

Vandar® 4602Z

Polybutylene Terephthalate

Celanese Corporation

Message:

4602Z is an unfilled thermoplastic alloy with good weatherability and chemical resistance.

General Information			
Features	Good chemical resistance		
	Good weather resistance		
RoHS Compliance	Contact manufacturer		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.25	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/5.0 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow	1.7 - 2.2	%	ASTM D955
Vertical flow direction	1.7 - 2.2	%	ISO 294-4
Flow direction	1.7 - 2.2	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	101		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1400	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield, 23°C	34.5	MPa	ASTM D638
Yield	31.0	MPa	ISO 527-2/1A/50
50% strain	26.0	MPa	ISO 527-2/1A/50
Tensile Strain			
Yield	5.5	%	ISO 527-2/1A/50
Fracture, 23°C	180	%	ASTM D638
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	1400	MPa	ISO 178
Flexural Stress (23°C)	41.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	10	kJ/m ²	ISO 179/1eA

23°C	70	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-30°C	10	kJ/m ²	ISO 180/1A
23°C	80	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	110	°C	ISO 75-2/B
0.45 MPa, annealed	93.3	°C	ASTM D648
1.8 MPa, not annealed	51.7	°C	ASTM D648
1.8 MPa, not annealed	48.0	°C	ISO 75-2/A
Glass Transition Temperature ¹	60.0	°C	ISO 11357-2
Vicat Softening Temperature	130	°C	ISO 306/B50
Melting Temperature ²	225	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.2E-4	cm/cm/°C	ISO 11359-2
Lateral	1.1E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity			
--	1.0E+15	ohms · cm	ASTM D257
--	1.0E+14	ohms · cm	IEC 60093
Dielectric Strength	24	kV/mm	IEC 60243-1
Dielectric Constant			
1 kHz	3.20		ASTM D150
100 Hz	4.40		IEC 60250
1 MHz	3.90		IEC 60250
Dissipation Factor			
1 kHz	6.0E-3		ASTM D150
100 Hz	7.5E-3		IEC 60250
1 MHz	0.031		IEC 60250
Arc Resistance	135	sec	ASTM D495
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.850 mm)	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	120 - 130	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Max Regrind	25	%	

Hopper Temperature	20.0 - 50.0	°C
Rear Temperature	230 - 240	°C
Middle Temperature	235 - 250	°C
Front Temperature	235 - 250	°C
Nozzle Temperature	240 - 260	°C
Processing (Melt) Temp	235 - 260	°C
Mold Temperature	65.0 - 96.0	°C
Injection Rate	Moderate-Fast	
Back Pressure	0.00 - 0.345	MPa

Injection instructions

Manifold Temperature: 250 to 260°C Zone 4 Temperature: 240 to 260°C Feed Temperature: 230 to 240°C

NOTE

1. 10°C/min
2. 10°C/min

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