Technical data sheet ABS

Description

ABS (acrylonitrile butadiene styrene) is one of the most common technical materials in several industries around the globe. Its great mechanical and thermal behaviour make ABS the ideal polymer for countless applications.

Traditionally a challenging material to print with FFF printers, it has been re-formulated to ensure good interlayer adhesion and to reduce warping.

Properties

- Excellent mechanical properties: Tensile modulus, impact resistance and toughness
- Attractive matt surface quality
- Withstand operating temperatures up to 85˚C
- UV Sensitive
- For a better print quality use an enclosure.

Recomendations

Plastics absorb moisture from the air, it is recommended to keep the ABS spools in a box or airtight container with desiccant to keep them dry.

Do not use layer cooling fans and avoid drafty or cool rooms for best results.

ABS emits low levels of gasses and particles when printed. We recommend printing it in a well-ventilated area.

Filament specifications	
Diameter	⌀ 2.85 mm
Max roundness deviation	-
Net filament weight	750 g
Material Density (ISO 1183)	1,04 g/cm³

Mechanical properties		
	Typical value	Test method
Charpy notched impact strength[2]	22 kJ/m²	ISO 179
Flexural strength	65 MPa	ISO 178
Hardness, Ball indentation	97 MPa	ISO 2039-1
Tensile stress at yield[2]	45 MPa	ISO 527
Tensile modulus	2300 MPa	ISO 527

(2) at 23 °C

Thermal properties		
	Typical value	Test method
Heat deflection temperature	99 °C	ISO 75
Vicat softering temperature	105 °C	ISO 306

Printing settings	
Extruder temperature	240 ˚C - 260 ˚C
Bed temperature	90 ˚C
Speed	20-60 mm/s
Retraction speed	40 mm/s
Retraction distance	4 mm
Cooling fan	No
Minimum layer height	0.1 mm
Platform adhesion type	Brim

More information about ABS: https://www.bcn3dtechnologies.com/en/3d-printer/filaments/#abs