Product Comparison

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Technical Data

Product Description	
BUPLEN® 6331	The polypropylene is granulated, stabilized normally and in natural appearance. For the production of home appliances, medical devices, technical products, packaging products for the food industry, rough textile, parts for the electrical industry and so on.
Generic PP Homopolymer	This data represents typical values that have been calculated from all products classified as: Generic PP Homopolymer This information is provided for comparative purposes only.

General	BUPLEN® 6331	Generic PP Homopolymer
Manufacturer / Supplier	• LUKOIL Bulgaria Ltd.	• Generic
Generic Symbol	• PP Homopolymer	• PP Homopolymer
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Technical Datasheet (English)	--
Availability	• Europe	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Unspecified Stabilizer	--
Features	• Good Stability • Homopolymer	--
Uses	• Appliances • Electrical Parts • Engineering Parts • Food Packaging • Medical/Healthcare Applications • Pacifiers • Textile Applications	--
Appearance	• Natural Color	--
Forms	• Granules	--

Physical	BUPLEN® 6331	Generic PP Homopolymer	Unit	Test Method
Density / Specific Gravity				
--	0.899 to 0.906	0.890 to 0.930	g/cm³	ASTM D792
--	--	0.891 to 0.963	g/cm³	ISO 1183
--	--	0.899 to 0.905	g/cm³	ASTM D1505
Apparent (Bulk) Density	--	0.52 to 0.53	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)				
230°C/2.16 kg [3]	8.0 to 16	--	g/10 min	ASTM D1238
230°C/2.16 kg	--	0.30 to 58	g/10 min	ASTM D1238
230°C/2.16 kg	--	0.050 to 80	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	--	2.0 to 64	cm³/10min	ISO 1133
Molding Shrinkage				
Flow	--	1.0 to 1.7	%	ASTM D955
Across Flow	--	1.0 to 1.7	%	ASTM D955
--	--	1.5 to 1.6	%	ISO 294-4

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Physical	BUPLEN® 6331	Generic PP Homopolymer	Unit	Test Method
Water Absorption				
24 hr	--	0.019 to 0.031	%	ASTM D570
24 hr, 23°C	--	0.010 to 0.11	%	ISO 62
Equilibrium, 23°C, 50% RH	--	0.010 to 0.16	%	ISO 62
Mechanical	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Tensile Modulus				
--	--	1400 to 2100	MPa	ASTM D638
--	--	1100 to 1850	MPa	ISO 527-1
Tensile Strength				
Yield	--	31.5 to 38.7	MPa	ASTM D638
Yield	--	27.8 to 39.5	MPa	ISO 527-2
Break	--	14.0 to 37.6	MPa	ASTM D638
Break	--	17.6 to 28.3	MPa	ISO 527-2
--	--	24.4 to 39.1	MPa	ASTM D638
-- [4]	> 29.0	--	MPa	ASTM D638
--	--	20.8 to 36.9	MPa	ISO 527-2
Tensile Elongation				
Yield	--	0.12 to 20	%	ASTM D638
Yield	--	7.4 to 11	%	ISO 527-2
Break	--	0.75 to 520	%	ASTM D638
Break	--	0.80 to 510	%	ISO 527-2
Nominal Tensile Strain at Break	--	14 to 500	%	ISO 527-2
Flexural Modulus				
--	--	1120 to 1900	MPa	ASTM D790
1% Secant	11000	--	MPa	ASTM D790
--	--	1140 to 1860	MPa	ISO 178
Flexural Strength				
--	--	31.0 to 48.3	MPa	ASTM D790
--	--	17.0 to 52.4	MPa	ISO 178
Yield	--	41.2 to 51.7	MPa	ASTM D790
Coefficient of Friction	--	0.17 to 1.0		ASTM D1894
Films	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Film Thickness - Tested	--	19 to 80	µm	
Secant Modulus				
MD	--	57.2 to 2110	MPa	ASTM D882
TD	--	68.3 to 3850	MPa	ASTM D882
--	--	430 to 2210	MPa	ISO 527-3
Tensile Strength				
MD : Yield	--	20.2 to 28.8	MPa	ASTM D882
TD : Yield	--	19.3 to 21.4	MPa	ASTM D882
MD : Break	--	25.6 to 156	MPa	ASTM D882
TD : Break	--	8.83 to 267	MPa	ASTM D882
Break	--	38.7 to 57.3	MPa	ISO 527-3
--	--	35.0 to 46.0	MPa	ISO 527-3

