

Cycolac* Resin X15

Americas: COMMERCIAL

Automotive. Very high heat resistance with high impact. UL94 HB rated. High gloss.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	45	MPa	ASTM D 638
Tensile Modulus, 5 mm/min	2200	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	77	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Hardness, Rockwell R	108	-	ASTM D 785
IMPACT			
Izod Impact, notched, 23°C	267	J/m	ASTM D 256
Izod Impact, notched, -40°C	85	J/m	ASTM D 256
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	107	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	94	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	110	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	100	°C	ASTM D 648
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			
Specific Gravity	1.05	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 230°C/3.8 kgf	1	g/10 min	ASTM D 1238
Melt Viscosity, 260°C, 1000 sec-1	2550	poise	ASTM D 3825
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	4	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.47	mm	UL 94

Source GMD, last updated:12/29/1999

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	95 - 100	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.01	%
Melt Temperature	245 - 275	°C

Nozzle Temperature	245 - 275	°C
Front - Zone 3 Temperature	245 - 255	°C
Middle - Zone 2 Temperature	225 - 240	°C
Rear - Zone 1 Temperature	200 - 210	°C
Mold Temperature	50 - 80	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	30 - 60	rpm
Shot to Cylinder Size	50 - 70	%
Vent Depth	0.038 - 0.051	mm

Source GMD, last updated:12/29/1999

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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