LNP™ THERMOCOMP™ AM Compound EC004XXAR1

DESCRIPTION

LNP THERMOCOMP EC004XXAR1 is a compound based on Polyetherimide (PEI) resin containing 20% carbon fiber for Large Format Additive manufacturing (LFAM) applications needing higher stiffness vs glass fiber. 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, High stiffness/Strength, High temperature resistance, No PFAS intentionally added, Additive Manufacturing
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
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	133	MPa	ASTM D638 Modified
ZX Orientation	47	MPa	ASTM D638 Modified
Tensile Strain, 5mm/min			
XZ Orientation	1.4	%	ASTM D638 Modified
ZX Orientation	1.7	%	ASTM D638 Modified
Tensile Stiffness, 5mm/min			
XZ Orientation [2]	11.3	GPa	ASTM D638 Modified
ZX Orientation	3.4	GPa	ASTM D638 Modified
Flexural Stress, 5mm/min			
XZ Orientation	66	MPa	ASTM D790 Modified
ZX Orientation	189	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	330 – 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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