LNP™ THERMOCOMP™ AM COMPOUND 6C004XXAR1

DESCRIPTION

LNP THERMOCOMP 6C004XXAR1 compound is based on Polycarbonate / Polybutylene Terephthalate (PC/PBT) resin containing 20% carbon fiber for Large Format Additive Manufacturing (LFAM) applications. Added features of this grade include: Improved Chemical Resistance, Lower Warp and Good Surface Finish.

GENERAL INFORMATION	
Features	Chemical Resistance, Low Warpage, No PFAS intentionally added, Additive Manufacturing
Fillers	Carbon Fiber
Brands	LNP™ THERMOCOMP™
Polymer Types	Polycarbonate + PBT (PC+PBT)
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	106	MPa	ASTM D638 Modified
ZX Orientation	27	MPa	ASTM D638 Modified
Tensile Strain, 5mm/min			
XZ Orientation	1.6	%	ASTM D638 Modified
ZX Orientation	1.7	%	ASTM D638 Modified
Tensile Stiffness, 5mm/min			
XZ Orientation [2]	10.6	GPa	ASTM D638 Modified
ZX Orientation	2.3	GPa	ASTM D638 Modified
Flexural Stress, 5mm/min			
XZ Orientation	39	MPa	ASTM D790 Modified
ZX Orientation	149	MPa	ASTM D790 Modified
THERMAL			
HDT, 1.82 MPa, 3.2mm, annealed	90	°C	ASTM D648
PHYSICAL			
Specific Gravity	1.28	-	ASTM D792
EXTRUSION			
Extruder L/D	24	-	
Drying Temperature	110	°C	
Drying Time	4	Hrs	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Barrel - Zone 1 Temperature	215 – 235	°C	
Barrel - Zone 2 Temperature	235 – 265	°C	
Barrel - Zone 3 Temperature	235 – 265	°C	
Barrel - Zone 4 Temperature	235 – 265	°C	
Nozzle Temperature	235 – 265	°C	
Melt Temperature	235 – 265	°C	
Bed Temperature	80 – 120	°C	
Extruder Pressure	<11	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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