



Preliminary Data Sheet

Bayblend® ET 1000 PC/ABS Resin

Extrusion Thermoforming Grade

Typical Properties ¹	ASTM Test Method (Other)	Units	ET 1000 Typical Values
Tensile Properties:			
Strength at Yield	D 638	psi	9960
Elongation at Break	D 638	%	35
Tensile Modulus	D 638	psi	480,000
Flexural Properties:			
Flexural Modulus	D 790	psi	570,000
Vicat, VST B/120	(ISO 306)	°C	110
Notched Izod Impact			
0.125 in. at 73°F	D 256	ft-lb/in	3
0.125 in. at -30°F	D 256	ft-lb/in	2
Multiaxial Impact			
73°F(E Max)	D 3763	J	48
-30°F(E Max)	D3763	J	51
Flammability ² 0.062 in.	(UL 94)	Flame	V-1
Specific Gravity	D 792	---	1.26
Heat Distortion Under Load			
(at 66 psi) 0.125 in.	D 648	°C	104
(at 264 psi) 0.125 in.	D 648	°C	94
Coeff. Linear Thermal Expansion			
with flow		ppm/°C	56
across flow		ppm/°C	68
Rockwell Hardness	D785	R Scale	119
Melt Flow Rate(260C/5kg)	D1238	gm/10 min.	11

¹ Specimens were injection molded and tested unannealed unless otherwise noted. Typical properties represent an average of samples tested (natural). The data are intended to serve as a general guide only and do not necessarily reflect product specifications.

² The designation "Flammability" is not intended to reflect performance presented by these or any other materials under actual fire conditions. Each end user should determine whether potential fire hazards are associated with the finished product and whether this Bayblend resin is suitable for the particular use.

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Processing Guidelines

Pellet Drying

No more than 0.02% moisture should be present in the material when processed by extrusion. Desiccant driers are recommended for material drying. Drying Conditions: 2 – 4 hours at 95 – 110 °C (200 – 230 °F) in a desiccant drier; excessively long drying should be avoided because it can lead to discoloration of the material. Up to 40% of clean, dry regrind can be used.

Sheet Extrusion

The extruder should be set to give a maximum melt temperature of 270 °C (520 °F). Overheating and excessively long residence times should be avoided as these conditions can lead to color generation and material degradation. Processing conditions will depend on the sheet being produced and on the production technology available. The following barrel and mold temperatures can be taken as a guide:

Section 1:	215 – 225 °C	420 – 440 °F
Section 2:	225 – 240 °C	440 – 460 °F
Section 3:	225 – 245 °C	440 – 470 °F
Section 4:	225 – 250 °C	440 – 480 °F
Die:	225 – 250 °C	440 – 480 °F

The temperature for downstream equipment (screen-changer, melt pump, coex-adapter, and slot die) should be coordinated with the temperature of the last barrel section.

Calender roll temperatures will depend on calender design, take-off rate, and sheet geometry (thickness and surface). For calenders with a vertical roll arrangement with melt introduction between rolls 1 and 2, the following conditions can be taken as a guide:

Roll 1 (bottom):	80 – 110 °C	180 – 230 °F
Roll 2 (center):	90 – 120 °C	190 – 250 °F
Roll 3 (top):	80 – 110 °C	180 – 230 °F

Thermoforming Conditions

Sheet Temperature	150 – 190 °C	280 – 370 °F
Maximum Demolding	95 °C	200 °F
Mold Temperature	50 – 95 °C	120 – 200 °F
Plug Temperature	120 – 150 °C	250 – 300 °F

Sheet Drying

Typical Drying Temperature 95 °C 200 °F

Typical drying times range from 3.5 hours for 2 mm (80 mils) sheet to 8 hours for 3.2 mm (125 mils) sheet and up to 24 hours for 6.4 mm (250 mils) sheet. A desiccated dryer can reduce drying time significantly.

An air circulating oven should be used and space must be maintained between sheets using drying racks. Sheets should be thermoformed within 15 minutes of removal from the oven.

Cold Bending

Cold bending of Bayblend ET 1000 resin may lead to parts with increased stress levels which may result in premature failure. Therefore, Bayer will not offer technical support for cold bending.

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