VALOX™ RESIN EH7020HF

REGION ASIA

DESCRIPTION

VALOX EH7020HF is a mineral filled PBT/PET that offers good surface appearance, high flow and good heat performance. EH7020HF was developed for automotive bezel application that requires basecoat + top coat metalization. EH7020HF is higher flow version of EH7020.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield	56	MPa	SABIC - Japan Method
Tensile Stress, yld, Type I, 5 mm/min	55	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	56	MPa	ASTM D 638
Tensile Strain, break	8	%	SABIC - Japan Method
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	5880	MPa	ASTM D 638
Flexural Stress, yield, 6.4 mm	96	MPa	ASTM D 790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4680	MPa	ASTM D 790
Flexural Modulus, 6.4 mm	4860	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	45	MPa	ISO 527
Tensile Stress, break, 5 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.5	%	ISO 527
Tensile Strain, break, 5 mm/min	1.9	%	ISO 527
Tensile Modulus, 1 mm/min	4800	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	96	MPa	ISO 178
Flexural Modulus, 2 mm/min	4710	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	30	J/m	ASTM D 256
Izod Impact, notched, -30°C	31	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	4	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	2	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	180	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	70	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	200	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.29E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.29E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	75	-	IEC 60695-10-2

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Vicat Softening Temp, Rate B/50	180	°C	ISO 306
Vicat Softening Temp, Rate B/120	179	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	77	°C	ISO 75/Ae
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	89	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.49	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	1.53 – 1.57	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	1.037 – 1.059	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	1.147 – 1.18	%	SABIC method
Melt Flow Rate, 265°C/2.16kgf	64	g/10 min	ASTM D 1238
Melt Flow Rate, 266°C/1.2 kgf	36	g/10 min	ASTM D 1238
Density	1.49	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.42	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.42	%	ISO 62
Melt Volume Rate, MVR at 265°C/2.16 kg	52	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	12	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 265	°C	
Nozzle Temperature	245 – 260	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 260	°C	
Rear - Zone 1 Temperature	240 – 255	°C	
Mold Temperature	65 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 80	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.038	mm	

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