Matter3D ABS

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Produced May 14, 2025
Batch CFABSE301042025

Matter ABS

3D Printing Filament

Matter ABS is a high-performance engineering-grade ABS filament designed for reliable, consistent results across a wide range of FFF/FDM 3D printing systems. Manufactured by Matter Industries with formulation expertise from Matter3D, this material is optimized to deliver excellent dimensional stability, smooth extrusion, and strong interlayer adhesion.

ABS is known for its balance of strength, toughness, and heat resistance, making it a go-to material for functional parts and demanding applications. Matter ABS maintains these core properties while being tuned for stable processing, reduced warping relative to traditional ABS grades, and repeatable print performance.

Printed parts exhibit good impact resistance, solid layer bonding, and a clean, matte surface finish. The material is well suited for post-processing, including sanding, machining, drilling, and painting, allowing for high-quality finished parts.

Matter ABS is an ideal choice for functional prototypes, enclosures, tooling, jigs, fixtures, and end-use components where durability and thermal stability are important.

Available in:

- Matter ABS 1 kg spool
- Matter ABS 5 kg spool

Processing Details

The following parameters serve as general starting points:

Parameter	**Recommended Range**
Drying Temperature	**80–90 °C**
Drying Time	**2–4 hours**
Nozzle Temperature	**240–260 °C**
Bed Temperature	**90–110 °C**
Chamber Temperature	**60–80 °C (recommended)**
Nozzle Diameter	**≥ 0.4 mm**
Cooling	**Moderate part cooling recommended for X-Y-Z accuracy**

Note: Material is hygroscopic. Inadequate drying can result in bubbling, poor surface finish, or weak inter-layer bonding.

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Material Properties		
Physical Properties	**Matter ABS FR**	**ASTM Method**
Density, g/mL	1.09	D792
MFR, g/10 min (210°C/ 2.2 kg)	9	D1238
Melting Point	Amorphous	
Glass Transition Temperature, °C	105	D3418
Shrinkage ISO294-4	0.35%	
Mechanical Properties	**Matter ABS FR**	**ASTM Method**
Tensile Strength (Yield), MPa	43.8	D638
Young's Modulus, GPa	4.54	D638
Elongation at Break, %	2.1%	D638
Impact Strength, kJ/m^2, Charpy	8.1	D256, *notched*
Heat Distortion Temperature, °C (0.45 MPa)	105	D648

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