



## Bayblend® FR-110 - Data Sheet

Bayblend FR-110 by Bayer, is flame retardant PC/ABS copolymer with super-high melt flow and high impact strength even at low temperatures. Applications include electrical equipment, automotive interior and exterior parts, appliances, lawn and garden equipment, power tools, business equipment and more. [Click for Medical Use Info.](#)

### General Characteristics

Material Status

Availability of distribution

Test Standards Available

Recycled Content

Features

### Value

- Active
- North America
- ASTM
- 0%
- Heat Resistance - High
- Impact Resistance - Good
- Impact Resistance - At Low Temperature
- Rigidity - High
- Dimensional Stability - Good
- Processability - Good
- Thermal Stability - Good

Uses

- General Purpose -
- Electrical Equipment
- Electronics
- Power Tools
- Communication Equipment - cell phones, cordless phones, handheld radios etc.
- Automotive - Interior and Exterior Parts
- Business Equipment - copiers, computers, fax machines, peripherals etc.
- Appliances
- Lawn Equipment
- Garden Equipment and Hand Tools

Appearance

- Natural Color
- Black
- [Custom Colors](#) and [appearance modifiers](#) can be blended.

Forms

Processing Methods

- Pellets
- Injection Molding
- Extrusion

### Physical

Specific Gravity

Melt Flow Rate

Mold Shrink, Linear-Flow

### Value

1.19

35

0.004 to 0.006

### Unit of Measure

sp gr

g/10min

in/in (cm/cm)

### Conditions

23/23°C

300°C/1.2 kg - 0

### Test

ASTM D-792

ASTM D-1238

ASTM D-955

### Mechanical

Tensile Modulus

### Value

380,000 (2.622)psi (GPa)

### Unit of Measure

### Conditions

### Test

ASTM D-638

Tensile Stress @ Yield	8,700 (60.03)	psi (MPa)		ASTM D-638
Tensile Stress @ Break	8,100 (55.89)	psi (MPa)		ASTM D-638
Tensile Elongation @ Yield	4.0	%		ASTM D-638
Tensile Elongation @ Break	90	%		ASTM D-638
Flexural Modulus	390,000 (2.691)	psi (GPa)		ASTM D-790
Flexural Strength	13,800 (95.22)	psi (MPa)		ASTM D-790
<b>Impact</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Notched Izod Impact Strength	14 (747.306)	ft-lbs/in (J/m)	0.125" (3.2 mm), 73°F (22.7°C)	ASTM D-256
Instrumented Dart Impact Energy	456 (51.528)	in/lbs (Joules)	0.1000" (2.54 mm), 73°F (22.7°C)	ASTM D-256
<b>Hardness</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Rockwell Hardness	122	R Scale		ASTM D-785
<b>Thermal</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Deflection Temp Under Load	203 (95)	°F (C°)	264psi (1.82 MPa) Unannealed	ASTM D-648
Deflection Temp Under Load	212 (100)	°F (C°)	66psi (0.46 MPa) Unannealed	ASTM D-648
Coefficient of Thermal Expansion	4.3 e-005	in/in/°F		ASTM D-696
Vicat Softening Point	226 (107.77)	°F (C°)		ASTM D-1525
<b>Flammability</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Limiting Oxygen Index	30	%		ASTM D-2863
UL 94 Flame Class		Rating	0.0590" (1.498mm)	UL 94
UL 94 Flame Class		Rating	0.0790" (2.0066mm)	UL 94
UL 94 Flame Class	HB	Rating	0.0790" (1.498mm)	UL 94
UL 94 Flame Class	HB	Rating	0.1180" (2.997mm)	UL 94
UL 94 Flame Class	HB	Rating	0.1180" (2.997mm)	UL 94
<b>UL 746</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Relative Temp Index Mechanical	185 (85)	°F (C°)	Non-Impact, 0.0620" (1.5748mm)	UL 746
Relative Temp Index Mech w/Impact	185 (85)	°F (C°)	Impact, 0.0620" (1.5748mm)	UL 746
Relative Temp Index Electrical	203 (95)	°F (C°)	0.0620" (1.5748mm)	UL 746
Comparative Tracking Index	300	V		UL 746
High Volt Arc Track Rate	5.91	in/min	0.1180" (2.997mm)	UL 746
Hot Wire Ignition	45	Seconds	0.0590" (1.498mm)	UL 746
Hot Wire Ignition	90	Seconds	0.1180" (2.997mm)	UL 746
High Ampere Arc Ignition	120	Seconds	0.0590" (1.498mm)	UL 746
<b>Electrical</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Dielectric Constant	3.0		@ 100 Hz,	ASTM D-150
Dielectric Constant	2.9		@ 1 Mhz,	ASTM D-150
Dielectric Strength	760	V/mil	Short time under oil @ 73°F (23°C) 0.062" (1.5748)	ASTM D-149
Dissipation Factor	0.004		@ 100 Hz,	ASTM D-150
Dissipation Factor	0.007		@ 1 Mhz,	ASTM D-150
Surface Resistivity	10 <sup>14</sup>	ohms		ASTM D-257
Volume Resistivity	10 <sup>15</sup>	ohms-cm	Tinfoil Electrodes	ASTM D-257
Arc Resistance	90	seconds	0.1180" (2.997mm)	ASTM D-257
<b>Injection Molding Parameters</b>	<b>Value</b>	<b>Unit of Measure</b>	<b>Conditions</b>	<b>Test</b>
Drying Temperature	175 to 210 (79.44 to 98.88)	°F (C°)		
Drying Time	3.0 to 4.0	Hours		
Suggested Max Moisture	0.020	%		
Suggested Max Re grind	20	%		
Rear Temperature	430 to 445 (221.11 to 229)	°F (C°)		
Middle Temperature	435 to 455 (223.88 to 235)	°F (C°)		
Front Temperature	445 to 465 (229 to 240.55)	°F (C°)		
Nozzle Temperature	485 to 505 (251.66 to 262.77)	°F (C°)		

Processing (Melt) Temperature	430 to 520 (221.11 to 271.11)	°F (C°)
Mold Temperature	120 to 175 (48.88 to 79.44)	°F (C°)
Injection Pressure (melt)	10,000 to 20,000 (69 to 138)	psi (MPa)
Back Pressure (melt)	50 to 100 (344.74 to 963.9)	psi (KPa)
Screw Speed	50 to 100	rpm
Clamp Tonnage	3.0 to 5.0	Tons/in <sup>2</sup>
Screw L/D Ratio	20:1	Ratio
Screw Compression Ratio	2:1 to 3:1	Ratio

**Important Notice:** The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine suitability for their own particular purpose of any information of products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

[Home](#) > [Plastics](#) > [Bayer](#) > [Bayblend](#) > **FR-110** -You Are Here