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Technical Data Sheet

Ultrafuse ABS

Date / Revised: 13.11.2019

Version No.: 5.2

General information

Components

Acrylonitrile Butadiene Styrene based filament for Fused Filament Fabrication.

Product Description

ABS is the second most used 3D printing material. It is strong, flexible and has a high heat resistance. ABS is a preferred plastic for engineers and professional applications. ABS can be smoothened with acetone. To make a proper 3D print with ABS you will need a heated print bed. The filament is available in 9 colors.

Delivery form and warehousing

Ultrafuse ABS filament should be stored at 15 - 25°C in its originally sealed package in a clean and dry environment. If the recommended storage conditions are observed the products will have a minimum shelf life of 12 months.

Product safety

Recommended: Process materials in a well ventilated room, or use professional extraction systems. For further and more detailed information please consult the corresponding material safety data sheets.

Notice

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

Recommended 3D-Print processing parameters	
Nozzle Temperature	240 – 260 °C / 464 – 500 °F
Build Chamber Temperature	-
Bed Temperature	90 – 110 °C / 194 – 230 °F
Bed Material	Tape, Spray, Glue
Nozzle Diameter	≥ 0.4 mm
Print Speed	40 - 80 mm/s

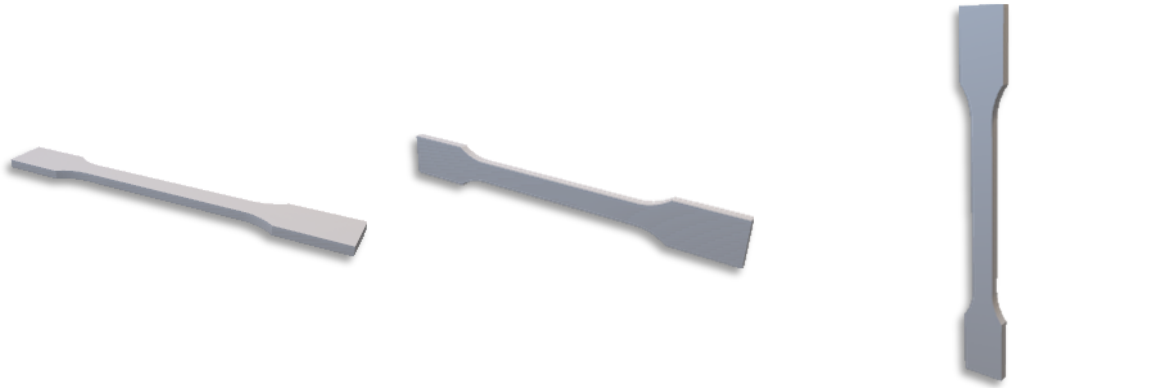
Drying Recommendations	
Drying recommendations to ensure printability	60 °C in a hot air dryer or vacuum oven for 4 to 16 hours

Please note: To ensure constant material properties the material should always be kept dry.

General Properties		Standard
Printed Part Density	1040 kg/m^3 / 64.9 lb/ft^3	ISO 1183-1

Thermal Properties		Standard
HDT at 1.8 MPa	91 °C / 196 °F	ISO 75-2
HDT at 0.45 MPa	96 °C / 205 °F	ISO 75-2
Glass Transition Temperature	104 °C / 219 °F	ISO 11357-2
Melt Volume Rate	24.2 cm^3/10 min / 4.84 in^3/10 min (260 °C, 5 kg)	ISO 1133

Mechanical Properties



Print direction	Standard	XY	XZ	ZX
		Flat	On its edge	Upright
Tensile strength	ISO 527	36.3 MPa / 5.3 ksi	-	21.3 MPa / 3.1 ksi
Elongation at Break	ISO 527	7.4 %	-	1.8 %
Young's Modulus	ISO 527	1958 MPa / 284 ksi	-	1608 MPa / 233 ksi
Flexural Strength	ISO 178	56.6 MPa / 8.2 ksi	58.3 MPa / 8.5 ksi	38.59 MPa / 5.6 ksi
Flexural Modulus	ISO 178	1833 MPa / 266 ksi	1767 MPa / 256 ksi	1586 MPa / 230 ksi
Flexural Strain at Break	ISO 178	5.3 %	5.0 %	3.1 %
Impact Strength Charpy (notched)	ISO 179-2	16.0 kJ/m²	17.4 kJ/m²	2.8 kJ/m²
Impact Strength Charpy (unnotched)	ISO 179-2	36.4 kJ/m²	42.2 kJ/m²	6.8 kJ/m²
Impact Strength Izod (notched)	ISO 180	18.8 kJ/m²	18.9 kJ/m²	3.5 kJ/m²
Impact Strength Izod (unnotched)	ISO 180	40.0 kJ/m²	35.7 kJ/m²	7.2 kJ/m²