

SABIC Innovative Plastics CYCOLAC S157 ABS (Europe)

Subcategory: ABS Polymer; Polymer; Thermoplastic

Close Analogs: Saudi Basic Industries Corporation (SABIC) announced on August 31st, 2007, the completion of its purchase of GE Plastics.

Material Notes:

Information provided by GE Plastics for their European product line.

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in 	ASTM D 792
Density	1.18 g/cc	0.0426 lb/in 	ISO 1183
Moisture Absorption at Equilibrium	0.2 %	0.2 %	(23 C / 50% RH) 1L; ISO 15512
Water Absorption at Saturation	1 %	1 %	23C; ISO 62
Linear Mold Shrinkage	0.004 - 0.007 cm/cm	0.004 - 0.007 in/in	Flow; ASTM D 955
Melt Flow	16 g/10 min	16 g/10 min	cm3/10min; Melt Volume Rate, MVR at 220C/5.0 kg; ISO 1133
Melt Flow	17 g/10 min	17 g/10 min	220C/5.0 kg; ISO 1133
Melt Flow	72 g/10 min	72 g/10 min	cm3/10min; Melt Volume Rate, MVR at 220C/10.0 kg; ISO 1133
Melt Flow	78 g/10 min	78 g/10 min	220C/10.0 kg; ISO 1133

Mechanical Properties

Hardness, Rockwell R	112	112	ISO 2039/2
Hardness, H358/30	100 MPa	14500 psi	ISO 2039/1
Tensile Strength, Ultimate	35 MPa	5080 psi	5 mm/min; ISO 527
Tensile Strength, Ultimate	35 MPa	5080 psi	50 mm/min; ISO 527



Tensile Strength, Yield	40 MPa	5800 psi	5 mm/min; ISO 527
Tensile Strength, Yield	45 MPa	6530 psi	50 mm/min; ISO 527
Elongation at Break	10 %	10 %	5 mm/min; ISO 527
Elongation at Break	10 %	10 %	50 mm/min; ISO 527
Elongation at Yield	2 %	2 %	5 mm/min; ISO 527
Elongation at Yield	2 %	2 %	50 mm/min; ISO 527
Tensile Modulus	2.7 GPa	392 ksi	1 mm/min; ISO 527
Flexural Modulus	2.5 GPa	363 ksi	2 mm/min; ISO 178
Flexural Yield Strength	70 MPa	10200 psi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	9 kJ/m 	4.28 ft-lb/in 	80*10*4 +23 C; ISO 180/ 1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4 +23 C; ISO 180/ 1U
Izod Impact, Unnotched Low Temp (ISO)	55 kJ/m 	26.2 ft-lb/in 	80*10*4 -30 C; ISO 180/ 1U
Izod Impact, Notched, Low Temp (ISO)	4 kJ/m 	1.9 ft-lb/in 	80*10*4 -30 C; ISO 180/ 1A
Charpy Impact, Notched, Low Temp	0.3 J/cm 	1.43 ft-lb/in 	at -30C, V-notch Edgew 80*10*4 sp=62; ISO 179/1eA
Charpy Impact, Notched	0.8 J/cm 	3.81 ft-lb/in 	23C, V-notch Edgew 80*10*4 sp=62; ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	145	145	CS-17, 1 kg; GE Test



Electrical Properties

Volume Resistivity	Min 1e+015 ohm-cm	Min 1e+015 ohm-cm	IEC 60093
Surface Resistivity per Square	Min 1e+015 ohm	Min 1e+015 ohm	ROA; IEC 60093
Dielectric Constant	2.7	2.7	1 MHz; IEC 60250
Dielectric Constant	2.8	2.8	50 Hz; IEC 60250
Dielectric Strength	18 kV/mm	457 kV/in	in oil, 3.2 mm; IEC 60243-1
Dielectric Strength	26 kV/mm	660 kV/in	in oil, 1.6 mm; IEC 60243-1
Dielectric Strength	35 kV/mm	889 kV/in	in oil, 0.8 mm; IEC 60243-1
Dissipation Factor	0.005	0.005	50 Hz; IEC 60250
Dissipation Factor	0.01	0.01	1 MHz; IEC 60250
Arc Resistance	5 sec	5 sec	Tungsten; ASTM D 495
Comparative Tracking Index	300 V	300 V	Stand. Black; IEC 60112/3rd
Comparative Tracking Index	425 V	425 V	Electr Grey; IEC 60112/3rd
Comparative Tracking Index	450 V	450 V	IEC 60112/3rd

Thermal Properties

CTE, linear 20℃	80 m/m-℃	44.4 in/in-℉	23C-60C, flow; ISO 11359-2
CTE, linear 20℃ Transverse to Flow	80 m/m-℃	44.4 in/in-℉	23C-60C; ISO 11359-2
Thermal Conductivity	0.2 W/m-K	1.39 BTU-in/hr-ft-℉	ISO 8302
Hot Ball Pressure Test	Max 80 ℃	Max 176 ℉	IEC 60335-1



Deflection Temperature at 0.46 MPa (66 psi)	81  C	178  F	HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	74  C	165  F	HDT/Ae, 1.82 MPa Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	84  C	183  F	B/50; ISO 306
Vicat Softening Point	86  C	187  F	B/120; ISO 306
UL RTI, Electrical	60  C	140  F	UL 746B
UL RTI, Mechanical with Impact	60  C	140  F	UL 746B
UL RTI, Mechanical without Impact	60  C	140  F	UL 746B
Flammability, UL94	V-0	V-0	1.5 mm
Flammability, UL94	6	6	at 2.5 mm
Flammability, UL94	7	7	94-3 mm
Flammability Test	1.6	1.6	mm; IEC Needle Flame Test, 10 s , passes at; IEC 60695-2-2
Oxygen Index	28 %	28 %	ISO 4589
Glow Wire Test	960  C	1760  F	Passes at 1 mm; EDF HN60S02
Glow Wire Test	960  C	1760  F	Passes at 1 mm; IEC 60695-2-1

Descriptive Properties

Ball Pressure Test, 75 C +/- 2 C	PASSES	IEC 60035-1
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资料来源:

