CYCOLOY™ NON-FR RESIN CX5430

DESCRIPTION

CYCOLOY CX5430 resin is a general purpose Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend developed for thin wall applications requiring weld line strength, high flow and impact together with a good balance of other properties.

GENERAL INFORMATION	
Features	High Flow, Thin Wall, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate + ABS (PC+ABS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Sport/Leisure
Electrical and Electronics	Electrical Devices and Displays
Hygiene and Healthcare	Pharmaceutical Packaging and Drug Delivery, General Healthcare
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260203

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	50	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	45	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	>50	%	ASTM D638
Tensile Modulus, 5 mm/min	2400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	75	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	70	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	44	MPa	ISO 527
Tensile Stress, break, 5 mm/min	44	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	48	MPa	ISO 527
Tensile Stress, break, 50 mm/min	44	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5	%	ISO 527
Tensile Strain, break, 5 mm/min	>50	%	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	75	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Hardness, Rockwell L	90	-	ISO 2039-2
Hardness, Rockwell R	115	-	ISO 2039-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
IMPACT [1]			
Izod Impact, notched, 23°C	500	J/m	ASTM D256
Izod Impact, notched, -30°C	250	J/m	ASTM D256
Izod Impact, double-gated, 23°C	110	J/m	SABIC method
Multiaxial Impact	80	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	55	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	40	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C	40	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	20	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	40	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m²	ISO 179/1eA
THERMAL [1]			
Vicat Softening Temp, Rate B/50	115	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	115	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	95	°C	ASTM D648
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E831
Thermal Conductivity	0.2	W/m-°C	ASTM C177
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASS	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	100	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	114	°C	ISO 306
Vicat Softening Temp, Rate B/120	115	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	117	°C	ISO 75/Be
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	95	°C	ISO 75/Af
Relative Temp Index, Elec [2]	60	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	60	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	60	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.15	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	19	g/10 min	ASTM D1238
Density	1.15	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Density (Molded)	1.15	g/cm³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	18	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Surface Resistivity	>1.E+15	Ω	ASTM D257
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength in oil, 1.5mm	25	kV/mm	IEC 60243-1
Relative Permittivity, 1 kHz	2.7	-	IEC 60250

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor, 50/60 Hz	0.01	-	IEC 60250
Dissipation Factor, 1 MHz	0.011	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E45329-548607	-	-
UL Yellow Card Link 2	E121562-591653	-	-
UL Yellow Card Link 3	E207780-563407	-	-
UL Recognized, 94HB Flame Class Rating	≥1	mm	UL 94
INJECTION MOLDING (4)			
Drying Temperature	100 – 110	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 290	°C	
Nozzle Temperature	240 – 280	°C	
Front - Zone 3 Temperature	250 – 290	°C	
Middle - Zone 2 Temperature	250 – 290	°C	
Rear - Zone 1 Temperature	230 – 260	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 90	°C	

(1) 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.

(2) 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.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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