

CYCOLOY* XCY630 Resin

General Information

Product Description

PC+ ABS Automotive applications, High Impact and High Flow, ductility at low temperature, excellent properties retention after Hydrolytic and Heat Aging

General

Material Status	• Commercial: Active
Availability	• North America
Features	• Ductile • High Flow • Good Heat Aging Resistance • High Impact Resistance • Hydrolytically Stable
Uses	• Automotive Applications
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14	g/cm ³	ASTM D792
Density	1.14	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	26	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	22.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Molding Shrinkage - Across Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption (Saturation, 23°C)	0.40	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2300	MPa	ASTM D638
Tensile Modulus	2250	MPa	ISO 527-2/1
Tensile Strength ³ (Yield)	54.0	MPa	ASTM D638
Tensile Stress (Yield)	54.0	MPa	ISO 527-2/50
Tensile Strength ³ (Break)	53.0	MPa	ASTM D638
Tensile Stress (Break)	53.0	MPa	ISO 527-2/50
Tensile Elongation ³ (Yield)	4.5	%	ASTM D638
Tensile Strain (Yield)	4.5	%	ISO 527-2/50
Tensile Elongation ³ (Break)	120	%	ASTM D638
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus ⁴ (50.0 mm Span)	2300	MPa	ASTM D790
Flexural Modulus ⁵	2200	MPa	ISO 178
Flexural Strength ^{5, 6}	82.0	MPa	ISO 178
Flexural Strength ⁴ (Yield, 50.0 mm Span)	89.0	MPa	ASTM D790

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SABIC Innovative Plastics - Acrylonitrile Butadiene Styrene + PC

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	30	kJ/m²	
23°C	65	kJ/m²	
Notched Izod Impact			ASTM D256
-30°C	430	J/m	
23°C	590	J/m	
Notched Izod Impact Strength ⁸			ISO 180/1A
-30°C	30	kJ/m²	
23°C	65	kJ/m²	
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	67.0	J	
23°C, Total Energy	55.0	J	

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁹			ISO 75-2/Bf
0.45 MPa, Unannealed, 64.0 mm Span	126	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	107	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Af
1.8 MPa, Unannealed, 64.0 mm Span	105	°C	
Vicat Softening Temperature	126	°C	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	126	°C	ISO 306/B50
--	127	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE - Flow (-40 to 40°C)	0.000070	cm/cm/°C	ASTM E831
CLTE - Flow (-40 to 40°C)	0.000080	cm/cm/°C	ISO 11359-2
CLTE - Transverse (-40 to 40°C)	0.000070	cm/cm/°C	ASTM E831
CLTE - Transverse (-40 to 40°C)	0.000080	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohm·cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	35	kV/mm	
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Oil	17	kV/mm	

Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	170	Pa·s	ISO 11443

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	95.0 to 105	°C

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Injection	Nominal Value	Unit
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	230 to 260	°C
Middle Temperature	250 to 290	°C
Front Temperature	250 to 290	°C
Nozzle Temperature	240 to 280	°C
Processing (Melt) Temp	260 to 290	°C
Mold Temperature	60.0 to 90.0	°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 5.0 mm/min

³ Type I, 50 mm/min

⁴ 1.3 mm/min

⁵ 2.0 mm/min

⁶ Yield

⁷ 80*10*3 sp=62mm

⁸ 80*10*3

⁹ 80*10*4 mm

¹⁰ Rate B (120°C/h), Loading 2 (50 N)