Product Comparison

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Technical Data

Product Description

WPP PP PPH4GF3-Black	WPP PP PPH4GF3-Black is a Polypropylene Homopolymer (PP Homopolymer) product filled with 30% glass fiber. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Applications of WPP PP PPH4GF3-Black include automotive and consumer goods. Characteristics include: • Good Dimensional Stability • Good Stiffness • High Strength • Homopolymer
Generic PP Homopolymer - Glass Fiber	This data represents typical values that have been calculated from all products classified as: Generic PP Homopolymer - Glass Fiber This information is provided for comparative purposes only.

General	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber
Manufacturer / Supplier	• Washington Penn Plastic Co. Inc.	• Generic
Generic Symbol	• PP Homopolymer	• PP Homopolymer
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Processing (English) • Technical Datasheet (English)	--
Search for UL Yellow Card	• Washington Penn Plastic Co. Inc.	--
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight	• Glass Fiber
Features	• Good Dimensional Stability • Good Stiffness • High Tensile Strength • Homopolymer	--
Uses	• Automotive Applications • Consumer Applications	--
Appearance	• Black	--

Physical	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Density / Specific Gravity				
--	--	0.943 to 1.25	g/cm³	ASTM D792
--	1.12	1.03 to 1.24	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)				
230°C/2.16 kg	--	1.0 to 17	g/10 min	ASTM D1238
230°C/2.16 kg	15	1.4 to 14	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	--	1.0 to 5.4	cm³/10min	ISO 1133

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Physical	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Molding Shrinkage				
Flow	--	0.19 to 0.61	%	ASTM D955
Across Flow	--	0.44 to 0.91	%	ASTM D955
--	--	0.28 to 0.88	%	ISO 294-4
Water Absorption				
24 hr	--	0.030 to 0.032	%	ASTM D570
24 hr, 23°C	--	0.048 to 0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	--	0.096 to 0.20	%	ISO 62

Mechanical	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Tensile Modulus				
--	--	2030 to 7790	MPa	ASTM D638
--	--	4280 to 8180	MPa	ISO 527-1
Tensile Strength				
Yield	--	33.4 to 110	MPa	ASTM D638
Yield	--	34.1 to 95.3	MPa	ISO 527-2
Yield	84.0	--	MPa	ISO 527-2/5
Break	--	31.4 to 110	MPa	ASTM D638
Break	--	58.7 to 101	MPa	ISO 527-2
--	--	43.0 to 101	MPa	ASTM D638
--	--	27.0 to 96.8	MPa	ISO 527-2
Tensile Elongation				
Yield	--	3.0 to 4.0	%	ASTM D638
Yield	--	2.0 to 4.9	%	ISO 527-2
Break	--	2.0 to 6.2	%	ASTM D638
Break	--	2.2 to 5.2	%	ISO 527-2
Flexural Modulus				
--	--	2050 to 7610	MPa	ASTM D790
--	--	2490 to 7890	MPa	ISO 178
-- [3]	5600	--	MPa	ISO 178
Flexural Strength				
--	--	51.4 to 154	MPa	ASTM D790
--	--	96.3 to 136	MPa	ISO 178
-- [3]	134	--	MPa	ISO 178
Yield	--	70.9 to 119	MPa	ASTM D790
Break	--	82.5 to 143	MPa	ASTM D790

Impact	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Charpy Notched Impact Strength	--	3.9 to 12	kJ/m²	ISO 179
Charpy Unnotched Impact Strength				ISO 179
--	--	19 to 56	kJ/m²	
23°C	43	--	kJ/m²	

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Impact	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Notched Izod Impact				
--	--	35 to 130	J/m	ASTM D256
--	--	3.8 to 12	kJ/m²	ISO 180
-40°C	7.0	--	kJ/m²	ISO 180
23°C	8.0	--	kJ/m²	ISO 180 ISO 180/1B
Unnotched Izod Impact				
--	--	230 to 700	J/m	ASTM D4812
--	--	5.0 to 56	kJ/m²	ISO 180
Gardner Impact	--	0.339 to 0.836	J	ASTM D3029
Gardner Impact	--	0.199 to 0.466	J	ASTM D5420

Hardness	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Rockwell Hardness	--	105 to 106		ASTM D785
Durometer Hardness				
--	--	71 to 95		ASTM D2240
--	--	72 to 82		ISO 868
Ball Indentation Hardness	--	99.4 to 153	MPa	ISO 2039-1

Thermal	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	147 to 160	°C	ASTM D648
0.45 MPa, Unannealed	158	149 to 162	°C	ISO 75-2/B
1.8 MPa, Unannealed	--	123 to 157	°C	ASTM D648
1.8 MPa, Unannealed	149	123 to 157	°C	ISO 75-2/A
Vicat Softening Temperature				
--	--	115 to 160	°C	ASTM D1525
--	--	114 to 166	°C	ISO 306
Melting Temperature				
--	--	163 to 182	°C	
--	--	162 to 167	°C	ISO 11357-3
--	--	160	°C	ISO 3146
CLTE - Flow				
--	--	3.0E-5 to 5.0E-5	cm/cm/°C	ASTM D696
--	--	3.0E-6 to 4.1E-5	cm/cm/°C	ISO 11359-2
Accelerated Oven Ageing	--	990	hr	ISO 4577

Electrical	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Surface Resistivity	--	8.4E+13 to 1.0E+15	ohms	IEC 60093
Volume Resistivity	--	1.0E+13 to 5.0E+15	ohms·cm	IEC 60093
Electric Strength	--	25 to 60	kV/mm	IEC 60243-1
Dissipation Factor	--	0.0 to 2.5E-5		IEC 60250
Comparative Tracking Index	--	599 to 600	V	IEC 60112

Flammability	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit	Test Method
Burning Rate	--	56 to 100	mm/min	ISO 3795
Glow Wire Flammability Index	--	743 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	641 to 858	°C	IEC 60695-2-13
Oxygen Index	--	20 to 21	%	ASTM D2863

Additional Information	
WPP PP PPH4GF3-Black	Tested at 23 ± 2°C (73.4 ± 3.6°F) and 50 ± 5% relative humidity unless otherwise noted.

Injection	WPP PP PPH4GF3-Black	Generic PP Homopolymer - Glass Fiber	Unit
Drying Temperature	--	74 to 100	°C
Drying Time	--	1.9 to 3.0	hr
Suggested Max Moisture	--	0.068 to 0.20	%
Suggested Max Regrind	--	10	%
Rear Temperature	--	179 to 230	°C
Middle Temperature	--	185 to 236	°C
Front Temperature	--	189 to 246	°C
Nozzle Temperature	--	245 to 247	°C
Processing (Melt) Temp	--	214 to 240	°C
Mold Temperature	--	39 to 60	°C
Injection Pressure	--	8.89 to 100	MPa
Holding Pressure	--	58.8 to 60.3	MPa
Back Pressure	--	0.241 to 8.34	MPa
Screw Speed	--	40 to 200	rpm
Cushion	--	8.81 to 8.93	mm

Injection Notes	
Generic PP Homopolymer - Glass Fiber	This data represents typical values that have been calculated from all products classified as: Generic PP Homopolymer - Glass Fiber This information is provided for comparative purposes only.

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] Typical properties: these are not to be construed as specifications.

[3] 2.0 mm/min

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