

LNP* Thermocomp* Compound 5E003M

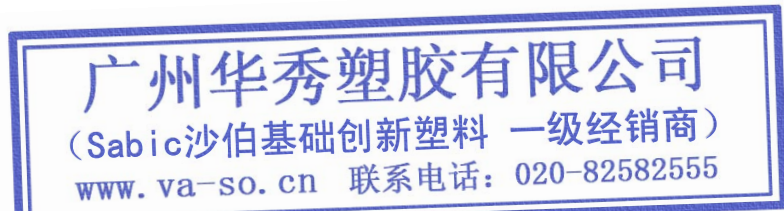
Americas: COMMERCIAL

Also known as: LNP* Thermocomp* Compound FP-VC-1003 M

Product reorder name: 5E003M

LNP* 5E003M is a compound based on PVDF resin containing Carbon Fiber.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	500	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	470	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6.8	%	ASTM D 638
Tensile Modulus, 5 mm/min	92300	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	800	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	55700	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	49	MPa	ISO 527
Tensile Stress, break, 5 mm/min	46	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.4	%	ISO 527
Tensile Strain, break, 5 mm/min	6.1	%	ISO 527
Tensile Modulus, 1 mm/min	7450	MPa	ISO 527
Flexural Stress	79	MPa	ISO 178
Flexural Modulus, 2 mm/min	6580	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	44	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	5	cm-kgf/cm	ASTM D 256
Multiaxial Impact	38	cm-kgf	ISO 6603
Instrumented Impact Total Energy, 23°C	132	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	26	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	160	°C	ASTM D 648



(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23±176.C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D 648
CTE, -30°C to 30°C, flow	2.E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	9.2E-05	1/°C	ASTM D 696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	150	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	114	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.76	-	ASTM D 792
Density	1.76	g/cm ³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.04	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	1 - 3	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	1 - 3	%	ASTM D 955
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62



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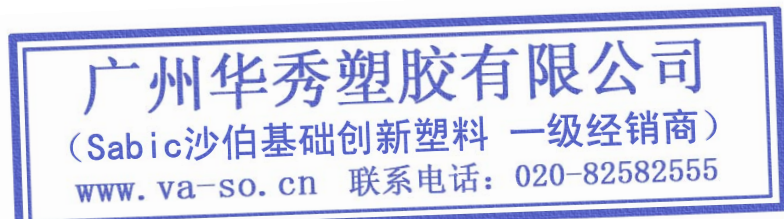
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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120 - 150	°C
Drying Time	4	hrs
Melt Temperature	215 - 230	°C
Front - Zone 3 Temperature	225 - 245	°C
Middle - Zone 2 Temperature	210 - 225	°C
Rear - Zone 1 Temperature	190 - 210	°C
Mold Temperature	65 - 90	°C
Back Pressure	0.2 - 0.3	MPa
Screw Speed	30 - 60	rpm



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