

# FabPro™ Materials for FabPro® 1000 3D Printer

For prototyping, engineering and jewelry applications



	FabPro Tough BLK	FabPro Proto GRY	FabPro Flexible BLK	FabPro JewelCast GRN	FabPro Elastic BLK
Description	Tough and durable plastic	Fast, general purpose	Durable and flexible plastic	Master patterns for gypsum investment casting	Design elastomer
Color	Black	Gray	Black	Green	Black
Bottle Volume	1 kg	1 kg	1 kg	1 kg	1 kg
Layer Thickness	0.050 mm   0.002 in	0.050 mm   0.002 in	0.050 mm   0.002 in	0.030 mm   0.001 in	0.100 mm   0.004 in
Vertical Build Speed	14 mm/hr   0.55 in/hr	21 mm/hr   0.83 in/hr	10 mm/hr   0.4 in/hr	5.3 mm/hr   0.21 in/hr	14 mm/hr   0.55 in/hr
Liquid Density	1.05 g/cm <sup>3</sup>	1.04 g/cm <sup>3</sup>	1.06 g/cm <sup>3</sup>	1.10 g/cm <sup>3</sup>	1.06 g/cm <sup>3</sup>

Cured Part Properties*		FabPro Tough BLK		FabPro Proto GRY		FabPro Flexible BLK		FabPro JewelCast GRN		FabPro Elastic BLK	
		Metric	U.S.	Metric	U.S.	Metric	U.S.	Metric	U.S.	Metric	U.S.
Solid Density (g/cm <sup>3</sup>   lb/in <sup>3</sup> )	ASTM D792	1.12	0.040	1.13	0.041	1.15	0.042	1.18	0.043	1.13	0.041
Tensile Strength (MPa   psi)	ASTM D638	44	6400	67	9700	41	5950	14	2000	3.9	570
Tensile Modulus (MPa   ksi)	ASTM D638	1860	270	2800	410	1330	193	355	51.5	3.7	540
Elongation at Break	ASTM D638	44 %	44 %	7 %	7 %	93 %	93 %	10 %	10 %	81 %	81 %
Flexural Modulus (MPa   ksi)	ASTM D790	2020	290	2840	410	1120	162	577	84		
Flexural Strength (MPa   psi)	ASTM D790	64	9300	100	14500	41	5950	14	2030		
Impact Strength (J/m   ft-lb/in)											
Izod Notched Impact	ASTM D256	36	0.7	23	0.4	43	0.8				
Izod Unnotched Impact	ASTM D4812	568	11	123	2.3	Did not break					
Water Absorption (24 hours)	ASTM D570	0.3 %	0.3 %	0.25 %	0.25 %	1.6 %	1.6 %			1.30 %	1.30 %
Tg	DMA, E''	57 °C	134 °F	82 °C	180 °F	19 °C	67 °F	-1 °C	31 °F	-24 °C	-11 °F
Heat Deflection Temperature @0.46 MPa   66 psi	ASTM D648	48 °C	119 °F	79 °C	175 °F	51 °C	124 °F				
@1.82 MPa   264 psi		42 °C	108 °F	66 °C	151 °F	42 °C	108 °F				
CTE >Tg (ppm/°C   ppm/°F)	ASTM E831	130	72	107	59	143	80	185	102	226	126
CTE <Tg (ppm/°C   ppm/°F)		161	89	111	62	109	61	169	94		
Compression Set	ASTM D395									Not Detectable	
Tear Strength (kN/m   lbf/in)	ASTM D624									7.3	41.7
Shore Hardness	ASTM D2240	79 D	79 D	83 D	83 D	76 D	76 D	68 D	68 D	65 A	65 A

\* All properties measured on new material processed according to 3D Systems standard user recommendations

DISCLAIMER: It is the responsibility of each customer to determine that its use of any FabPro material is safe, lawful and technically suitable to the customer's intended applications. The values presented here are for reference only and may vary. Customers should conduct their own testing to ensure suitability for their intended application.

Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. 3D Systems makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.

© 2020 by 3D Systems, Inc. All rights reserved. Specifications subject to change without notice. 3D Systems, the 3D Systems logo, 3D Sprint and FabPro are registered trademarks of 3D Systems, Inc.