VALOX™ RESIN 176

REGION ASIA

DESCRIPTION

Unreinforced, neat PBT resin for fibers. Natural Color Only, Not intended for injection molding.

TYPICAL PROPERTY VALUES

Revision 20191004

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	50	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	50	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	2500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	84	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2390	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	1.8	%	ISO 527
Tensile Strain, break, 50 mm/min	1.8	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	81	MPa	ISO 178
Flexural Modulus, 2 mm/min	2290	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	890	J/m	ASTM D 4812
Izod Impact, notched, 23°C	28	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	5	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	35	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	104	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	48	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	178	°C	ISO 306
Vicat Softening Temp, Rate B/120	177	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	113	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	51	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.32	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.5 – 1.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	1.6 – 2	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 250°C/1.2 kgf	127	g/10 min	ASTM D 1238
Density	1.31	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.08	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/1.2 kg	127	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 250°C/2.16 kg	231	cm³/10 min	ISO 1133
COMPOUNDING EXTRUSION			
Drying Temperature	110 – 120	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 260	°C	
Barrel - Zone 1 Temperature	200 – 230	°C	
Barrel - Zone 2 Temperature	240 – 255	°C	
Barrel - Zone 3 Temperature	240 – 275	°C	
Barrel - Zone 4 Temperature	240 – 275	°C	
Adapter Temperature	240 – 275	°C	
Die Temperature	240 – 275	°C	
Waterbath Temperature	25 – 35	°C	

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