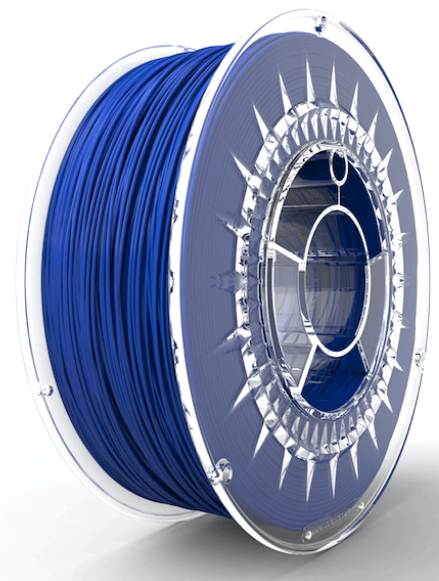**Product card:** ABS+ filament for 3D printing.

Product description: Filament ABS+ - thermoplastic product in the form of fiber, used for 3D printing using the FFF method. Filament wound on a spool, vacuum packed with a moisture absorber. The spool contains 1 kg of net material. It can be used in all FFF printers that are not protected from external suppliers and open source structures before using. ABS+ is easily machined such as grinding, drilling or smoothing, the material is soluble in acetone.

Physical properties of the product:

Diameter of filament	1.75 mm / 2.85 mm
Dimensional tolerance of filament	+/- 0.05 mm
Roundness of filament	+/- 0.02 mm
Surface of the material	Gloss
Shrinkage of the material	Large
Product weight	1.0 kg net, 1.36 kg gross
Spool - material	Transparent policarbonate
Weight of the empty spool	~250 g
The diameter of the spool	200 mm
Width of spool	~70 mm
Diameter of mounting hole	52 mm
Packaging	Printed cardboard
Package size	~205x205x80 mm
Vacuum packing	Yes
Moisture absorber	Yes

Suggested printing parameters:

Hotend	230-240°C
Heated bed	90-100°C
Cooling the printout	Not recommended

Due to the structural differences of printers, the above figures should be considered as guidelines and the corresponding values must be determined experimentally.

Physical properties of the material:

Specific Gravity	1.04 g/cm3	ASTM D792
Vicat Softening Temperature	94°C	ASTM D1525
Flammability	HB	UL 94
Rockwell Hardness (R-Scale)	105	ASTM D785
Tensile Strength - Yield	430 kg/cm2	ASTM D638
Tensile Elongation - Break	30%	ASTM D638

Availability of colors and diameters:

Color	Kolor	RAL	1.75
Natural	Naturalny	9022	✓
White	Biały		✓
Bright Yellow	Jasnożółty		✓
Red	Czerwony		✓
Gray	Szary	7037	✓
Super Blue	Niebieski	5002	✓
Bright Green	Jasnozielony		✓
Aluminum	Aluminiowy	7040	✓
Black	Czarny		✓