

Bayblend® FR3020

FR grades / Mineral filled

(PC+ABS)-Blend; 5 % mineral filled; flame retardant; Vicat/B 120 temperature = 103 °C; HDT/A >= 85 °C; for thin-wall applications; very good UL recognition in small wall thicknesses (V-0 at 0.75 mm); low smoke density

ISO Shortname

PC+ABS-TD5 FR(40)

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
C Melt volume-flow rate	240 °C/ 5 kg	cm³/10 min	ISO 1133	20
Melt viscosity	1000 s⁻¹/ 260 °C	Pa·s	b.o. ISO 11443-A	200
Molding shrinkage, parallel	150x105x3 mm/ 240 °C / MT 80 °C	%	b.o. ISO 2577	0.4 - 0.6
Molding shrinkage, normal	150x105x3 mm/ 240 °C / MT 80 °C	%	b.o. ISO 2577	0.4 - 0.6
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3200
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	65
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.0
Stress at break	50 mm/min	MPa	ISO 527-1,-2	50
Strain at break	50 mm/min	%	b.o. ISO 527-1,-2	> 30
Flexural modulus	2 mm/min	MPa	ISO 178	3100
Flexural strength	2 mm/min	MPa	ISO 178	98
Izod notched impact strength	23 °C	kJ/m²	ISO 180-A	11
Thermal properties				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	85
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	95
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	101
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	103
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10⁻⁴/K	ISO 11359-1,-2	0.7
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10⁻⁴/K	ISO 11359-1,-2	0.7
C Burning behavior UL 94 [UL recognition]	0.75 mm	Class	UL 94	V-0
C Burning behavior UL 94-5V [UL recognition]	2.0 mm	Class	UL 94	5VB
Burning behavior UL 94-5V [UL recognition]	3.0 mm	Class	UL 94	5VA
Electrical properties (23 °C/50 % r. h.)				
C Relative permittivity	100 Hz	-	IEC 60250	3.1
C Relative permittivity	1 MHz	-	IEC 60250	3.0
C Dissipation factor	100 Hz	10⁻⁴	IEC 60250	50
C Dissipation factor	1 MHz	10⁻⁴	IEC 60250	70
C Volume resistivity		Ohm·m	IEC 60093	1E14
C Surface resistivity		Ohm	IEC 60093	1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	275
Other properties (23 °C)				
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.5
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.2
C Density		kg/m³	ISO 1183-1	1200
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	240
C Injection molding-Mold temperature		°C	ISO 294	80
C Injection molding-Injection velocity		mm/s	ISO 294	240

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Property	Test Condition	Unit	Standard	typical Value
Recommended Processing and Drying Conditions				
Melt Temperatures		°C	-	240 - 270
Standard Melt Temperature		°C	-	260
Barrel Temperatures - Rear		°C	-	220 - 230
Barrel Temperatures - Middle		°C	-	225 - 235
Barrel Temperatures - Front		°C	-	230 - 240
Barrel Temperatures - Nozzle		°C	-	255 - 265
Mold Temperatures		°C	-	60 - 90
Hold Pressure (% of injection pressure)		%	-	50 - 75
Plastic Back Pressure (specific)		bar	-	50 - 150
Peripheral Screw Speed		m/s	-	0.05 - 0.2
Shot-to-Cylinder Size		%	-	30 - 70
Dry Air Drying Temperature		°C	-	80
Dry Air Drying Time		h	-	4
Moisture Content max. (%)		%	-	<= 0,02
Vent Depth		mm	-	0.025 - 0.075

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

Impact properties: N = non-break, P = partial break, C = complete break