

EXTEMTM RESIN XH1015

REGION ASIA

DESCRIPTION

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

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

TYPICAL PROPERTY VALUES

Revision 20181122

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, -30°C	0	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	0	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	4	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	0	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	0	kJ/m ²	ISO 179/1eA
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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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
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/cm ³	ISO 1183
Water Absorption, (23°C/sat)	2.3	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	0	cm ³ /10 min	ISO 1133
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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