LNP™ THERMOCOMP™ AM COMPOUND DC0041XA51

DESCRIPTION

LNP THERMOCOMP DC0041XA51 compound is based on PC Copolymer Resin containing 20% carbon fiber for Large Format Additive Manufacturing (LFAM) applications. Added features of this grade include: Higher Stiffness vs. glass fiber, Higher Strength, Higher Temperature Performance and Higher Throughput compared to ABS and PPE, as well as Smooth Surface Finish. This halogen-free flame retardant resin is EN45545 R1 HL3 and R7 HL2 compliant and an ideal candidate for train interior applications (category R1). It also meets requirements of NFPA-130a

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	Polycarbonate (PC)
Processing Techniques	Large Format Additive Manufacturing (LFAM)

INDUSTRY	SUB INDUSTRY
Industrial	Industrial General

TYPICAL PROPERTY VALUES

Revision 20241017

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, 5mm/min [1]			
XZ Orientation	87	MPa	ASTM D638 Modified
ZX Orientation	37	MPa	ASTM D638 Modified
Tensile Strain, 5mm/min			
XZ Orientation	1.5	%	ASTM D638 Modified
ZX Orientation	1.7	%	ASTM D638 Modified
Tensile Stiffness, 5mm/min			
XZ Orientation [2]	7.7	GPa	ASTM D638 Modified
ZX Orientation	2.8	GPa	ASTM D638 Modified
Flexural Stress, 5mm/min			
XZ Orientation	52	MPa	ASTM D790 Modified
ZX Orientation	111	MPa	ASTM D790 Modified
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	97	°C	ASTM D648
PHYSICAL			
Specific Gravity	1.39	-	ASTM D792
EXTRUSION			
Extruder L/D	24	-	
Drying Temperature	95 – 100	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	6 – 8	Hrs	
Maximum Moisture Content	0.02	%	
Barrel - Zone 1 Temperature	265 – 295	°C	
Barrel - Zone 2 Temperature	275 – 305	°C	
Barrel - Zone 3 Temperature	285 – 315	°C	
Barrel - Zone 4 Temperature	295 – 325	°C	
Nozzle Temperature	295 – 325	°C	
Melt Temperature	280 – 310	°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

DISCLAIMER