

# CYCOLOY™ FR RESIN CX7720

REGION ASIA

## DESCRIPTION

CYCOLOY CX7720 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable, high flow, high heat resistant, non chlorinated/brominated flame retardant grade. It has a UL94 V0@1.2mm, 5VA@2.5mm 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.

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	66	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	126	%	ASTM D638
Tensile Modulus, 50 mm/min	2860	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	99	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2810	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	122	%	ISO 527
Tensile Modulus, 1 mm/min	2900	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	97	MPa	ISO 178
Flexural Modulus, 2 mm/min	2090	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	150	J/m	ASTM D256
Izod Impact, notched, -30°C	63	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	62	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C	11	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL <sup>(1)</sup></b>			
Vicat Softening Temp, Rate B/50	127	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	122	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	110	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	124	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	115	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.06E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.59E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	6.06E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.59E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	127	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/120	129	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	110	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	100	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	100	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	100	°C	UL 746B
PHYSICAL <sup>(1)</sup>			
Specific Gravity	1.22	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 260°C/2.16 kgf	9	g/10 min	ASTM D1238
Melt Flow Rate, 260°C/5.0 kgf	25	g/10 min	ASTM D1238
Density	1.22	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.15	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	22	cm <sup>3</sup> /10 min	ISO 1133
ELECTRICAL <sup>(1)</sup>			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	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 <sup>(2)</sup>			
UL Yellow Card Link	<a href="#">E207780-100028765</a>	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.2	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1	mm	UL 94
INJECTION MOLDING <sup>(4)</sup>			
Drying Temperature	90 – 100	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.04	%	
Melt Temperature	270 – 300	°C	
Nozzle Temperature	265 – 300	°C	
Front - Zone 3 Temperature	265 – 300	°C	
Middle - Zone 2 Temperature	260 – 300	°C	
Rear - Zone 1 Temperature	260 – 300	°C	
Mold Temperature	60 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.038 – 0.076	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.

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