

## SABIC Innovative Plastics ULTEM MD141 PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

Transparent, standard flow Polyetherimide (Tg 217C). ECO Conforming. UL94 V0 and 5VA listing. US FDA and EU Food Contact compliant.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-ULTEM-MD141-PEI-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-MD141-PEI-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Density	1.27 g/cc	0.0459 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.700 %	0.700 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	1.25 %	1.25 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	13 g/10 min @Load 5.00 kg, Temperature 360 <sup>o</sup> C	13 g/10 min @Load 11.0 lb, Temperature 680 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	140 MPa	20300 psi	ISO 2039-1
Tensile Strength at Break	85.0 MPa	12300 psi	50 mm/min; ISO 527
Tensile Strength, Yield	105 MPa	15200 psi	50 mm/min; ISO 527
Elongation at Break	60 %	60 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
Flexural Yield Strength	160 MPa	23200 psi	2 mm/min; ISO 178
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	6.00 kJ/m <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	6.00 kJ/m <sup>2</sup> @Temperature -30.0 <sup>o</sup> C	2.86 ft-lb/in <sup>2</sup> @Temperature -22.0 <sup>o</sup> F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB @Temperature -30.0 <sup>o</sup> C	NB @Temperature -22.0 <sup>o</sup> F	80*10*4; ISO 180/1U

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	0.400 J/cm <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 179/2C
	0.400 J/cm <sup>2</sup> @Temperature -30.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Åµm/m-Å°C @Temperature 23.0 - 150 Å°C	27.8 Åµin/in-Å°F @Temperature 73.4 - 302 Å°F	ISO 11359-2
CTE, linear, Transverse to Flow	50.0 Åµm/m-Å°C @Temperature 23.0 - 150 Å°C	27.8 Åµin/in-Å°F @Temperature 73.4 - 302 Å°F	ISO 11359-2
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ftÅ²- Å°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	200 Å°C	392 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	190 Å°C	374 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	211 Å°C	412 Å°F	Rate B/50; ISO 306
	212 Å°C	414 Å°F	Rate B/120; ISO 306
	215 Å°C	419 Å°F	Rate A/50; ISO 306
Glass Transition Temp, Tg	217 Å°C	423 Å°F	
UL RTI, Electrical	170 Å°C	338 Å°F	UL 746B
UL RTI, Mechanical with Impact	170 Å°C	338 Å°F	UL 746B
UL RTI, Mechanical without Impact	170 Å°C	338 Å°F	UL 746B
Oxygen Index	47 %	47 %	ISO 4589
Glow Wire Test	960 Å°C @Thickness 3.20 mm	1760 Å°F @Thickness 0.126 in	IEC 60695-2-12

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	2.9	2.9	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.9	2.9	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	33.0 kV/mm	838 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.00050	0.00050	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0025	0.0025	IEC 60250
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	
	0.0060	0.0060	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	>= 100 V	>= 100 V	IEC 60112
	150 V	150 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Å°C +/- 2Å°C	PASSES	IEC 60695-10-2

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