LNP™ THERMOCOMP™ AM COMPOUND EC004EXAR1

DESCRIPTION

LNP THERMOCOMP EC004EXAR1 compound is based on Polyetherimide (PEI) resin containing 20% carbon fiber designed to provide a Wider Process Window and Easier Flow for Large Format Additive Manufacturing (LFAM) applications needing High heat performance. PEI compounds, based on SABIC's inherently flame-retardant ULTEM™ resins, provide Low Thermal Expansion, High Temperature Performance, Excellent Strength-to-Weight Ratio, High Modulus and Low Creep.

GENERAL INFORMATION	
Features	Flame Retardant, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added, Additive Manufacturing
Fillers	Carbon Fiber
Brands	LNP™ THERMOCOMP™
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Large Format Additive Manufacturing (LFAM)

INDUSTRY	SUB INDUSTRY
Industrial	Industrial General

TYPICAL PROPERTY VALUES

Revision 20251217

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, 5mm/min [1]			
XZ Orientation	159	MPa	ASTM D638 Modified
ZX Orientation	54	MPa	ASTM D638 Modified
Tensile Strain, 5mm/min			
XZ Orientation	1.4	%	ASTM D638 Modified
ZX Orientation	1.6	%	ASTM D638 Modified
Tensile Stiffness, 5mm/min			
XZ Orientation [2]	13.8	GPa	ASTM D638 Modified
ZX Orientation	3.8	GPa	ASTM D638 Modified
Flexural Stress, 5mm/min			
XZ Orientation	69	MPa	ASTM D790 Modified
ZX Orientation	217	MPa	ASTM D790 Modified
THERMAL			
HDT, 1.82 MPa, 3.2mm, annealed	212	°C	ASTM D648
PHYSICAL			
Specific Gravity	1.34	-	ASTM D792
EXTRUSION			
Extruder L/D	24	-	
Drying Temperature	150	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	6	Hrs	
Maximum Moisture Content	0.02	%	
Barrel - Zone 1 Temperature	300 – 350	°C	
Barrel - Zone 2 Temperature	335 – 365	°C	
Barrel - Zone 3 Temperature	335 – 365	°C	
Barrel - Zone 4 Temperature	345 – 375	°C	
Nozzle Temperature	345 – 375	°C	
Melt Temperature	330 – 370	°C	
Bed Temperature	120 – 150	°C	
Extruder Pressure	<17	MPa	

(1) Modified ASTM E8 used for tensile test samples

(2) Tensile Stiffness (K) is structural property defined as the stress/strain in the linear region of the stress-strain curve. Value depends on the geometry/shape and boundary/surrounding conditions

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