

# Nicosin Extrusion, Inc.

## 3D Printing Filament Properties

### ABS/PC Filament (Low Flow)

Physical	Nominal Value (English)	Test Method
Specific Gravity	1.14	ASTM D792
Melt Mass-Flow Rate (MFR) (260° C/5.0 kg)	9.0 g/ 10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in (3.20 mm))	0.0050 to 0.0070 in/in	Internal Method
Water Absorption		ASTM D570
24 Hour	0.10%	
Equilibrium, 73°F (23°C)	0.40%	

Mechanical	Nominal Value (English)	Test Method
Tensile Modulus <sup>3</sup>	320000 psi	ASTM D638
Tensile Strength <sup>4</sup> (Yield)	8200 psi	ASTM D638
Tensile Elongation <sup>4</sup>		ASTM D638
Yield	5.00%	
Break	150%	
Flexural Modulus <sup>5</sup> (1.97 in (50.0mm) Span)	340000 psi	ASTM D790
Flexural Strength <sup>5</sup>		ASTM D790
Yield 1.97 in (50.0 mm) span)	12500 psi	

Impact	Nominal Value (English)	Test Method
Notched Izod Impact		ASTM D256
-22°F (-30°C)	10ft·lb/in	
73°F (23°C)	12ft·lb/in	
Instrumented Dart Impact		ASTM D3763
-22°F (-30°C), Total Energy	480in·lb	
73°F (23°C), Total Energy	540in·lb	

Thermal	Nominal Value (English)	Test Method
Deflection Temperature Under Load		ASTM D648
66 psi (0.45 Mpa), Unannealed, 0.126 in(3.20mm)	255°F	
264 psi (1.8 Mpa), Unannealed, 0.126 in(3.20mm)	225°F	
264 psi (1.8 Mpa), Unannealed, 0.252 in(6.40mm)	230°F	
CLTE-Flow (-40 to 104°F (-40 40 40°C))	0.000040 in/in/°F	ASTM E831
Thermal Conductivity	1.4 Btu-in/hr/ft <sup>2</sup> /°F	ASTM C177

All Properties Are Tested Properties Of The Raw Material  
Actual Properties Of Printed Items Should Be Tested By The Customer