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/cm³	0.038 lb/in³
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 Standard Mode Draft Mode		 33 mm/hr 55 mm/hr	 1.3 in/hr 2.2 in/hr

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

3D SYSTEMS®

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Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Solid Density (g/cm³ | lb/in³)	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 43 °C	 126 °F 109 °F
Coefficient of Thermal Expansion (CTE) (ppm/°C | ppm/°F) < Tg > Tg	ASTM E831	 91 138	 51 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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