



I. FFF Printing Technology

i. ABS (Acrylonitrile Butadiene Styrene)

ABS filament is a common and well-known thermoplastic used in consumer electronics, children toys (e.g., LEGO bricks), and automotive components. The material offers superior layer bonding and high printability that make its greater resistance ideal for making functional prototypes. The characteristics of ABS are as follows:

- A cost-effective alternative to other materials
- High hardness and long lasting
- Good heat resistance and durability
- Nice smooth and consistent finish

IDENTIFICATION	
Material Name	ABS filament
Product Use	Printing material for 3D printers using FFF technology
SPECIFICATIONS	
Color	Various (incl. red, white, black, steel blue, bottle green, grape purple, sun orange, cyber yellow, nature, neon yellow, neon green, neon tangerine, and neon magenta)
Package Available	600 g ; 1 kg ; 3 kg (Net weight)
Filament Diameter	1.75 mm
MECHANICAL PROPERTIES	
Tensile Strength	174.55 kg/cm ²
Tensile Elongation	3.88 %
Flexural Strength	358.47 kg/cm ²
Flexural Modulus	11731.37 kg/cm ²
Impact Strength	106.83 J/m
THERMAL PROPERTIES	
Storage Temperature	10-40 °C / 50-104 °F
Operation Temperature	15-32 °C / 59-90 °F
Nozzle Temperature	210-240 °C / 410-464 °F
Print Bed Temperature	70-90 °C / 158-194 °F