Technical datasheet

nGen_FLEX

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nGen_FLEX is made with Amphora FL6000, a flexible material uniquely engineered for extrusion-based additive manufacturing processes. Thanks to exceptional layer-to-layer adhesion and melt strength, it prints at a faster speed than other elastomeric materials, saving you time. The nGen_FLEX is an engineering-grade material that demonstrates superior durability and toughness, enabling designers to quickly create truly functional parts that can withstand the rigors of everyday use. With a Shore A hardness level of 95, outstanding chemical resistance, and a temperature resistance that allows steam sterilization, users may find it to be the ideal polymer for additive manufacturing of prosthetics, orthotics, automotive parts, apparel, tooling, or a variety of consumer products.

TYPICAL MATERIAL PROPERTIES

Physical properties	Unit	Value	Method
Density	g/cm3	1,13	D 792
Tensile Stress @ Yield	MPa	14	D 638
Tensile Stress @ Break	MPa	22	D 638
Elongation @ Yield	%	38	D 638
Elongation @ Break	%	400	D 638
Flexural Modulus	MPa	150	D 790
Tear Strength	N	350	D 1004
Durometer Hardness Shore D Scale	-	55	D 2240
Durometer Hardness Shore A Scale	-	95	D 2240
Izod Impact strength, notched @ -40 ºC	J/m	40	D 256
Brittleness Temperature	ºC	< -70	D 746
Vicat Softening Temperature @ 1 kg load	ºC	170	D 1525

FILAMENT SPECIFICATION

Nominal diameter:	Diameter tolerance	Ovality
1,75 mm	± 0,05	≥ 95%
2,85 mm	± 0,05	≥ 95%

Netto filament weight 750 grams / 2200 grams

GUIDELINE FOR PRINT SETTINGS

Advised 3D printing temperature	240 – 260 ºC
Advised bed temperature	80 ºC (+ buildTak)
Bed surface / modification	nGen_FLEX gives best results on a buildTak covered buildplate, heated at around 80C. Make sure the distance between nozzle and buildplate is not too close, first layer should not be squeezed too much.
Active cooling fan	0 – 50 %
Advised 3D printing speed	40 – 60 mm/sec

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