



Technical Data Sheet

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Revised: NA

NYLON 680 Filament

SECTION 1, IDENTIFICATION

Product Part Number:	F14903
Manufacturer:	Taulman 3D
Recommended Use:	3D printing filament
Restrictions on Use:	For use with 3D printers

SECTION 2, DESCRIPTION

Description:	FDA approved for applications requiring contact with food or beverages. Has ability to handle high temperatures inherent with steam, boiling water and dishwasher usage. This Nylon is specifically developed for FFF 3D printing and has a consistent melt viscosity. Nylon 680 is a CAS Reg. No. 51995-62-1 Nylon 6/69.
Applications:	Prosthesis Medical jigs and fixtures Gears
Key Features:	Semi-flexible Impact Resistant Fatigue Resistant Available in White or Black color

SECTION 3, SPECIFICATIONS

EXTRUDER TEMPERATURE	250C – 255C
BED TEMPERATURE	30C – 65C
HEATED BED	Required
RECOMMENDED BUILD SURFACE	Wolfbite NITRO
DIAMETER	2.88mm
COLOR	Black, Natural

COMPATIBLE MACHINE AXIOM, AXIOM 20, AXIOM Dual Extruder, EVO
HS Code 3916.9

THERMAL

Printing Temperature 250C-255C
Melting Temperature 210C
Tg Glass Transition 93C
Pyrolysis - Thermal degradation 351C
Non-Destructive Evaluation YES
Print-Bed Temp 30-65C
Ambient Temp (Enclosure) 30 - 100C

PHYSICAL

**Nominal Diameter (3mm
Maximum Dia)** 2.85 mm
Weight / spool 1 lb
Nominal Length / spool (in feet) 180
Shrinkage - in/in 0.0033
Solvent/glue Complete

MECHANICAL

**Tensile Stress "PSI" when 3D
Printed** 6900
**Ultimate Elongation when 3D
Printed** 0.34
Modulus "PSI" when 3D Printed N/A

OPTICAL

Opacity 0.7
Reflectivity N/A
Color Natural

APPROVALS

FDA - Direct Food Contact YES
FDA Direct Drink Contact YES

UL FLAMMABILITY

UL 94 HB YES

UL 94 V2 at 1.5 mm thickness YES

SECTION 4, ADDITIONAL INFORMATION

Specifications are based on an average of reported values.

Moisture may play a strong part in shrinkage. Less moisture results less shrinkage.

To adhere nylon to nylon, use ComPlete Glue.

Testing performed by St Louis Testing Laboratories with the following:

Unit = 5500R Instron with Bluehill Software.

ASTM D412-0a E2

5 specimens printed at rated temperature

Bars .1314" thick

1 perimeter

All surfaces (no fill, only surfaces)

45 degree surfaces

Living hinge is using the material flexible properties as a hinge assuming 2000 90 degree transitions.

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