



# Figure 4™ FLEX-BLK 10

Production Flexible

A flexible material for the production of exceptionally durable polypropylene-like black parts

Figure 4®

## TOUGH FLEXIBLE BLACK PARTS THAT PROVIDE THE LOOK AND FEEL OF MOLDED POLYPROPYLENE

Figure 4 FLEX-BLK 10 allows users to produce the toughest 3D printed parts with exceptional durability for a wider variety of prototyping, functional testing and low volume production applications. It provides outstanding flexibility and accuracy, enabling many applications.

### Liquid Material

MEASUREMENT	CONDITION	METRIC	U.S.
Viscosity	@ 25 °C (71 °F)	2108 cps	
Color		Black	
Liquid Density	@ 25 °C (77 °F)	1.06 g/cm <sup>3</sup>	0.038 lb/in <sup>3</sup>
Package Volume		1 kg bottle - Figure 4 Standalone 2.5 kg cartridge - Figure 4 Modular 10 kg container - Figure 4 Production	
Layer Thickness (Standard Mode)		0.10 mm	0.004 in
Vertical Build Speed		33 mm/hr	1.3 in/hr
Standard Mode		55 mm/hr	2.2 in/hr
Draft Mode			

### APPLICATIONS

- Functional assemblies and prototypes
  - Automotive styling parts
  - Consumer goods and electronic components
  - Snap fit assemblies
  - Containers and enclosures
  - Product design
- Master patterns for RTV/silicone molding
- Replacement of short-run cast urethane production parts
- Concept and marketing models

### BENEFITS

- Reliable and robust functional prototypes
- Increased market opportunities for models
- Parts with comparable durability to many cast urethanes
- Excellent mechanical properties and accuracy
- Beautiful polypropylene-like parts

### FEATURES

- Amazing elongation at break and impact strength
- High flexibility with excellent shape retention
- Durable and strong
- Look and feel of molded black polypropylene



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## Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Solid Density (g/cm <sup>3</sup>   lb/in <sup>3</sup> )	ASTM D792	1.15	0.042
Tensile Strength, Ultimate (MPa   PSI)	ASTM D638	46	6670
Tensile Strength, at Yield (MPa   PSI)	ASTM D638	37	5370
Tensile Modulus (MPa   KSI)	ASTM D638	1400	203
Elongation at Break	ASTM D638	104%	
Elongation at Yield	ASTM D638	6%	
Flexural Strength (MPa   PSI)	ASTM D790	37	5370
Flexural Modulus (MPa   KSI)	ASTM D790	990	143
Notched Izod Impact Strength (J/m   Ft-lbs/in)	ASTM D256	55	1.01
Unnotched Izod Impact Strength (J/m   Ft-lbs/in)	ASTM D4812	Did not break	
Heat Deflection Temperature @ 0.45 MPa (66 PSI) @ 1.82 MPa (264 PSI)	ASTM D648	52 °C	126 °F
		43 °C	109 °F
Coefficient of Thermal Expansion (CTE) (ppm/°C   ppm/°F) < Tg > Tg	ASTM E831	91	51
		138	77
Glass Transition (Tg), DMA, E"	ASTM E1640	18 °C	64 °F
Hardness, Shore	ASTM D2240	76D	
Water Absorption (24 hour)	ASTM D570	1.40%	



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