

# PA 0600 Filament

Jabil's PA 0600 filament is a polyamide/polyketone alloy with high stiffness, good wear resistance, low friction and self-lubricating characteristics. The high stiffness and selflubricating qualities make post-print machining, such as fly cuts, thread taps and heat stakes, simple and effective.

## ADVANTAGES

Compared to other tribologically similar polymers such as POM and PVDF, which are commonly used for similar applications, PA 0600 releases no odors or toxic fumes during processing, exhibits low warp and has similar dynamic and static coefficient of friction. PA 0600 is an excellent materials choice for applications where high dimensional stability and lubricity are required.

## STORAGE AND USE

PA 0600 is highly hygroscopic, meaning it will quickly absorb and retain moisture from the atmosphere, affecting visual quality and mechanical properties. For best results, print and store filament in a dry environment. If necessary, dry filament in an oven at up to 75 °C (165 °F) for 6 - 12 hours.

## PROPERTIES

### MECHANICAL PROPERTIES - DRY AS PRINTED<sup>1</sup>

	Test Condition	Typical Value	Method
Tensile Modulus (MPa)	XY coupons, Ambient	2660	ASTM D638, Type I
Tensile Elongation at Break (%)	XY coupons, Ambient	4.8	ASTM D638, Type I
Ultimate Tensile Strength (MPa)	XY coupons, Ambient	49.0	ASTM D638, Type I
Flexural Modulus (MPa)	XY coupons, Ambient	2330	ASTM D790
Flexural Strength (MPa)	XY coupons, Ambient	83	ASTM D790
Flexural Strain (%)	XY coupons, Ambient	>5	ASTM D790
Izod Impact, Notched (J/m)	XY coupons, Ambient	32.4	ASTM D256
Izod Impact, Un-notched (J/m)	XY coupons, Ambient	451	ASTM D256

<sup>1</sup>Testing conducted on bars printed at a layer height of 0.20 mm and 240°C and tested at <0.20 wt% moisture. Typical values are for reference only.



**MECHANICAL PROPERTIES - MOISTURE CONDITIONED<sup>1</sup>**

	Test Condition	Typical Value	Method
Tensile Modulus (MPa)	XY coupons, Ambient	1570	ASTM D638, Type I
Tensile Elongation at Break (%)	XY coupons, Ambient	24.9	ASTM D638, Type I
Ultimate Tensile Strength (MPa)	XY coupons, Ambient	29.7	ASTM D638, Type I
Flexural Modulus (MPa)	XY coupons, Ambient	1110	ASTM D790
Flexural Strength (MPa)	XY coupons, Ambient	40.6	ASTM D790
Flexural Strain (%)	XY coupons, Ambient	>5	ASTM D790
Izod Impact, Notched (J/m)	XY coupons, Ambient	68.5	ASTM D256
Izod Impact, Un-notched (J/m)	XY coupons, Ambient	822	ASTM D256

<sup>1</sup>Testing conducted on bars printed at a layer height of 0.20 mm and 240°C and tested after 14 conditioning for 14 days at 23 °C and 50% RH. Typical values are for reference only.

**THERMAL PROPERTIES**

	Test Condition	Typical Value	Method
Heat Deflection Temperature (°C)	0.455 MPa	103	DMA
Heat Deflection Temperature (°C)	1.82 MPa	43	DMA
Melt Temperature, Peak (°C)	20°C/min ramp	188	DSC

**OTHER PHYSICAL PROPERTIES**

	Test Condition	Typical Value	Method
Density (g/cm <sup>3</sup> )	Ambient	1.26	ASTM D792

**DIMENSIONAL PROPERTIES**

	Test Condition	Typical Value	Method
Diameter: Mean, Indiv. Axis (mm)	In-line, 100% inspection	1.75±0.05 2.85±0.05	Laser Micrometer

**Disclaimer:** The information in this technical data sheet, including material properties, are obtained from testing representative samples under carefully controlled conditions and are provided for reference only. Material properties may be impacted by storage, handling, processing equipment/parameters, and product design, among other factors. The information is not a substitute for user testing to determine fitness for any specific use and the user is responsible for ensuring safe and lawful use of the product.

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