



# Figure 4™ FLEX-BLK 20

Flexible, Durable

Durable, flexible, high impact-resistant material with long-term environmental stability

Figure 4®

## FATIGUE RESISTANT BLACK PLASTIC, WITH LOOK AND FEEL OF PRODUCTION POLYPROPYLENE

Figure 4 FLEX-BLK 20 is a flexible, high impact-resistant material for extremely durable black parts with look and feel of production polypropylene. Great for functional prototypes, enclosures and assemblies, as well as short-run production parts, this fatigue resistant material provides outstanding flexibility and accuracy, enabling many applications.

## APPLICATIONS

- Functional assemblies and prototypes
  - Automotive styling parts
  - Consumer goods and electronic components
  - Containers and enclosures
  - Product design
- Master patterns for RTV/silicone molding
- Concept and marketing models

## BENEFITS

- Reliable and robust functional prototypes
- Excellent mechanical properties and accuracy
- Beautiful black parts with look and feel of molded black polypropylene
- Improved environmental stability of mechanical and performance properties over time

## FEATURES

- High elongation at break and notched impact strength
- Lower tensile modulus
- Engineered for long term environmental stability
- Easy to clean

## Liquid Material

MEASUREMENT	CONDITION	METRIC	U.S.
Viscosity	@ 25 °C (77 °F)	2250 cps	5440 lb/ft-hr
Color		Black	
Liquid Density	@ 25 °C (77 °F)	1.11 g/cm <sup>3</sup>	0.040 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)		0.05 mm	0.002 in
Vertical Build Speed			
Standard Mode		25 mm/hr	1 in/hr
Draft Mode		29 mm/hr	1.1 in/hr



## Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Solid Density (g/cm <sup>3</sup>   lb/in <sup>3</sup> )	ASTM D792	1.18	0.043
Tensile Strength, Ultimate (MPa   PSI)	ASTM D638	36	5220
Tensile Strength, at Yield (MPa   PSI)	ASTM D638	24	3480
Tensile Modulus (MPa   KSI)	ASTM D638	840	122
Elongation at Break	ASTM D638	86%	
Elongation at Yield	ASTM D638	7.5%	
Flexural Strength (MPa   PSI)	ASTM D790	22	3190
Flexural Modulus (MPa   KSI)	ASTM D790	680	99
Notched Izod Impact Strength (J/m   Ft-lbs/in)	ASTM D256	91	1.7
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	41 °C <25 °C	106 °F <77 °F
Coefficient of Thermal Expansion (CTE) (ppm/°C   ppm/°F) < T <sub>g</sub> > T <sub>g</sub>	ASTM E831	69 188	38 104
Glass Transition (T <sub>g</sub> ), DMA, E''	ASTM E1640	11 °C	52 °F
Hardness, Shore	ASTM D2240	68D	
Water Absorption (24 hour)	ASTM D570	0.64%	



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