

Cubic Ink® Rigid 1600 VP Black

Functional prototyping material for industrial applications

Liquid Properties	Method	Value ¹	Unit
Viscosity (25 °C)	DIN EN ISO 3219	770	mPa·s
Density	DIN EN ISO 15212-1	1.10	g/mL
Critical Energy (E _c)	405 nm / 385 nm	6.1 / 6.1	mJ/cm ²
Depth of Penetration (D _p)	405 nm / 385 nm	0.13 / 0.10	mm
Tensile Properties			
Ultimate Tensile Strength	DIN EN ISO 527-5A ²	62	MPa
Tensile Modulus	DIN EN ISO 527-5A ²	3000	MPa
Elongation at Break	DIN EN ISO 527-5A ²	3.2	%
Flexural Properties			
Flexural Strength	DIN EN ISO 178 ²	105	MPa
Flexural Modulus	DIN EN ISO 178 ²	2700	MPa
Deflection at Fracture	DIN EN ISO 178 ²	7.1	%
Impact Properties			
Izod notched	DIN EN ISO 180	15	J/m
Hardness			
Shore Hardness	DIN EN ISO 7619	85	D
Thermomechanical Properties			
HDT B	DIN EN ISO 75	80	°C
Other Properties			
Water Uptake, 24 h, 23 °C	Internal	0.2	%
In-vitro cytotoxicity	DIN EN ISO 10993-5/-12 ³	On request	-
Color, Storage, Compatibility			
Color of resin is black. Additional colors available on request. The natural color is translucent light yellow.			
For best performance, use within 12 months of manufacturing date. Store at room temperature and protect from light. Stir prior to use.			
Cubic Ink Rigid 1600 VP is compatible with Cubic Ink Cleaner 400.			

¹Properties may vary with post-processing – 2 x 30 min UV post-cure via *Formlabs Formcure L* at 80 °C (LED, 375 and 405 nm). All material properties can vary with color, printer, print settings, object orientation, part geometry, post-processing and age of sample. Properties in TDS are measured on black resin. ²5 mm/min; ³Testing at 22 °C, 61% rel. humidity, duration of extraction 24 h at 37 °C.

Chemical Resistance	Mass Gain [%] ¹
Water	0.2
Acetic Acid (5%)	0.1
Hydrochloric Acid (1%)	0.1
Nitric Acid (5%)	0.2
Sodium Hypochlorite (10%)	0.1
Hydrogen Peroxide (3%)	0.2
Sodium Hydroxide (1%)	0.1
Isopropyl Alcohol	<0.1
Methanol	1.4
Butyl Glycol Acetate	<0.1
Super Gasoline	0.2
Acetone	2.5
Methyl Ethyl Ketone	1.7

¹Percental weight gained after 24 h submersion of printed and post-cured (2 x 30 min UV post-cure via *Formlabs Formcure L* at 80 °C, LED, 375 and 405 nm) 1 x 1 x 1 cm³ cubes.

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