



Vandar® 4612R

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Vandar 4612R is a high impact polyester alloy containing 7% glass. It possesses excellent impact properties as well as toughness and moldability. Dimensional stability, chemical resistance, and low moisture absorption are other key features.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 7.0% Filler by Weight		
Features	• Chemical Resistant • Good Dimensional Stability • Good Impact Resistance	• Good Moldability • Good Toughness • High Impact Resistance	• Low Moisture Absorption
RoHS Compliance	• Contact Manufacturer		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	12	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/5.0 kg)	8.50	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.2 to 1.4	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.45	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	406000	psi	ISO 527-2/1A
Tensile Stress (Yield)	7250	psi	ISO 527-2/1A/50
Tensile Stress (Break)	6530	psi	ISO 527-2/1A/5
Tensile Strain (Yield)	4.0	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	6.0	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	392000	psi	ISO 178
Flexural Stress (73°F)	10900	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.4	ft-lb/in ²	
73°F	6.7	ft-lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	24	ft-lb/in ²	
73°F	29	ft-lb/in ²	
Notched Izod Impact Strength (73°F)	6.2	ft-lb/in ²	ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	111		ISO 2039-2

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	392	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	198	°F	ISO 75-2/A
Glass Transition Temperature ²	140	°F	ISO 11357-2
Vicat Softening Temperature	338	°F	ISO 306/B50
Melting Temperature ²	437	°F	ISO 11357-3
CLTE - Flow	2.2E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	7.7E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	IEC 60093
Volume Resistivity	> 1.0E+14	ohms·cm	IEC 60093
Electric Strength	660	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	4.30		
1 MHz	3.80		
Dissipation Factor			IEC 60250
100 Hz	6.0E-3		
1 MHz	0.029		
Comparative Tracking Index	425	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.03 in)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248 to 266	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	68 to 122	°F
Rear Temperature	446 to 464	°F
Middle Temperature	455 to 482	°F
Front Temperature	455 to 482	°F
Nozzle Temperature	464 to 500	°F
Processing (Melt) Temp	455 to 500	°F
Mold Temperature	149 to 205	°F
Injection Rate	Moderate-Fast	

Injection Notes

Feeding zone temperature: 230 to 240°C
Zone4 temperature: 240 to 260°C
Hot runner temperature: 250 to 260°C

Notes

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

² 10°C/min