

Generic PP Homopolymer

Polypropylene Homopolymer

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.890 - 0.912	g/cm ³	ASTM D792
23°C	0.853 - 0.947	g/cm ³	ISO 1183
--	0.900 - 0.908	g/cm ³	ASTM D1505
Apparent Density	0.50	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR)			
230°C/2.16 kg	0.30 - 45	g/10 min	ASTM D1238
230°C/2.16 kg	0.28 - 45	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	1.10 - 63.6	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.99 - 2.0	%	ASTM D955
Transverse flow: 23°C	1.2 - 2.3	%	ASTM D955
23°C	1.3 - 1.5	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.010 - 0.031	%	ASTM D570
Saturated, 23°C	0.010 - 0.020	%	ASTM D570
Equilibrium, 23°C	0.010 - 0.011	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	87 - 111		ASTM D785
23°C	90 - 111		ISO 2039-2
Durometer Hardness			
23°C	67 - 98		ASTM D2240
23°C	70 - 75		ISO 868
Ball Indentation Hardness	65.8 - 80.8	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	1230 - 1870	MPa	ASTM D638
23°C	1250 - 2000	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	31.0 - 39.0	MPa	ASTM D638

Yield, 23°C	29.9 - 38.4	MPa	ISO 527-2
Fracture, 23°C	18.4 - 44.3	MPa	ASTM D638
Fracture, 23°C	18.8 - 35.0	MPa	ISO 527-2
23°C	20.0 - 37.4	MPa	ASTM D638
23°C	22.0 - 31.3	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	1.0 - 21	%	ASTM D638
Yield, 23°C	7.4 - 11	%	ISO 527-2
Fracture, 23°C	4.0 - 500	%	ASTM D638
Fracture, 23°C	36 - 110	%	ISO 527-2
Flexural Modulus			
23°C	973 - 1720	MPa	ASTM D790
23°C	1140 - 1710	MPa	ISO 178
Flexural Strength			
23°C	25.0 - 47.2	MPa	ASTM D790
23°C	17.0 - 50.3	MPa	ISO 178
Yield, 23°C	32.7 - 51.7	MPa	ASTM D790
Coefficient of Friction	0.17 - 1.0		ASTM D1894
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	20 - 94	µm	
secant modulus			
MD	621 - 2760	MPa	ASTM D882
TD	490 - 4830	MPa	ASTM D882
23°C	430 - 801	MPa	ISO 527-3
Tensile Stress			
Yield, 23°C	21.8 - 28.2	MPa	ISO 527-3
MD: Fracture	27.5 - 250	MPa	ASTM D882
TD: Fracture	25.5 - 263	MPa	ASTM D882
Fracture, 23°C	33.8 - 45.4	MPa	ISO 527-3
23°C	35.0 - 46.0	MPa	ISO 527-3
Tensile Elongation			
MD: Fracture	78 - 860	%	ASTM D882
TD: Fracture	15 - 800	%	ASTM D882
Fracture, 23°C	500 - 710	%	ISO 527-3
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	1.0 - 6.1	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	2.0 - 190	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	19 - 51	J/m	ASTM D256
23°C	1.6 - 6.5	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	22 - 1100	J/m	ASTM D256

23°C	20 - 60	kJ/m ²	ISO 180
Dart Drop Impact (23°C)	0.00 - 6.21	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	85.7 - 125	°C	ASTM D648
0.45 MPa, not annealed	78.0 - 106	°C	ISO 75-2/B
1.8 MPa, not annealed	48.5 - 110	°C	ASTM D648
1.8 MPa, not annealed	50.2 - 60.4	°C	ISO 75-2/A
Vicat Softening Temperature			
--	149 - 156	°C	ASTM D1525
--	88.5 - 157	°C	ISO 306
Melting Temperature			
--	159 - 166	°C	
--	165 - 166	°C	DSC
--	160 - 165	°C	ISO 11357-3
--	162 - 165	°C	ASTM D3418
--	163 - 165	°C	ISO 3146
Peak Crystallization Temperature (DSC)	109 - 164	°C	ASTM D3418
CLTE - Flow	6.5E-5 - 1.6E-4	cm/cm/°C	ASTM D696
RTI Elec	65.0 - 115	°C	UL 746
RTI Imp	65.0 - 115	°C	UL 746
RTI	65.0 - 115	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	50 - 1.0E+15	ohms	ASTM D257
--	1.0E+11 - 1.0E+15	ohms	IEC 60093
Volume Resistivity			
23°C	7.5E+15 - 1.0E+17	ohms·cm	ASTM D257
23°C	1.0E+13 - 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (23°C)	20 - 43	kV/mm	ASTM D149
Comparative Tracking Index	594 - 600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Burning Rate	0.0 - 100	mm/min	ISO 3795
Glow Wire Flammability Index	850 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	743 - 960	°C	IEC 60695-2-13
Oxygen Index	25 - 26	%	ASTM D2863
Optical	Nominal Value	Unit	Test Method
Gloss	50 - 157		ASTM D2457
Haze	0.10 - 3.6	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	69.9 - 105	°C	
Drying Time	2.0 - 3.0	hr	

Suggested Max Regrind	20	%
Hopper Temperature	50.0 - 60.0	°C
Rear Temperature	179 - 223	°C
Middle Temperature	192 - 251	°C
Front Temperature	194 - 260	°C
Nozzle Temperature	188 - 250	°C
Processing (Melt) Temp	187 - 251	°C
Mold Temperature	30.0 - 65.4	°C
Injection Pressure	6.55 - 103	MPa
Holding Pressure	35.0 - 36.1	MPa
Back Pressure	0.241 - 7.50	MPa

Injection instructions

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Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	175 - 252	°C
Cylinder Zone 2 Temp.	175 - 262	°C
Cylinder Zone 3 Temp.	175 - 262	°C
Cylinder Zone 4 Temp.	175 - 277	°C
Cylinder Zone 5 Temp.	175 - 277	°C
Melt Temperature	214 - 251	°C
Die Temperature	200 - 250	°C

Extrusion instructions

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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