

CYCOLOY™ FR RESIN CX7240

REGION EUROPE

DESCRIPTION

CYCOLOY CX7240 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable, medium flow, non chlorinated/brominated flame retardant grade. It has a UL94 V0@.75mm, 5VA@3.0mm and 5VB@1.5mm flame rating. This grade has improved chemical resistance compared to standard PC/ABS blends and is a good candidate for thin wall applications.

GENERAL INFORMATION

Features	Chemical Resistance, High Flow, Hydrolytic Stability, Thin Wall, Non Cl/Br flame retardant
Fillers	Unreinforced
Polymer Types	Polycarbonate + ABS (PC+ABS)
Processing Techniques	Injection Molding

INDUSTRY

Building and Construction
Consumer
Electrical and Electronics
Hygiene and Healthcare
Industrial

SUB INDUSTRY

Building Component
Ophthalmics, Home Appliances
Energy Management, Mobile Phone - Computer - Tablets, Lighting
General Healthcare
Electrical

TYPICAL PROPERTY VALUES

Revision 20240219

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.1	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D638
Tensile Modulus, 5 mm/min	2600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	104	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	90	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	96	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	700	J/m	ASTM D256
Izod Impact, notched, -30°C	175	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	65	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	25	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	22	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	110	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	100	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	89	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	99	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ASTM E831
Thermal Conductivity	0.2	W/m·°C	ISO 8302
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	110	°C	ISO 306
Vicat Softening Temp, Rate B/120	113	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	93	°C	ISO 75/Af
Relative Temp Index, Elec ⁽²⁾	90	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	90	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	90	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 260°C/2.16 kgf	18	g/10 min	ASTM D1238
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	15	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽¹⁾			
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.75	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.75	mm	UL 746A
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E45329-101674341	-	-

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
UL Yellow Card Link 2	<u>E45329-549531</u>	-	-
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.6	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.4	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.75 mm	800	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.75 mm	960	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F2	-	UL 746C
Glow Wire Flammability Index 960°C, passes at, by VDE	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm, by VDE	775	°C	IEC 60695-2-13
Oxygen Index (LOI)	34	%	ISO 4589
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	80 – 90	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 300	°C	
Nozzle Temperature	250 – 300	°C	
Front - Zone 3 Temperature	250 – 300	°C	
Middle - Zone 2 Temperature	240 – 290	°C	
Rear - Zone 1 Temperature	230 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 85	°C	
Vent Depth	0.03 - 0.075	mm	

(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. 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.

(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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

© 2024 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS™