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Version: v1.0

Description

The nGen_FLEX material is produced using the Eastman Neostar FN0006, and is known as a unique and flexible filament specially engineered for extrusion based additive manufacturing. The exceptional layer-to-layer adhesion and melt strength, fast printability, demonstrated superior durability and toughness.

Typical Properties

Mechanical Properties – 3D Printed

	Method	Value	Unit
Youngs Modulus	Tensile, ISO 527-1A	150	MPa
Tensile Strength	Tensile, ISO 527-1A	19.3	MPa
Elongation at break	Tensile, ISO 527-1A	320	%
Flexural Modulus	Flexural, ISO 178	130	MPa
Flexural Strength	Flexural, ISO 178	8.9	MPa
Impact Strength	Charpy Notch, ISO 179	66.1	kJ/m ²

Mechanical Properties – Injection Molded*

	Method	Value	Unit
Youngs Modulus	Tensile, ISO 527-1A	170	MPa
Tensile Strength	Tensile, ISO 527-1A	14	MPa
Elongation at break	Tensile, ISO 527-1A	38	%
Flexural Modulus	Flexural, ISO 178	150	MPa
Flexural Strength	Flexural, ISO 178	N/A	MPa
Izod Impact Strength	Izod Notch, ISO 179	40	J/m
Density	ISO 1183	1.16	g/cm ³
Shore Hardness	Shore A, ISO 868	95	

Thermal Properties*

	Method	Value	Unit
Glass Transition Temp.	DSC, ISO 11357	-40	°C
Melting Temp.	DSC, ISO 11357	205	°C
Decomposition Temp.	TGA, ISO 11358	N/A	°C
Heat Deflection Temp.	HDT-B, ISO 36	100	°C
Melt Flow Index	MFI, (230°C/2.16 kg), ISO 1133-A	18	g/10min
Melt Flow Index	MFI, (215°C/1.16 kg), ISO 1133-A	11	g/10 min

*These results are obtained from the information provided by the supplier of the raw material

Technical datasheet nGen_FLEX

color**Fabb**

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Filament Specifications

	Unit		
Diameter	mm	1.75	2.85
Max. roundness deviation	mm	± 0.05	± 0.1
Net. Filament weight	g	750/2200	750/2200

Guideline for print settings

	Unit	
Nozzle Temp.	°C	240-260
Bed Temp.	°C	±80
Bed / surface modification	-	**
Active cooling fan	%	0-50
Print Speed	mm/s	40-60

Notes

The reported properties are an average of a batch of 3D specimens.

The specimens have been printed in XY plane, using ... mm layer height, 100% infill, 0,4 mm nozzle, ... °C nozzle temperature and ... °C bed temperature.

** The nGen_FLEX is best build on a buildTAK covered buildplate, heated up to roughly 80°C. Make sure the distance between nozzle and build-plate is not too close, the first layer cannot be squeezed too much.

Disclaimer

The product- and technical information provided in this datasheet is correct to the best of our knowledge. The information given is provided as a guidance for good use, handling and processing, and is not to be considered as a quality specification. The information only relates to the specific product and the material properties.