Bayblend® FR3040

FR grades / Non reinforced

(PC+ABS)-Blend; flame retardant; Vicat/B 120 temperature = 108 °C; HDT/A >= 85 °C; for thin-wall applications; very good burning behavior in small wallthicknesses (UL recognition 94 V-0 at 0.75 mm and above and V-1 at 0.6 mm)

ISO Shortname

PC+ABS-FR(40)

	Property	Test Condition	Unit	Standard	typical Value
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Rheological properties					
C	Melt volume-flow rate	240 °C; 5 kg	cm³/10 min	ISO 1133	17
	Melt viscosity	1000 s^{-1}; 260 °C	Pa·s	b.o. ISO 11443-A	240
	Molding shrinkage, parallel	150x105x3 mm; 240 °C / MT 80 °C	%	b.o. ISO 2577	0.5 - 0.7
	Molding shrinkage, normal	150x105x3 mm; 240 °C / MT 80 °C	%	b.o. ISO 2577	0.5 - 0.7
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2700
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	> 50
	Izod impact strength	23 °C	kJ/m²	ISO 180-U	N
	Izod notched impact strength	23 °C	kJ/m²	ISO 180-A	30
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	91
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	100
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	106
	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	108
C	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.76
C	Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.8
C	Burning behavior UL 94 [UL recognition]	0.75 mm	Class	UL 94	V-0
C	Burning behavior UL 94-5V [UL recognition]	1.5 mm	Class	UL 94	5VB
	Burning behavior UL 94-5V [UL recognition]	3.0 mm	Class	UL 94	5VA
C	Oxygen index	Method A	%	ISO 4589-2	35
Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	3.2
C	Relative permittivity	1 MHz	-	IEC 60250	3.1
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	50
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	75
C	Volume resistivity		Ohm·m	IEC 60093	1E15
C	Surface resistivity		Ohm	IEC 60093	1E17
C	Electrical strength	1 mm	kV/mm	IEC 60243-1	35
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	325
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	1190
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

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Disclaimer

Information Impact properties

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

Typical value

These values are typical values only. Unless explicitly agreed in written form, the do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

Global Disclaimer PCS

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Non Medical and non Food Contact Grade

This product is not designated for the manufacture of a pharmaceutical/medicinal product, medical device or of intermediate products for medical devices1). This product is also not registered for Covestro for the use in other specifically regulated applications, in particular applications requiring regulatory registration, approval or notification (e.g. including cosmetics, plant protection, food processing, food contact and others). If the intended use of the product is for the manufacture of a pharmaceutical, medical device or of intermediate products for medical devices or for other specifically regulated applications which may lead to a regulatory obligation of Covestro, Covestro must be contacted in advance to provide its agreement to sell such product for such purpose. Nonetheless, any determination as to whether a product is appropriate for use in a pharmaceutical, medical device or intermediate products for medical devices or for the use in other specifically regulated applications, must be made solely by the purchaser of the product without relying upon any representations by Covestro, irrespective of the existence of any regulatory obligation for the registration, approval or notification. 1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document.

Recommended Processing and Drying Conditions

Barrel temperatures are valid for a standard 3-zone barrel. Temperature set-up for different barrel types may change according to configuration. Values for hold pressure as percentage of injection pressure may vary depending on, amongst others, part geometry, injection molding machine and injection mold. Drying conditions are for dry air dryers only. Drying times and drying temperatures may differ depending on valid dryer type. Further information is provided by your local Covestro support as well as in the following brochures: Injection Molding of High Quality Molded Parts - Drying; Determining the Dryness of Makrolon by TVI Test; The fundamentals of shrinkage in thermoplastics; Shrinkage and deformation of glass fiber reinforced thermoplastics [...]. https://www.plastics.covestro.com/Library/Overview.aspx

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