

ASA Prime Filament

Technical Data Sheet



Product Description

ZYLTECH ASA Prime is a high-performance ASA filament engineered for excellent weatherability, UV resistance, strong interlayer bonding, and reliable high-speed printing. Its low shrinkage, minimal odor, and forgiving printing characteristics make it easier to print than conventional ASA, while its smooth, glossy surface finish provides excellent appearance for both functional and finished parts.

ASA Prime delivers near-isotropic mechanical performance, retaining approximately 80% of its XY tensile strength in the Z direction. Its exceptional interlayer adhesion helps reduce the typical layer-line weakness found in FDM-printed parts. The material is also optimized for high-flow printing and has demonstrated volumetric flow rates exceeding 40 mm³/s under appropriate printing conditions.

Produced at our Houston extrusion facility using premium virgin ASA resin, each batch undergoes stringent quality and performance testing. Full batch traceability and controlled manufacturing processes help ensure consistent extrusion, dimensional accuracy, and dependable performance from spool to spool.

Filament Specifications

Parameter	Value
Filament Diameter	1.75 mm
O. D. Tolerance	± 0.01 (95% Probability) ± 0.02 (100% Probability)
Ovality	< 0.02 mm
Net Filament Weight	1 kg

Spool Specifications

Parameter	Value
Spool Diameter	198 mm
Spool Height	60 mm
Hole Diameter	58 mm
Spool Material	ABS

Spool Heat Deflection Temperature	75°C (with forced-air circulation)
Spool Weight	150 – 160 g

Recommended Printer Setting

Parameter	Value
Bed Temperature	90 – 110 °C for PEI build plate
Nozzle Temperature	240 – 280 °C
Chamber Temperature	40 – 60 °C
Print Speed	up to 300 mm/s
Maximum Flow Rate	Up to 40 mm ³ /s
Part Cooling Fan	Minimal
Drying Recommendation	65 – 70 °C 24Hrs in filament dryer

Typical Properties

Physical Property	Value	Test Method
Density	1.06 g/cm ³	ISO 1183
Thermal Property	Value	Test Method
Melting Temperature	210 – 230 °C	ISO 11357
Heat Deflection temperature, 0.45 MPA, Unannealed	95 °C	ISO 75
Mechanical Property	Value	Test Method
Young's Modulus	1700 – 1850 MPa	ISO 527
Tensile Strength at Break (XY axis)	39 – 41 MPa	ISO 527
Elongation at Break (XY axis)	6 – 10 %	ISO 527
Tensile Strength at Break (Z axis)	30-32 MPa	ISO 527
Elongation at Break (Z axis)	4 – 5 %	ISO 527
Izod Impact Strength (Notched, XY axis 23 °C)	12 – 14 KJ/m ²	ISO 180
Izod Impact Strength (Notched, Z axis 23 °C)	7 – 10 KJ/m ²	ISO 180

Disclaimer:

The information included in this document is for reference purposes only. Testing results may vary between colors and batches. Printing conditions also greatly affect the testing results. It is the user's responsibility to determine whether the filament and the information in this document are appropriate for any specific application. Zyltech Engineering LLC assumes no obligation or liability for the information in this document.

For additional information, please contact Zyltech Engineering LLC customer support email csr@zyltech.com.