

# ABS 1400 LW Filament

Jabil's ABS 1400 LW is easy to print with balanced properties that consistently lay flat. It has minimal warping when printed with 100% infill in a non-heated chamber system. It also maintains good layer-to-layer adhesion from the bottom of the build to the top, with excellent surface appearance. The ABS 1400 LW is great for applications where the properties of ABS are wanted, but low warp is required.

Jabil's ABS 1400 LW is more durable and heat resistant to parts printed with PLA and can be used with Direct Drive or Bowden Tube 3D printers. The material also can stand up to several finishing processes such as vapor polish, sanding, dyeing, painting, and adding a gloss finish. The 1400 LW material is a great option for prototypes and parts that require the ability to stand up to a lot of wear and tear, particularly given its multiple finishing processes.

## ADVANTAGES

Easy printability, excellent bed adhesion, durable, stiffer than typical ABS filament, reduced CLTE, good chemical resistance (to most fluids), and improved dimensional stability are key advantages of Jabil ABS 1400 LW. This product has very consistent lot-to-lot print properties with an ISO 9001 Certificate of Analysis available upon request.

## PROPERTIES

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

	Test Condition	Typical Value	Method
Tensile Modulus (MPa)	XY coupons, Ambient	2730	ASTM D638, Type I
Tensile Elongation at Break (%)	XY coupons, Ambient	3.3	ASTM D638, Type I
Ultimate Tensile Strength (MPa)	XY coupons, Ambient	35.3	ASTM D638, Type I
Flexural Modulus (MPa)	XY coupons, Ambient	2450	ASTM D790
Flexural Strength (MPa)	XY coupons, Ambient	59.8	ASTM D790
Izod Impact, Notched (J/m)	XY coupons, Ambient	39	ASTM D256
Izod Impact, Un-notched (J/m)	XY coupons, Ambient	235	ASTM D256

<sup>1</sup>Testing conducted on bars printed at 270 °C and tested at <0.20 wt% moisture. Typical values are for reference only.



## STORAGE AND USE

ABS is a hygroscopic material, meaning it will absorb 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 80 °C (175 °F) for 3 – 4 hours.

**THERMAL PROPERTIES**

	Test Condition	Typical Value	Method
Heat Deflection Temperature (°C)	0.455 MPa	101	DMA
Heat Deflection Temperature (°C)	1.82 MPa	92	DMA
Glass Transition Temperature (°C)	20°C/min ramp	111	DSC

**OTHER PHYSICAL PROPERTIES**

	Test Condition	Typical Value	Method
Density (g/cm <sup>3</sup> )	Ambient	1.10 – 1.12	ASTM D792
Moisture Absorption (weight %)	24 hours	0.3%	ASTM D570

**DIMENSIONAL PROPERTIES**

	Test Condition	Typical Value	Method
Diameter: Mean, Indiv. Axis (mm)	In-line, 100% inspection	+/- 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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