

Tough Black 20

Production Rigid

Strong production-grade material with long term UV stability

Simulating Black ABS, the Tough Black 20 is specifically enhanced to be long-lasting and UV-resistant.



Benefits

- Industry-leading environmental stability
- Remarkably fine and aesthetic surface finish
- High precision and long-term stability

Applications

- Rapid design iteration
- Strong functional parts for: Automotive styling parts, Consumer electronics components, Legacy replacement parts, Form, fit and function testing, Durable assemblies and snap fits, Bezels, knobs, brackets, covers, cases,
- Master patterns for RTV/silicone moulding
- Short-run manufacturing of rigid parts



Physical Properties

Colour	Black
Type	ABS

Liquid Material

Solid Density (g/cm ³)	1.11
Layer Thickness (mm)	0.05

Mechanical Properties

		TEST/ISO
Tensile Strength, Ultimate (MPa)	40	ASTM D638
Tensile Strength, at Yield (MPa)	40	
Tensile Modulus (MPa)	1780	
Elongation at Break (%)	36	
Elongation at Yield (%)	4.6	
Flexural Strength (MPa)	61	ASTM D790
Flexural Modulus (MPa)	1650	
Notched Izod Impact Strength (J/m)	27	ASTM D256
Unnotched Izod Impact Strength (J/m)	1008	ASTM D4812
Heat Deflection Temperature (°C)		ASTM D648
@ 0.45 MPa	55	
@ 1.82 MPa	45	
Co-efficient of Thermal Expansion (ppm/°C)		ASTM E831
<T _g	83	
>T _g	173	
Glass Transition (T _g)	46°C	ASTM E1640
Shore Hardness	79D	ASTM D2240
Water Absorption (%)	0.31	ASTM D570

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