

CYCOLAC™ GX3800F resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

High impact ABS for sheet extrusion and blow molding applications. FDA food contact compliant.

General Information		
UL YellowCard	E121562-100798923	E121562-100798924
Features	Impact resistance, high	
	Compliance of Food Exposure	
Uses	Blow molding applications	
	Sheet	
Agency Ratings	FDA not rated	
Processing Method	Extrusion blow molding	
	Sheet extrusion molding	

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm ³	ASTM D792
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	4.20	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.60 - 0.80	%	Internal method

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	2080	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	40.0	MPa	ASTM D638
Fracture	30.3	MPa	ASTM D638
Tensile Elongation ³			ASTM D638
Yield	3.1	%	ASTM D638
Fracture	32	%	ASTM D638
Flexural Modulus ⁴ (50.0 mm Span)	2160	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 50.0 mm Span)	66.9	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-30°C	300	J/m	ASTM D256
23°C	430	J/m	ASTM D256
Instrumented Dart Impact (23°C, Total Energy)	50.8	J	ASTM D3763

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648

0.45 MPa, unannealed, 3.20mm	93.3	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	80.6	°C	ASTM D648
Vicat Softening Temperature	107	°C	ASTM D1525 ⁶
Linear thermal expansion coefficient			ASTM E831
Flow: -40 to 40°C	1.0E-4	cm/cm/°C	ASTM E831
Lateral: -40 to 40°C	1.0E-4	cm/cm/°C	ASTM E831
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (240°C, 100 sec ⁻¹)	1400	Pa·s	ASTM D3835
Extrusion instructions			

Extrusion Blow Molding Parameters:

Adapter - Zone 5 Temperature: 210 - 232 °C

Barrel - Zone 1 Temperature: 204 - 227 °C

Barrel - Zone 2 Temperature: 204 - 227 °C

Barrel - Zone 3 Temperature: 204 - 227 °C

Barrel - Zone 4 Temperature: 204 - 227 °C

Die Temperature: 216 - 235 °C

Drying Temperature: 82 - 88 °C

Drying Time: 4 - 5 hrs

Drying Time (Cumulative): 24 hrs

Extruder Feed Zone Temperature: 60 - 77 °C

Head - Zone 6 - Top Temperature: 216 - 232 °C

Head - Zone 7 - Bottom Temperature: 216 - 232 °C

Maximum Moisture Content: 0.02 %

Melt Temperature (Parison): 216 - 232 °C

Mold Temperature: 38 - 82 °C

Screw Speed: 20 - 60 rpm

Sheet Extrusion Parameters:

Adapter Temperature: 204 - 249 °C

Barrel - Zone 1 Temperature: 171 - 199 °C

Barrel - Zone 2 Temperature: 182 - 221 °C

Barrel - Zone 3 Temperature: 188 - 227 °C

Barrel - Zone 4 Temperature: 199 - 238 °C

Die Temperature: 204 - 249 °C

Drying Temperature: 82 - 93 °C

Drying Time: 4 hrs

Maximum Moisture Content: 0.02 %

Melt Temperature: 216 - 260 °C

Roll Stack Temp - Bottom: 99 - 104 °C

Roll Stack Temp - Middle: 93 - 104 °C

Roll Stack Temp - Top: 88 - 93 °C

NOTE	
1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	1.3 mm/min
5.	1.3 mm/min
6.	标准 B (120°C/h), 载荷2 (50N)

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