

Product Comparison



Prospector

Product Description

Generic
PP Impact Copolymer

This data represents typical values that have been calculated from all products classified as: Generic PP Impact Copolymer

This information is provided for comparative purposes only.

General	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer
Manufacturer / Supplier	Washington Penn Plastic Co. Inc.	Generic
Generic Symbol	PP Impact Copolymer	PP Impact Copolymer
Material Status	Commercial: Active	Commercial: Active
Availability	North America	- Africa & Middle East - Asia Pacific - Europe - Latin America - North America - South America
Features	- Good Dimensional Stability - Good Stiffness - Impact Copolymer - Medium Flow - Medium Impact Resistance	--
Uses	- Automotive Applications - Automotive Interior Trim	--
Appearance	- Colors Available - Natural Color	--
Forms	Pellets	--

Physical	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Specific Gravity				
--	--	0.895 to 0.904	g/cm ³	ASTM D792
--	0.898	0.898 to 0.907	g/cm ³	ISO 1183
--	--	0.896 to 0.907	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR)				
230°C/2.16 kg	--	0.30 to 38	g/10 min	ASTM D1238
230°C/2.16 kg	35	0.20 to 15	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	--	0.300 to 135	cm ³ /10min	ISO 1133
Molding Shrinkage				
Flow: 23°C	--	1.3 to 1.7	%	ASTM D955
Across Flow: 23°C	--	1.6 to 1.7	%	ASTM D955
23°C	--	1.2 to 1.5	%	ISO 294-4
Water Absorption (24 hr, 23°C)	--	0.020	%	ASTM D570
Mechanical	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Tensile Modulus (23°C)	--	929 to 1620	MPa	ISO 527-2

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Mechanical	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Tensile Strength				
Yield, 23°C	--	19.6 to 31.0	MPa	ASTM D638
Yield	24.4	--	MPa	ISO 527-2/50
Yield, 23°C	--	19.3 to 29.2	MPa	ISO 527-2
Break, 23°C	--	17.3 to 19.7	MPa	ASTM D638
Break, 23°C	--	12.8 to 35.2	MPa	ISO 527-2
Tensile Elongation				
Yield, 23°C	--	3.0 to 13	%	ASTM D638
Yield, 23°C	--	4.0 to 11	%	ISO 527-2
Break, 23°C	--	2.0 to 500	%	ASTM D638
Break	100	--	%	ISO 527-2/50
Break, 23°C	--	40 to 510	%	ISO 527-2
Flexural Modulus				
23°C	--	117 to 3820	MPa	ASTM D790
23°C	--	898 to 1570	MPa	ISO 178
Tangent ²	1100	--	MPa	ISO 178
Flexural Strength (23°C)	--	18.0 to 39.6	MPa	ASTM D790
Impact	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Charpy Notched Impact Strength				
23°C	--	427	J/m	ASTM D256
23°C	--	2.5 to 51	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	--	110 to 140	kJ/m ²	ISO 179
Notched Izod Impact				
23°C	--	12.0 to 1010	J/m	ASTM D256
-40°C	3.50	--	kJ/m ²	ISO 180
-18°C	6.50	--	kJ/m ²	ISO 180
23°C	12.0	3.50 to 53.5	kJ/m ²	ISO 180
Instrumented Dart Impact (23°C)	22.0	24.6 to 28.6	J	ASTM D3763
Gardner Impact (23°C)	--	12.7 to 36.5	J	ASTM D3029
Hardness	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Rockwell Hardness				
23°C	--	64 to 101		ASTM D785
23°C	--	59 to 100		ISO 2039-2
Durometer Hardness				
23°C	--	56 to 71		ASTM D2240
23°C	--	58 to 71		ISO 868
Shore D	68	--		ISO 868
Ball Indentation Hardness	--	44.1 to 69.7	MPa	ISO 2039-1
Thermal	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	78.6 to 125	°C	ASTM D648
0.45 MPa, Unannealed	100	68.9 to 100	°C	ISO 75-2/B
1.8 MPa, Unannealed	--	50.0 to 57.5	°C	ASTM D648
1.8 MPa, Unannealed	55.0	46.9 to 56.4	°C	ISO 75-2/A
Ductile / Brittle Transition Temperature	--	-60.0 to -38.8	°C	ISO 6603-2
Vicat Softening Temperature				
--	--	148 to 153	°C	ASTM D1525
--	--	63.0 to 154	°C	ISO 306
Ball Pressure Test	--	Pass		IEC 60695-10-2
Melting Temperature				
--	--	142 to 163	°C	
--	--	163 to 165	°C	ISO 3146

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UL 746	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
RTI Str	--	90.0	°C	UL 746
RTI Imp	--	65.0 to 115	°C	UL 746
RTI Elec	--	90.0	°C	UL 746

Optical	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit	Test Method
Gloss	--	6 to 75		ASTM D2457
Haze	--	78 to 80	%	ASTM D1003

Injection	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit
Drying Temperature	71.1 to 87.8	74.5 to 100	°C
Drying Time	1.0	--	hr
Rear Temperature	204 to 221	172 to 221	°C
Middle Temperature	216 to 227	195 to 235	°C
Front Temperature	216 to 227	215 to 255	°C
Nozzle Temperature	221 to 227	209 to 243	°C
Processing (Melt) Temp	--	215 to 250	°C
Mold Temperature	15.6 to 48.9	33.0 to 50.3	°C
Injection Pressure	4.14 to 7.58	4.41 to 172	MPa
Holding Pressure	1.03 to 4.14	2.59 to 152	MPa
Back Pressure	0.517 to 1.03	0.679 to 0.689	MPa
Screw Speed	--	55 to 56	rpm
Clamp Tonnage	3.4 to 5.5	--	kN/cm ²
Cushion	3.18 to 6.35	--	mm

Injection Notes	
WPP PP PPC5UF0-Natural	Injection Speed: 1.5 to 2.5 in/s Zone 4 Temperature: 420 to 440°F Hot Runner Temperature: 410 to 450°F Hydraulic Oil Temperature: 110 to 125°F Shot Capacity vs. Barrel Capacity: 2.5 to 4 Screw Decompression: 0.1 to 0.25 in
Generic PP Impact Copolymer	This data represents typical values that have been calculated from all products classified as: Generic PP Impact Copolymer This information is provided for comparative purposes only.

Extrusion	WPP PP PPC5UF0-Natural	Generic PP Impact Copolymer	Unit
Melt Temperature	--	215 to 251	°C

Extrusion Notes	
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Notes

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

² 1.3 mm/min