

Cycloloy* Resin C1110

Americas: COMMERCIAL

High impact and ductility at 73F (23C) and -20F (-29C).

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	150	%	ASTM D 638
Tensile Modulus, 50 mm/min	2200	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	86	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
IMPACT			
	Value	Unit	Standard
Izod Impact, notched, 23°C	640	J/m	ASTM D 256
Izod Impact, notched, -30°C	534	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	54	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	40	J	ASTM D 3763
THERMAL			
	Value	Unit	Standard
HDT, 0.45 MPa, 3.2 mm, unannealed	123	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	107	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m.°C	ASTM C 177
Relative Temp Index, Elec	60	°C	UL 746B
Relative Temp Index, Mech w/impact	60	°C	UL 746B
Relative Temp Index, Mech w/o impact	60	°C	UL 746B
PHYSICAL			
	Value	Unit	Standard
Specific Gravity	1.14	-	ASTM D 792
Water Absorption, 24 hours	0.1	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.4	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 230°C/3.8 kgf	2.5	g/10 min	ASTM D 1238
Melt Flow Rate, 260°C/3.8 kgf	8	g/10 min	ASTM D 1238
ELECTRICAL			
	Value	Unit	Standard
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
	Value	Unit	Standard
UL Recognized, 94HB Flame Class Rating (3)	1.21	mm	UL 94
CSA (See File for complete listing)	LS88480	File No.	CSA LISTED
UV-light, water exposure/immersion	F2	-	UL 746C

Source GMD, last updated:01/05/2000

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	105 - 110	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	275 - 300	°C
Nozzle Temperature	275 - 300	°C
Front - Zone 3 Temperature	260 - 300	°C
Middle - Zone 2 Temperature	255 - 295	°C
Rear - Zone 1 Temperature	250 - 290	°C
Mold Temperature	60 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	30 - 80	%
Vent Depth	0.038 - 0.076	mm

Source GMD, last updated:01/05/2000

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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