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Films	BUPLEN® 6331	Generic PP Homopolymer	Unit	Test Method
Tensile Elongation				
MD : Break	--	73 to 850	%	ASTM D882
TD : Break	--	15 to 810	%	ASTM D882
Break	--	4.0 to 710	%	ISO 527-3
Dart Drop Impact	--	20 to 340	g	ASTM D1709
Impact	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Charpy Notched Impact Strength	--	0.40 to 6.5	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	--	2.5 to 200	kJ/m²	ISO 179
Notched Izod Impact				
--	--	16 to 58	J/m	ASTM D256
23°C	> 15	--	J/m	ASTM D256A
--	--	1.0 to 6.8	kJ/m²	ISO 180
Notched Izod Impact (Area)	--	2.31 to 4.03	kJ/m²	ASTM D256
Unnotched Izod Impact				
--	--	12 to 91	J/m	ASTM D4812
--	--	6.7 to 60	kJ/m²	ISO 180
Gardner Impact	--	0.678 to 8.28	J	ASTM D5420
Hardness	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Rockwell Hardness				
--	--	87 to 110		ASTM D785
--	--	89 to 110		ISO 2039-2
Durometer Hardness				
--	--	70 to 78		ASTM D2240
--	--	65 to 73		ISO 868
Ball Indentation Hardness	--	69.1 to 91.2	MPa	ISO 2039-1
Thermal	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	83.4 to 123	°C	ASTM D648
0.45 MPa, Unannealed	--	77.5 to 110	°C	ISO 75-2/B
0.45 MPa, Annealed	--	104 to 133	°C	ASTM D648
1.8 MPa, Unannealed	> 51.0	50.0 to 112	°C	ASTM D648
1.8 MPa, Unannealed	--	49.0 to 61.0	°C	ISO 75-2/A
Vicat Softening Temperature				
--	--	149 to 156	°C	ASTM D1525
--	--	88.5 to 157	°C	ISO 306
Melting Temperature				
--	--	161 to 168	°C	
--	--	163 to 166	°C	DSC
--	--	160 to 170	°C	ISO 11357-3
--	--	162 to 163	°C	ASTM D3418
--	--	163 to 165	°C	ISO 3146
Peak Crystallization Temperature (DSC)	--	113 to 163	°C	ASTM D3418

Thermal	BUPLEN® 6331	Generic PP Homopolymer	Unit	Test Method
CLTE - Flow				
--	--	6.5E-5 to 2.9E-4	cm/cm/°C	ASTM D696
--	--	3.8E-5 to 1.6E-4	cm/cm/°C	ISO 11359-2
Accelerated Oven Ageing	--	430	hr	ISO 4577
RTI Elec	--	65.0 to 66.6	°C	UL 746B
RTI Imp	--	65.0 to 66.6	°C	UL 746B
RTI Str	--	65.0 to 66.6	°C	UL 746B
Electrical	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Surface Resistivity				
--	--	1.0E+2 to 1.0E+14	ohms	ASTM D257
--	--	9.8E+14 to 1.0E+15	ohms	IEC 60093
Volume Resistivity				
--	--	1.0E+14 to 1.0E+15	ohms·cm	IEC 60093
--	--	8.4E+11 to 1.0E+13	ohms·m	IEC 62631-3-1
Electric Strength	--	40 to 45	kV/mm	IEC 60243-1
Dielectric Constant	--	2.25 to 2.41		IEC 60250
Comparative Tracking Index	--	594 to 600	V	IEC 60112
Flammability	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Burning Rate	--	0.0 to 100	mm/min	ISO 3795
Glow Wire Flammability Index	--	955 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	749 to 960	°C	IEC 60695-2-13
Oxygen Index				
--	--	25 to 26	%	ASTM D2863
--	--	26 to 37	%	ISO 4589-2
Optical	**BUPLEN® 6331**	**Generic PP Homopolymer**	**Unit**	**Test Method**
Gloss	--	64 to 155		ASTM D2457
Haze	--	0.100 to 4.20	%	ASTM D1003
Yellowness Index	--	3.9 to 4.0	YI	ASTM D1925

Injection	BUPLEN® 6331	Generic PP Homopolymer	Unit
Drying Temperature	--	79 to 91	°C
Drying Time	--	1.9 to 3.0	hr
Suggested Max Moisture	--	0.044 to 0.21	%
Hopper Temperature	--	50 to 162	°C
Rear Temperature	--	178 to 223	°C
Middle Temperature	--	185 to 251	°C
Front Temperature	--	190 to 261	°C
Nozzle Temperature	--	188 to 252	°C
Processing (Melt) Temp	--	187 to 243	°C
Mold Temperature	--	27 to 70	°C
Injection Pressure	--	6.55 to 100	MPa
Holding Pressure	--	34.8 to 65.0	MPa

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Injection	BUPLEN® 6331	Generic PP Homopolymer	Unit
Back Pressure	--	0.241 to 7.61	MPa
Screw Speed	--	47 to 400	rpm

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

Extrusion	BUPLEN® 6331	Generic PP Homopolymer	Unit
Drying Temperature	--	75 to 100	°C
Drying Time	--	3.0	hr
Hopper Temperature	--	50 to 54	°C
Cylinder Zone 1 Temp.	--	189 to 251	°C
Cylinder Zone 2 Temp.	--	195 to 261	°C
Cylinder Zone 3 Temp.	--	195 to 261	°C
Cylinder Zone 4 Temp.	--	195 to 271	°C
Cylinder Zone 5 Temp.	--	195 to 262	°C
Melt Temperature	--	190 to 251	°C
Die Temperature	--	200 to 252	°C

Extrusion Notes	
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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] Procedure A

[4] 50 mm/min

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