Product Comparison



Technical Data

Also Available In

Product Description				
	POLYblend 83FR is a Polycarbonate + ABS (PC+ABS) product. It is available in Asia Pacific, Europe, America, or North America.			
POLYblend 83FR	Characteristics include: • Flame Rated			
	Flame Retardant Halogen Free			
Generic PC+ABS	This data represents typical values that have +ABS	been calculated from all products classified as: Generic PC		
	This information is provided for comparative	· · · · · · · · · · · · · · · · · · ·		
General	POLYblend 83FR	Generic PC+ABS		
Manufacturer / Supplier	Polykemi AB	Generic		
Generic Symbol	• PC+ABS	• PC+ABS		
Material Status	Commercial: Active	Commercial: Active		
Search for UL Yellow Card	Polykemi AB			
Availability	Asia PacificEuropeLatin AmericaNorth America	 Africa & Middle East Asia Pacific Europe Latin America North America 		
Additive	Flame Retardant			
Features	Flame RetardantHalogen Free			

Physical	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Density / Specific Gravity				
		1.10 to 1.21	g/cm³	ASTM D792
	1.20	1.10 to 1.21	g/cm³	ISO 1183
		1.10 to 1.19	g/cm³	ASTM D1505
Apparent (Bulk) Density		0.60 to 0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)				
260°C/5.0 kg		4.8 to 30	g/10 min	ASTM D1238
260°C/5.0 kg	50	12 to 29	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)		8.0 to 49	cm³/10min	ISO 1133
Spiral Flow		39.6 to 68.6	cm	

 Asia Pacific Europe

• Latin America North America



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Physical	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Molding Shrinkage	OSFK	PUTADS		
Flow		0.45 to 0.74	%	ASTM D955
Across Flow		0.54 to 0.62	%	ASTM D955
		0.48 to 0.65	%	ISO 294-4
Across Flow	0.50 to 0.70	0.40 to 0.00	%	Internal Method
Flow	0.50 to 0.70		%	Internal Method
Water Absorption	0.30 to 0.70		70	michial wethor
24 hr		0.096 to 0.22	%	ASTM D570
24 hr, 23°C		0.088 to 0.70	%	ISO 62
Saturation		0.10 to 0.61	%	ASTM D570
Saturation, 23°C		0.090 to 0.70	%	ISO 62
Equilibrium, 23°C, 50% RH		0.057 to 0.25	%	ISO 62
Equilibrium, 23 C, 30% Kn	POL Vhland		70	130 02
1echanical	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Tensile Modulus				
		1850 to 3050	MPa	ASTM D638
		1620 to 3190	MPa	ISO 527-1
Tensile Strength				
Yield		48.4 to 65.2	MPa	ASTM D638
Yield		35.0 to 67.1	MPa	ISO 527-2
Break		39.2 to 62.3	MPa	ASTM D638
Break	70.0	39.2 to 58.5	MPa	ISO 527-2
		39.5 to 66.2	MPa	ASTM D638
		47.8 to 60.5	MPa	ISO 527-2
Tensile Elongation				
Yield		1.5 to 21	%	ASTM D638
Yield	8.0	2.5 to 7.4	%	ISO 527-2
Break		29 to 110	%	ASTM D638
Break		28 to 100	%	ISO 527-2
Nominal Tensile Strain at Break		49 to 100	%	ISO 527-2
Flexural Modulus				
		2010 to 2770	MPa	ASTM D790
		1810 to 2700	MPa	ISO 178
23°C	2600		MPa	ISO 178
Flexural Strength				
		68.4 to 105	MPa	ASTM D790
	100	69.0 to 102	MPa	ISO 178
Yield		68.4 to 105	MPa	ASTM D790
Break		63.7 to 83.7	MPa	ASTM D790
Taber Abrasion Resistance		54.0 to 82.0	mg	ASTM D1044
npact	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
		6.5 to 63	kJ/m²	
-30°C	7.0		kJ/m²	
23°C	15		kJ/m²	

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Impact	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Charpy Unnotched Impact Strength				ISO 179
		22 to 100	kJ/m²	
-30°C	No Break			
23°C	No Break			
Notched Izod Impact				
		48 to 710	J/m	ASTM D256
		9.0 to 57	kJ/m²	ISO 180
Notched Izod Impact (Area)		39.2 to 65.1	kJ/m²	ASTM D256
Unnotched Izod Impact				
		380 to 2200	J/m	ASTM D4812
		94 to 100	kJ/m²	ISO 180
Instrumented Dart Impact				
		42.8 to 65.3	J	ASTM D3763
		35.0 to 105	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force		4260 to 5400	N	ISO 6603-2
Gardner Impact		35.6 to 36.3	J	ASTM D3029
Hardness	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Rockwell Hardness				
		100 to 120		ASTM D785
		106 to 124		ISO 2039-2
Shore Hardness		79 to 80		ISO 868
Ball Indentation Hardness		89.3 to 133	MPa	ISO 2039-1
Thermal Thermal	POLYblend 83FR	Generic PC+ABS	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed		86.9 to 131	°C	ASTM D648
0.45 MPa, Unannealed ²	92.0		°C	ISO 75-2/B
0.45 MPa, Unannealed		87.6 to 131	°C	ISO 75-2/B
0.45 MPa, Annealed ²	95.0		°C	ISO 75-2/B
0.45 MPa, Annealed		92.0 to 129	°C	ISO 75-2/B
1.8 MPa, Unannealed		79.9 to 116	°C	ASTM D648
1.8 MPa, Unannealed ²	82.0		°C	ISO 75-2/A
1.8 MPa, Unannealed		78.9 to 113	°C	ISO 75-2/A
1.8 MPa, Annealed ²	92.0		°C	ISO 75-2/A
1.8 MPa, Annealed		94.6 to 110	°C	ISO 75-2/A
Continuous Use Temperature		60.0 to 100	°C	ASTM D794
Vicat Softening Temperature				
		89.9 to 139	°C	ASTM D1525
	97.0		°C	ISO 306/B50
	105		°C	ISO 306/A50
		92.5 to 141	°C	ISO 306
Ball Pressure Test (90°C)	Pass			IEC 60335-1

