EXTEM™ RESIN XH1015

REGION ASIA

DESCRIPTION

Thermoplastic Polyimide Extem* XH1015 Resin. Also UL rating 94V0 at 1.5 and 3.0.

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure
Industrial	Electronic Material Handling, Electronic Material

TYPICAL PROPERTY VALUES

Revision 20190717

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	103	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	96	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	10	%	ASTM D 638
Tensile Modulus, 5 mm/min	3420	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	168	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3130	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	101	MPa	ISO 527
Tensile Stress, break, 5 mm/min	74	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6	%	ISO 527
Tensile Strain, break, 5 mm/min	7	%	ISO 527
Tensile Modulus, 1 mm/min	3100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	120	MPa	ISO 178
Flexural Modulus, 2 mm/min	2870	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	43	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	260	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	250	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	235	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	237	°C	ASTM D 648
CTE, 23°C to 150°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.1E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	250	°C	ISO 306
Vicat Softening Temp, Rate B/120	247	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	223	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.31	-	ASTM D 792
Water Absorption, 23°C/48hrs	0.6	%	ASTM D 570

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm	1 – 1.2	%	SABIC method
Melt Flow Rate, 367°C/6.6 kgf	10	g/10 min	ASTM D 1238
Density	1.31	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	2.3	%	ISO 62
ELECTRICAL			
Dielectric Constant (Dk), 1 KHz	3.5	-	ASTM D 150
Dielectric Constant, 1 MHz	3.4	-	ASTM D 150
Comparative Tracking Index	125	V	IEC 60112
Dielectric Strength, in air, 1.6 mm	25	kV/mm	ASTM D 149
INJECTION MOLDING			
Drying Temperature	175	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	24	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	380 – 410	°C	
Nozzle Temperature	375 – 405	°C	
Front - Zone 3 Temperature	380 – 410	°C	
Middle - Zone 2 Temperature	370 – 400	°C	
Rear - Zone 1 Temperature	360 – 385	°C	
Mold Temperature	150 – 175	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	70 – 100	rpm	
Shot to Cylinder Size	40 – 70	%	
Vent Depth	0.025 – 0.076	mm	

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