME CHARACTERISTICS (**)U. Vellow Card Link£121562-221114U. Recognized, 94V-0 Flame Class Rating≥1.5mmUL 94Glow Wire Flammability Index 960°C, passes at (**)3.2mmUE Code95-212Oxygen Index (LO)2**S04593Ungernature150C**Drying Temperature4-6Hrs**Maximum Moisture Content30-410C**Maximum Moisture Content30-410C**Mozzle Temperature30-400C**Front-Zone 3 Temperature30-930C**Middle - Zone 2 Temperature30-390C**Rear-Zone 1 Temperature30-30C**Hopper Temperature30-10C**	Comparative Tracking Index, M ⁽²⁾	125	V	IEC 60112
Hot-Wire Ignition (HWI), PLC 0	Relative Permittivity, 50/60 Hz	3.2	-	IEC 60250
High Amp Arc Ignition (HAI), PLC 0 5.0 code 0.0 to 46A code 0.	Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
High Voltage Arc Track Rate (PLC) 3 9CCode 0L746A Arc Resistance, Tungsten (PLC) 5 9CCode 0ASTM D495 FLAME CHARACTERISTICS ** UL Yellow Card Link 5 121562-221114 9 10.00 1	Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
Arc Residance, Tungsten (PLC) 5 5 6 200 200 200 200 200 200 200 200 200 2	High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS UL Yellow Card Link E121562-221114 P. 15 UL Recognized, 94V-0 Flame Class Rating E15 UL Recognized, 94V-0 Flame Class Rating EI5 UL Recognized, 94V-0 Flame Class Rating EI5 UL Yellow Card Link EI5 UL 94 EI5 EI5 EI5 EI5 EI5 EI5 EI5 EI	High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
UL Yellow Card Link E121562-221114 -	Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
UL Recognized, 94V-0 Flame Class Rating ≥1.5 mm UL 94 Glow Wire Flammability Index 960°C, passes at ⁽²⁾ 3.2 mm IEC 60695-2-12 Oxygen Index (LOI) 47 % \$0.4589 INJECTION MOLDING Drying Temperature 150 °C Drying Time 4-6 Hrs Maximum Moisture Content 0.02 % Melt Temperature 360 - 410 °C Nozzle Temperature 370 - 410 °C Front - Zone 3 Temperature 370 - 410 °C Middle - Zone 2 Temperature 350 - 390 °C Rear - Zone 1 Temperature 325 - 365 °C Hopper Temperature 80 - 120 °C	FLAME CHARACTERISTICS (1)			
Glow Wire Flammability Index 960°C, passes at (2) A7 A7 A7 A7 BY	UL Yellow Card Link	E121562-221114	-	-
Oxygen Index (LOI)47\$ISO 4589Drying Temperature150°C*Drying Time4-6Hrs*Maximum Moisture Content0.02\$*Nozzle Temperature360-410°C*Pront - Zone 3 Temperature370-410°C*Middle - Zone 2 Temperature350-390°C*Rear - Zone 1 Temperature325-365°C*Hopper Temperature80-120°C*	UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
Oxygen Index (LOI)47\$ISO 4589Drying Temperature150°C*Drying Time4-6Hrs*Maximum Moisture Content0.02\$*Nozzle Temperature360-410°C*Pront - Zone 3 Temperature370-410°C*Middle - Zone 2 Temperature350-390°C*Rear - Zone 1 Temperature325-365°C*Hopper Temperature80-120°C*	Glow Wire Flammability Index 960°C, passes at (2)	3.2	mm	IEC 60695-2-12
Drying Temperature 150 °C Drying Time 4 – 6 Hrs Maximum Moisture Content 0.02 % Melt Temperature 360 – 410 °C Nozzle Temperature 370 – 410 °C Middle - Zone 3 Temperature 370 – 410 °C Middle - Zone 2 Temperature 350 – 390 °C Rear - Zone 1 Temperature 325 – 365 °C Hopper Temperature 80 – 120 °C		47	%	ISO 4589
Drying Time 4-6 Hrs Maximum Moisture Content 0.02 % Melt Temperature 360 - 410 °C Nozzle Temperature 360 - 400 °C Front - Zone 3 Temperature 370 - 410 °C Middle - Zone 2 Temperature 350 - 390 °C Rear - Zone 1 Temperature 325 - 365 °C Hopper Temperature 80 - 120 °C	INJECTION MOLDING			
Drying Time 4-6 Hrs Maximum Moisture Content 0.02 % Melt Temperature 360 - 410 °C Nozzle Temperature 360 - 400 °C Front - Zone 3 Temperature 370 - 410 °C Middle - Zone 2 Temperature 350 - 390 °C Rear - Zone 1 Temperature 325 - 365 °C Hopper Temperature 80 - 120 °C	Drying Temperature	150	°C	
Maximum Moisture Content 0.02 % Melt Temperature 360 - 410 °C Nozzle Temperature 360 - 400 °C Front - Zone 3 Temperature 370 - 410 °C Middle - Zone 2 Temperature 350 - 390 °C Rear - Zone 1 Temperature 325 - 365 °C Hopper Temperature 80 - 120 °C				
Melt Temperature 360 – 410 °C Nozzle Temperature 360 – 400 °C Front - Zone 3 Temperature 370 – 410 °C Middle - Zone 2 Temperature 350 – 390 °C Rear - Zone 1 Temperature 325 – 365 °C Hopper Temperature 80 – 120 °C				
Nozzle Temperature 360 – 400 °C Front - Zone 3 Temperature 370 – 410 °C Middle - Zone 2 Temperature 350 – 390 °C Rear - Zone 1 Temperature 325 – 365 °C Hopper Temperature 80 – 120 °C				
Front - Zone 3 Temperature 370 – 410 °C Middle - Zone 2 Temperature 350 – 390 °C Rear - Zone 1 Temperature 325 – 365 °C Hopper Temperature 80 – 120 °C	•			
Middle - Zone 2 Temperature 350 – 390 °C Rear - Zone 1 Temperature 325 – 365 °C Hopper Temperature 80 – 120 °C	·		°C	
Rear - Zone 1 Temperature 325 - 365 °C Hopper Temperature 80 - 120 °C	·			
Hopper Temperature 80 − 120 °C				
			°C	
	Mold Temperature	120 – 170		

⁽¹⁾ UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

⁽²⁾ Value shown here is based on internal measurement.



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.

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