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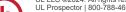


POLYblend Generic **Thermal** Unit Test Method PC+ABS 83FR CLTE 7.1E-5 to 8.3E-5 cm/cm/°C ASTM D696 Flow Flow 5.3E-5 to 7.6E-5 cm/cm/°C ASTM E831 Flow 5.5E-5 to 1.0E-4 cm/cm/°C ISO 11359-2 6.9E-5 to 9.1E-5 cm/cm/°C ASTM E831 Transverse 5.6E-5 to 8.6E-5 cm/cm/°C ISO 11359-2 Transverse Thermal Conductivity 0.20 to 0.37 W/m/K ASTM C177 0.20 W/m/K ISO 8302 °C RTI Elec 60.0 to 90.4 **UL 746B** 60.0 to 90.0 °C **UL 746B** RTI Imp 60.0 to 90.4 °C RTI Str **UL 746B POLYblend** Generic Electrical Unit Test Method 83FR PC+ABS Surface Resistivity 1.0E+4 to 2.5E+15 ohms ASTM D257 5.1E+3 to 1.3E+16 IEC 60093 ohms Volume Resistivity 1.0 to 1.0E+17 ASTM D257 ohms·cm 1.0E+11 to 5.0E+16 ohms·cm IEC 60093 Dielectric Strength 8.5 to 40 kV/mm ASTM D149 kV/mm 15 to 37 IEC 60243-1 Dielectric Constant 3.00 to 3.01 ASTM D150 2.89 to 3.10 IEC 60250 2.95 IEC 60250 **Dissipation Factor** 4.9E-3 to 9.1E-3 ASTM D150 1.0E-3 to 9.6E-3 IEC 60250 Arc Resistance 119 to 123 ASTM D495 sec --V IEC 60112 Comparative Tracking Index 218 to 600 --**POLYblend** Generic Flammability Unit Test Method 83FR PC+ABS ISO 3795 **Burning Rate** 33 to 100 mm/min Flame Rating (1.6 mm) V-0 **UL 94** Glow Wire Flammability Index IEC 60695-2-12 °C 642 to 960 °C 1.6 mm 960 °C Glow Wire Ignition Temperature 694 to 960 IEC 60695-2-13 Oxygen Index 28 to 32 % **ASTM D2863**

Fill Analysis

Melt Viscosity

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ISO 4589-2

Test Method

ASTM D3835

%

Unit

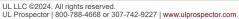
Pa⋅s

23 to 34

Generic

PC+ABS

170 to 255



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POLYblend

83FR



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Injection	POLYblend 83FR	Generic PC+ABS	Unit	
Drying Temperature	80 to 100	79 to 110	°C	
Drying Time	2.0 to 8.0	2.7 to 5.0	hr	
Drying Time, Maximum		6.0	hr	
Suggested Max Moisture	< 0.020	0.020 to 0.024	%	
Suggested Shot Size		50 to 55	%	
Hopper Temperature		70 to 74	°C	
Rear Temperature		218 to 266	°C	
Middle Temperature		229 to 274	°C	
Front Temperature		234 to 270	°C	
Nozzle Temperature		249 to 273	°C	
Processing (Melt) Temp	240 to 280	243 to 275	°C	
Mold Temperature	70 to 100	59 to 86	°C	
Injection Pressure		85.3 to 99.0	MPa	
Holding Pressure		74.7 to 75.0	MPa	
Back Pressure	6.00 to 10.0	0.138 to 10.0	MPa	
Screw Speed		52 to 56	rpm	
Vent Depth		0.050 to 0.057	mm	
Peripheral Screw Speed	18 to 30		m/min	

Injection Notes

Generic PC+ABS This data represents typical values that have been calculated from all products classified as: Generic PC

This information is provided for comparative purposes only.

Extrusion	POLYblend 83FR	Generic PC+ABS	Unit	
Drying Temperature		89 to 95	°C	
Drying Time		3.0 to 7.0	hr	
Melt Temperature		250 to 257	°C	
Extrusion Notes				

Generic PC+ABS This data represents typical values that have been calculated from all products classified as: Generic PC

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Notes

¹ Typical properties: these are not to be construed as specifications.



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² 120°C/h