

VALOX™ K4530 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

15% glass reinforced PBT, Hydrolytically stable, High flow, Automotive connectors.

General Information	
Filler / Reinforcement	Glass Fiber, 15% Filler by Weight
Features	High Flow
	Hydrolytically Stable
Uses	Automotive Applications
	Connectors
Processing Method	Injection Molding
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
	Flexural DMA (ASTM D4065)
	Instrumented Impact (Energy) (ASTM D3763)
	Instrumented Impact (Load) (ASTM D3763)
	Pressure-Volume-Temperature (PVT - Zoller Method)
	Shear DMA (ASTM D4065)
	Specific Heat vs. Temperature (ASTM D3417)
	Tensile Creep (ASTM D2990)
	Tensile Fatigue
	Tensile Stress vs. Strain (ASTM D638)
	Thermal Conductivity vs. Temperature (ASTM E1530)
	Viscosity vs. Shear Rate (ASTM D3835)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.41	g/cm ³	ASTM D792
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.70 to 0.90	%	
Across Flow : 3.20 mm	1.0 to 1.2	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	3560	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	103	MPa	
Break ³	89.6	MPa	
Break	103	MPa	
Break ⁴	82.0	MPa	

Break ⁵	98.0	MPa	
Tensile Elongation ⁶			
Yield	4.0	%	ASTM D638
Yield ⁷	97	%	ASTM D638
Break ⁸	2.3	%	ASTM D638
Break	4.0	%	ASTM D638
Break ⁹	2.5	%	ASTM D638
Flexural Modulus ¹⁰			ASTM D790
50.0 mm Span ¹¹	5100	MPa	
50.0 mm Span	4640	MPa	
50.0 mm Span ¹²	4530	MPa	
50.0 mm Span ¹³	4820	MPa	
Flexural Strength ¹⁴ (Break, 50.0 mm Span)	150	MPa	ASTM D790
Flexural Strain - 1.3 mm/min, 50 mm span			ASTM D790
-- ¹⁵	7.0	%	
-- ¹⁶	3.8	%	
-- ¹⁷	9.7	%	
-- ¹⁸	6.0	%	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	58	J/m	ASTM D256
Unnotched Izod Impact (23°C)	400	J/m	ASTM D4812
Instrumented Dart Impact			ASTM D3763
23°C, Total Energy ¹⁹	5.30	J	
23°C, Total Energy ²⁰	4.97	J	
23°C, Total Energy ²¹	6.10	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	218	°C	
1.8 MPa, Unannealed, 3.20 mm	193	°C	
Injection	Nominal Value	Unit	
Drying Temperature	60.0 to 76.7	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.050	%	
Suggested Shot Size	40 to 80	%	
Rear Temperature	238 to 254	°C	
Middle Temperature	243 to 260	°C	
Front Temperature	249 to 266	°C	
Nozzle Temperature	243 to 260	°C	
Processing (Melt) Temp	249 to 266	°C	
Mold Temperature	65.6 to 87.8	°C	
Back Pressure	0.345 to 0.689	MPa	

Screw Speed	50 to 80	rpm
Vent Depth	0.025 to 0.038	mm
NOTE		
1.	5.0 mm/min	
2.	Type I, 5.0 mm/min	
3.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV	
4.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III	
5.	PROPERTIES AFTER 1008 HOURS AT 125°C	
6.	Type I, 5.0 mm/min	
7.	PROPERTIES AFTER 1008 HOURS AT 155°C	
8.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV	
9.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III	
10.	1.3 mm/min	
11.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV	
12.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III	
13.	PROPERTIES AFTER 1008 HOURS AT 125°C	
14.	1.3 mm/min	
15.	PROPERTIES AFTER 1008 HOURS AT 125°C	
16.	PROPERTIES AFTER 1008 HOURS AT 155°C	
17.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III	
18.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV	
19.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV	
20.	PROPERTIES AFTER 1008 HOURS AT 125°C	
21.	AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III	

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