PPGF30

Polypropylene is one of the most preferred thermoplastics in different industries, especially in the automotive sector. However, high level of reinforcement was always a problem in filament making. PP GF30 contains special glass fibers that are designed for filament making and 3D printing. This will ensure the printed objects are functionally working, under certain temperature and mechanical loads. Thanks to its UV-resistance, it is more suitable than any other PP based filament for applications that are directly exposed to sunlight. PP inherently uptake lower moisture than PA. In combination with high level of glass fiber reinforcement, PP GF30 is a filament of selection for exceptional working environments. PP GF30 combines great features that couldn't be combined before: printing stiffer parts with UV resistance is now possible. PP GF30 is ideal when extreme stiffness is required in humid environments.

PPGF30 - *Technical information including:*

GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	240 ± 10 °C
Bed temperature	30 ± 10 °C
Bed modification	Fiber reinforced PP strapping tape (e.g. Scotch Extreme)
Active cooling fan	50%
Layer height	≥ 0.2
Shell thickness	1.2mm
Print speed	30 – 80 mm/s
Additional information	Hardened or Ruby nozzle, diameter ≥ 0.6 recommended

Settings are based on a 0.6 mm nozzle

MATERIAL PROPERTIES		Test Method
Melt temperature	~ 167 °C	ASTM D3418
Glass transition temperature	N/A	ASTM D3418
Melt Flow Rate1	N/A	ISO 1133
Melt Volume Rate1	N/A	ISO 1133
Density	0.94 g/cm3	ASTM D1505
Odor	Odorless	/
Water solubility	Insoluble	/

[1]Test conditions: T = 210 °C ; m = 2.16 kg

Mechanical Properties / TENSILE TEST / IMPACT TEST / FLEXURAL TEST		
Infill	100%	100%
Tensile strength (MPa)	14.6	35.8
Force at break (MPa)	14.4	33.0
Elongation at max force (%)	0.9	3.9
Elongation at break (%)	0.9	4.4
Emodulus (MPa)	1980	3000
Impact strength (kJ/m2)	23.2	19.8
Impact energy (mJ)	983.3	811.2
Flexural modulus (MPa)	2450	4130
Maximum force (MPa)	62.5	89.2
Deformation (%)	5.5	3.9