BCN3D FILAMENTS

ABS

In collaboration with Polyscope Polymers from the Netherlands, BASF developed an ABS grade which is engineered for 3D-printing. Polyscope offers solutions for enhancing the performance of various engineering plastics like ABS by adding Styrene Maleic Anhydride (SMA) which provides benefits such as high heat resistance and high dimensional stability. BASF has the capabilities and facilities to analyse material behaviour during 3D-printing and realize improvements. This resulted in an optimized ABS grade for 3D-printing: “ABS Fusion+ made with Polyscope XILOY™ 3D.” (Dis) solve your problem This unique collaboration has led to a solution which enables professional users to break through existing barriers. No more tinkering with fluids or tape for adhesion, no more hassle because of failed prints and best of all, you will experience almost no warping.

ABS Fusion+ is a genuine solution for users with demanding 3D-printing applications. This grade will enable users to tap into the full potential of 3D-printing. We collected data of printed objects to support you in your material requirements analysis.

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ABS - *Technical information including:*

General Properties		Standard
Printed Part Density	1075 kg/m3 / 67.1 lb/ft3	ISO 1183-1

Thermal Properties		Standard
HDT at 1.8 MPa	71 °C / 160 °F	ISO 75-2
HDT at 0.45 MPa	91 °C / 196 °F	ISO 75-2
Glass Transition Temperature	80 and 114 °C / 176 and 237 °F	ISO 11357-2
Melt Volume Rate	10.0 cm3 /10 min / 0.61 in3 /10 min (250 °C, 5 kg)	ISO 1133

Mechanical Properties | Conditioned specimens				
Print direction	***Standard***	***XY***	***XZ***	***ZX***
		Flat	On its edge	Upright
Tensile strength	ISO 527	29.5 MPa / 4.3 ksi	-	17.9 MPa / 2.6 ksi
Elongation at Break	ISO 527	10.9 %	-	2.1 %
Young's Modulus	ISO 527	1379 MPa / 200 ksi	-	1106 MPa / 160 ksi
Flexural Strength	ISO 178	48.3 MPa / 7.0 ksi	48.7 MPa / 7.1 ksi	23.1 MPa / 3.4 ksi
Flexural Modulus	ISO 178	1406 MPa / 204 ksi	1133 MPa / 164 ksi	878 MPa / 127 ksi
Flexural Strain at Break	ISO 178	5.6 %	5.9 %	2.7 %
Impact Strength Charpy (notched)	ISO 179-2	32.0 kJ/m2	41.9 kJ/m2	2.5 kJ/m2
Impact Strength Charpy (unnotched)	ISO 179-2	71.9 kJ/m2	118.7 kJ/m2	6.9 kJ/m2
Impact Strength Izod (notched)	ISO 180	26.4 kJ/m2	38.4 kJ/m2	2.2 kJ/m2
Impact Strength Izod (unnotched)	ISO 180	73.1 kJ/m2	131.1 kJ/m2	6.6 kJ/m2