CYCOLAC™ Resin GX3800F

Americas: COMMERCIAL

High impact ABS for sheet extrusion. FDA food contact compliant.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	400	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	300	kgf/cm²	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	21200	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	680	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	22000	kgf/cm²	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	44	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	30	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	518	cm-kgf	ASTM D 3763
THERMAL			
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
PHYSICAL			
Specific Gravity	1.03	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	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	cm³/10 min	ISO 1133

(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.
(5) 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.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

PLEASE CONTACT YOUR LOCAL SALES OFFICE FOR AVAILABILITY IN YOUR AREA.

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

PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Extrusion Blow Molding		
Drying Temperature	80 - 90	°C
Drying Time	4 - 5	hrs
Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02	%
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
Sheet Extrusion		
Drying Temperature	80 - 95	°C
Drying Time	4	hrs
Maximum Moisture Content	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

• Purge material from extruder prior to shutdown.
• For extended downtimes, lower barrel, head and die temperatures to 95°C (200°F).

Notes
Typical properties: these are not to be construed as specifications. Unless noted otherwise, test specimens were 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.

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Sheet Extrusion		
Roll Stack Temp - Middle	95 - 105	°C
Roll Stack Temp - Bottom	100 - 105	°C

• Purge material from extruder prior to shutdown.
• For extended downtime, lower barrel, head and die temperatures to 95°C (200°F).

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