

## Cycolac\* Resin EXABS01

Americas: COMMERCIAL

Sheet extrusion ABS with medium impact.

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
	Value	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	39	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	3.1	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	31.6	%	ASTM D 638
Tensile Modulus, 5 mm/min	2030	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	63	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
<b>IMPACT</b>			
Izod Impact, notched, 23°C	411	J/m	ASTM D 256
Izod Impact, notched, -30°C	277	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	33	J	ASTM D 3763
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	106	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	93	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	80	°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	1.04E-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
<b>PHYSICAL</b>			
Specific Gravity	1.03	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Melt Viscosity, 240°C, 100 sec-1	14000	poise	ASTM D 3825
Melt Volume Rate, MVR at 220°C/10.0 kg	4	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	4	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	1.52	mm	UL 94

Source GMD, last updated:04/18/2002

### Processing

- Recommend initial lower temperatures settings to avoid material degradation/hang-up in die.
- Maintain melt temperature within processing range.

### Parameter

Extrusion Blow Molding	Value	Unit
Drying Temperature	80 - 90	°C
Drying Time	4 - 5	hrs
Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02 - 0.04	%
Minimum Moisture Content	0.04	%
Melt Temperature (Parison)	215 - 230	°C
Barrel - Zone 1 Temperature	205 - 225	°C
Barrel - Zone 2 Temperature	205 - 225	°C
Barrel - Zone 3 Temperature	205 - 225	°C
Barrel - Zone 4 Temperature	205 - 225	°C
Adapter - Zone 5 Temperature	210 - 230	°C
Head - Zone 6 - Top Temperature	215 - 230	°C
Head - Zone 7 - Bottom Temperature	215 - 230	°C
Screw Speed	20 - 60	rpm
Extruder Feed Zone Temperature	60 - 75	°C
Mold Temperature	40 - 80	°C
Die Temperature	215 - 235	°C

Parameter	Value	Unit
Sheet Extrusion		
Drying Temperature	80 - 95	°C
Drying Time	4	hrs
Maximum Moisture Content	0 - 0.02	%
Melt Temperature	215 - 260	°C
Barrel - Zone 1 Temperature	170 - 200	°C
Barrel - Zone 2 Temperature	180 - 220	°C
Barrel - Zone 3 Temperature	190 - 225	°C
Barrel - Zone 4 Temperature	200 - 240	°C
Adapter Temperature	205 - 250	°C
Die Temperature	205 - 250	°C
Roll Stack Temp - Top	90 - 95	°C
Roll Stack Temp - Middle	95 - 105	°C
Roll Stack Temp - Bottom	100 - 105	°C

Source GMD, last updated:04/18/2002

- Purge material from extruder prior to 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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