



# Technical Data Sheet

Issued: March 7, 2018

Revised: March 21, 2018

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## Polypropylene Filament

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### SECTION 1, IDENTIFICATION

**Product Part Number:** [F31203](#)

**Recommended Use:** 3D printing filament

**Restrictions on Use:** For use with 3D printers

### AIRWOLF 3D TESTED PROPERTIES

**Ultimate Strength:** 12.8 MPa

**Elongation at Break:** 716 %

(see "Methodology of Test" for details)

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### SECTION 2, DESCRIPTION

**Description:** Polypropylene is widely used for automotive and other industrial applications. It is chemically resistant while being almost completely waterproof. In addition, black polypropylene is widely regarded for its superior UV resistance

**Applications:** Food packaging  
Medical applications  
IT equipment  
Applications that require softness and heat resistance  
Living hinges  
Automotive

**Key Features:** Very good heat resistance  
Chemically resistant  
Nearly waterproof  
Tear resistant

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### SECTION 3, SPECIFICATIONS

**EXTRUDER TEMPERATURE** 210C – 220C

**BED TEMPERATURE** 80C – 100C

**HEATED BED** Required

**RECOMMENDED BUILD SURFACE** [Wolfbite ULTRA](#)

**DIAMETER** 2.88mm

**COLOR** White

**COMPATIBLE MACHINE** [AXIOM](#), [AXIOM 20](#), AXIOM Dual Extruder, [EVO](#)

**Density ISO 1183** 0.89 g/ cm<sup>3</sup>

**Melt Flow Rate ISO 1133** 20.0 g/10min

**Vicat Softening Temperature ISO 306** 115°C

**Durometer Hardness ISO 868** Shore D55

**Tensile Elongation ISO 527** 716 %

**Tensile Strength ISO 178** 12.8 MPa

**Impact Strength (Charpy) ISO 179 (0°C)** 10 kJ/m<sup>2</sup>

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## SECTION 4, ADDITIONAL INFORMATION

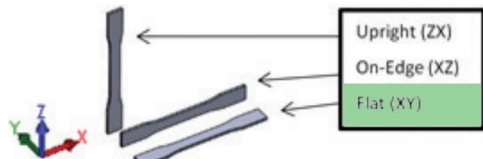
None

### Methodology of Tests performed by Airwolf 3D:

Airwolf 3D tested this material, in its 3d printed form, for the mechanical properties of “Ultimate Strength” and “Elongation at Break” per ISO 527 standards. Specimens were printed on an AXIOM 3D printer with a nozzle orifice size 0.5mm. The specimens were “dog bone” shaped with a size of 75mm x 10mm x 2mm and printed with 90% fill density. Wolfbite Ultra adhesive was used to adhere the part to the heated bed during print cycle. The default “Standard” setting in APEX slicing software was used. Details are as follows:

Layer height:	0.5mm
Shell thickness:	0.8mm
Bottom/Top thickness:	1.2mm
Fill density:	90%
Printing temp:	220C
Bed temp:	100C
Flow:	100%
Color:	Natural

Specimens were printed flat on the XY plane.



The equipment used: MODEL 1ST Electromechanical Testing Machine by Tinius Olsen (Crosshead).

A minimum of six specimens were tested. The Ultimate Strength and Elongation at Break values were determined by calculating the average of all specimens tested.

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Version 1.200  
Date 03/21/2018

