LNP™ THERMOCOMP™ Compound UCF22S

Americas: COMMERCIAL

Also known as: LNP™ THERMOCOMP™ Compound UCF-1004 HS
Product reorder name: UCF22S

LNP THERMOCOMP UCF22S is a compound based on Polyphthalamide resin containing 20% Glass Fiber, 10% Carbon Fiber. Added features of this material include: Heat Stabilized, Electrically Conductive.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	1910	kgf/cm²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	1.7	%	ASTM D 638
Tensile Modulus, 5 mm/min	132300	kgf/cm²	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	2690	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	110100	kgf/cm²	ASTM D 790
Tensile Stress, break, 5 mm/min	178	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.6	%	ISO 527
Tensile Modulus, 1 mm/min	12760	MPa	ISO 527
Flexural Stress	249	MPa	ISO 178
Flexural Modulus, 2 mm/min	10430	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	42	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	5	cm-kgf/cm	ASTM D 256
Multiaxial Impact	18	cm-kgf	ISO 6603
Instrumented Impact Total Energy, 23°C	50	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	28	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	280	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	262	°C	ASTM D 648
CTE, -30°C to 30°C, flow	4.7E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	7.4E-05	1/°C	ASTM D 696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	275	°C	ISO 75/Bf

(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°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.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	255	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.31	-	ASTM D 792
Density	1.31	g/cm³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.34	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	0.1 - 0.3	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	0.5 - 0.7	%	ASTM D 955
Moisture Absorption (23°C / 50% RH)	0.56	%	ISO 62

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(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120 - 150	°C
Drying Time	4	hrs
Maximum Moisture Content	0.15	%
Melt Temperature	315 - 330	°C
Front - Zone 3 Temperature	325 - 340	°C
Middle - Zone 2 Temperature	315 - 325	°C
Rear - Zone 1 Temperature	310 - 320	°C
Mold Temperature	140 - 165	°C
Back Pressure	0.2 - 0.3	MPa
Screw Speed	30 - 60	rpm

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