

LNPTM THERMOCOMPTM 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	LNPTM THERMOCOMPTM
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Large Format Additive Manufacturing (LFAM)

INDUSTRY	SUB INDUSTRY
Industrial	Industrial General

TYPICAL PROPERTY VALUES

Revision 20241010

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	

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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