

Cycolac* Resin EX39

Americas: COMMERCIAL

Highest impact extrusion ABS for sheet and blow molding applications.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	35	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	28	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	108	%	ASTM D 638
Tensile Modulus, 5 mm/min	1680	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	57	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	1900	MPa	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	464	J/m	ASTM D 256
Izod Impact, notched, -30°C	320	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	39	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	95	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	91	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	77	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.01E-04	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	1.17E-04	1/°C	ASTM E 831
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	1.03	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.7 - 0.9	%	SABIC Method
Melt Viscosity, 240°C, 100 sec-1	15200	poise	ASTM D 3825
Melt Volume Rate, MVR at 220°C/10.0 kg	4	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.52	mm	UL 94

Source GMD, last updated:04/18/2002

Processing

Parameter	Value	Unit
Extrusion Blow Molding		
Drying Temperature	80 - 90	°C
Drying Time	5 - 4	hrs
Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02 - 0.04	%
Minimum Moisture Content	0.04	%
Melt Temperature (Parison)	210 - 225	°C
Barrel - Zone 1 Temperature	190 - 220	°C

Barrel - Zone 2 Temperature	190 - 220	°C
Barrel - Zone 3 Temperature	190 - 220	°C
Barrel - Zone 4 Temperature	190 - 220	°C
Adapter - Zone 5 Temperature	195 - 220	°C
Head - Zone 6 - Top Temperature	195 - 220	°C
Head - Zone 7 - Bottom Temperature	195 - 220	°C
Screw Speed	20 - 60	rpm
Extruder Feed Zone Temperature	60 - 80	°C
Mold Temperature	40 - 90	°C
Die Temperature	195 - 220	°C
Parameter		
Sheet Extrusion	Value	Unit
Drying Temperature	90 - 95	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0	%
Melt Temperature	210 - 240	°C
Barrel - Zone 1 Temperature	195 - 210	°C
Barrel - Zone 2 Temperature	200 - 220	°C
Barrel - Zone 3 Temperature	205 - 230	°C
Barrel - Zone 4 Temperature	210 - 235	°C
Adapter Temperature	200 - 225	°C
Die Temperature	210 - 240	°C

Source GMD, last updated:04/18/2002

- Purge with HDPE prior to changing screw, head, or die tooling and/or machine shutdown.
- For extended downtime, lower barrel, head and die temperatures to 95°C (200°F).

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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