

LNP* Thermocomp* Compound QC006I

Americas: COMMERCIAL

Also known as: LNP* Thermocomp* Compound QC-1006 HI

Product reorder name: QC006I

LNP* Thermotuf* QC006I is a compound based on Nylon 6/10 containing Carbon Fiber. Characteristics of this grade are High Impact.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	2140	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D 638
Tensile Modulus, 5 mm/min	198000	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	3170	kgf/cm ²	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	3150	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	157000	kgf/cm ²	ASTM D 790
Tensile Stress, break, 5 mm/min	209	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.3	%	ISO 527
Tensile Modulus, 1 mm/min	19330	MPa	ISO 527
Flexural Stress	300	MPa	ISO 178
Flexural Modulus, 2 mm/min	15060	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	98	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	4	cm-kgf/cm	ASTM D 256
Multiaxial Impact	50	cm-kgf	ISO 6603
Instrumented Impact Total Energy, 23°C	224	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80°10*4 +23°C	62	kJ/m ²	ISO 180/1U
Izod Impact, notched 80°10*4 +23°C	14	kJ/m ²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	222	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	213	°C	ASTM D 648
CTE, -30°C to 30°C, flow	1.6E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	7.2E-05	1/°C	ASTM D 696

(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.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	221	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	208	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Density	1.2	g/cm ³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.21	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	0.1	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	0.7	%	ASTM D 955
Moisture Absorption (23°C / 50% RH)	0.3	%	ISO 62

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	80	°C
Drying Time	4	hrs
Maximum Moisture Content	0.12 - 0.2	%
Melt Temperature	270 - 275	°C
Front - Zone 3 Temperature	270 - 280	°C
Middle - Zone 2 Temperature	260 - 270	°C
Rear - Zone 1 Temperature	250 - 260	°C
Mold Temperature	80 - 95	°C
Back Pressure	0.2 - 0.3	MPa
Screw Speed	30 - 60	rpm

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