

EXTEM™ VH1003M resin

Polyether Imide

SABIC Innovative Plastics Asia Pacific

Message:

Transparent, Thermoplastic Polyimide (TPI) resin with a glass transition temperature (Tg) of 247C. Internal mold release. This product has thinwall FR capability and has a UL94 V0 listing. This material is RoHS compliant and also halogen free according VDE/DIN 472 part 815. Resin is a Dual-use item and is subject to export control restrictions under both U.S. 15 CFR 774 and Annex I of Reg. (EC) 428/2009 as ECCN 1C008. Diversion contrary to law is prohibited.

General Information			
Additive	Mold Release		
Features	Flame Retardant		
	Halogen Free		
Uses	Thin-walled Parts		
Agency Ratings	DIN VDE 0472 Part 815		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (367°C/6.6 kg)	16	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	8.50	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow ¹	0.50 to 0.70	%	
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	1.8	%	
Equilibrium, 23°C, 50% RH	0.65	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	138	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	3520	MPa	ASTM D638
--	3130	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	96.5	MPa	ASTM D638
Yield	95.0	MPa	ISO 527-2/5
Break ⁴	96.5	MPa	ASTM D638

Break	78.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	6.0	%	ASTM D638
Yield	8.4	%	ISO 527-2/5
Break ⁶	50	%	ASTM D638
Break	50	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁷	3170	MPa	ASTM D790
-- ⁸	3080	MPa	ISO 178
Flexural Stress			
--	123	MPa	ISO 178
Yield, 100 mm Span ⁹	155	MPa	ASTM D790
Break, 50.0 mm Span ¹⁰	158	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength ¹¹			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	74	J/m	ASTM D256
23°C	69	J/m	ASTM D256
-30°C ¹²	5.9	kJ/m ²	ISO 180/1A
23°C ¹³	6.2	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	No Break		ASTM D4812
-30°C ¹⁴	150	kJ/m ²	ISO 180/1U
23°C ¹⁵	200	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	33.9	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	237	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	217	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	230	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁶	228	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	242	°C	ASTM D1525, ISO 306/B50 12 ¹⁷
--	240	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 150°C	5.0E-5	cm/cm/°C	ASTM E831
Flow : 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 150°C	5.0E-5	cm/cm/°C	ASTM E831

Transverse : 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.22	W/m/K	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength (3.20 mm, in Oil)	14	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	3.38		
1 kHz	3.37		
Dissipation Factor			IEC 60250
50 Hz	0.018		
60 Hz	0.018		
100 Hz	8.0E-3		
1 kHz	1.0E-3		
1 MHz	7.0E-3		
Comparative Tracking Index	175	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (3.20 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (3.00 mm)	850	°C	IEC 60695-2-13
Oxygen Index	45	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	149	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	24	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	360 to 382	°C	
Middle Temperature	371 to 393	°C	
Front Temperature	382 to 404	°C	
Nozzle Temperature	377 to 399	°C	
Processing (Melt) Temp	382 to 404	°C	
Mold Temperature	135 to 163	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	
NOTE			
1.	Tensile Bar		
2.	5.0 mm/min		
3.	Type I, 5.0 mm/min		
4.	Type I, 5.0 mm/min		
5.	Type I, 5.0 mm/min		
6.	Type I, 5.0 mm/min		
7.	1.3 mm/min		
8.	2.0 mm/min		

9.	2.6 mm/min
10.	1.3 mm/min
11.	80*10*4 sp=62mm
12.	80*10*4
13.	80*10*4
14.	80*10*4
15.	80*10*4
16.	80*10*4 mm
17.	Rate B (120°C/h), Loading 2 (50 N)

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

