

Cubic Ink® High Performance 1-202 VP

High temperature form-stable material for final part production

Liquid Properties	Value ¹	Unit
Viscosity @ 25 °C (DIN EN ISO 3219)	77	mPa·s
Density (DIN EN ISO 15212-1)	1.14	g/mL
Critical Energy (E _c) @405 / 385 nm	14.8 / 21.1	mJ/cm ²
Depth of Penetration (D _p) @405 / 385 nm	0.16 / 0.11	mm
Tensile Properties² (DIN EN ISO 527-5A)		
Ultimate Tensile Strength	83	MPa
Tensile Modulus	3000	MPa
Elongation at Break	3.5	%
Flexural Properties³ (DIN EN ISO 178)		
Flexural Strength	130	MPa
Flexural Modulus	3300	MPa
Deflection at Fracture	4.2	%
Impact Properties		
Izod unnotched (DIN EN ISO 180)	240	J/m
Charpy unnotched (DIN EN ISO 179-1)	24	kJ/m ²
Hardness (DIN EN ISO 7619)		
Shore Hardness (green)	60 - 80	A
Shore Hardness	85	D
Thermal Properties		
T _g (DMA) ^{4,5}	150, 230	°C

HDT A (DIN EN ISO 75)	177	°C
HDT B (DIN EN ISO 75)	195	°C
CTE (-40 °C, 115 °C) (DIN EN ISO 11359-2) ⁴	78	$\times 10^{-6} \text{ K}^{-1}$
CTE (115 °C, 200 °C) (DIN EN ISO 11359-2) ⁴	231	$\times 10^{-6} \text{ K}^{-1}$
Specific Heat Capacity, 20 °C (DIN EN ISO 11357-4) ⁴	1.3	J/(g·K)

Electrical Properties⁴

Dielectric strength (IEC60243-1)	27	kV/mm
Relative Permittivity (Dielectric Constant, 22 °C, 0.1 MHz, IEC60250)	4.1	-
Dissipation Factor (22 °C, 0.1 MHz, IEC60250)	0.0039	-
Volume Resistivity (IEC60093)	6.4×10^{14}	$\Omega \cdot \text{cm}$
Volume Resistivity after 7 d/RT H ₂ O (IEC60093)	9.3×10^{14}	$\Omega \cdot \text{cm}$
Comparative Tracking Index (IEC60112)	125	V

Flame (UL94)

Flammability, horizontal (at 4.0 mm)	HB	-
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Chemical Resistance⁴

Water Uptake, 24 h, 23 °C	1.2	%
Performance after Water Uptake, 24 h, 23 °C ⁶	<3	%

Thermal Ageing^{4,6}

120 °C for 1500 hours	<5	%
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Print Appearance/ Color

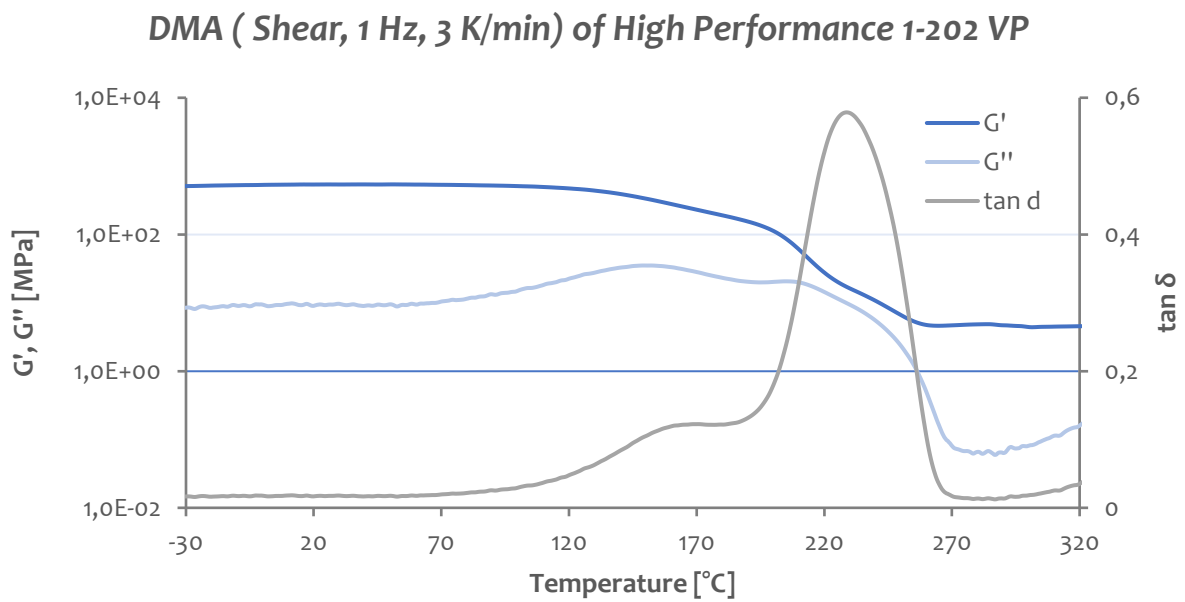
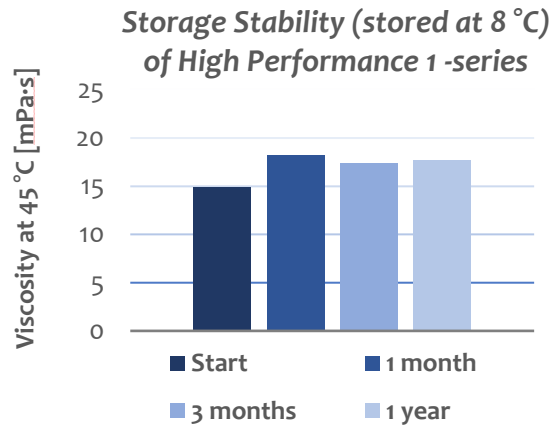
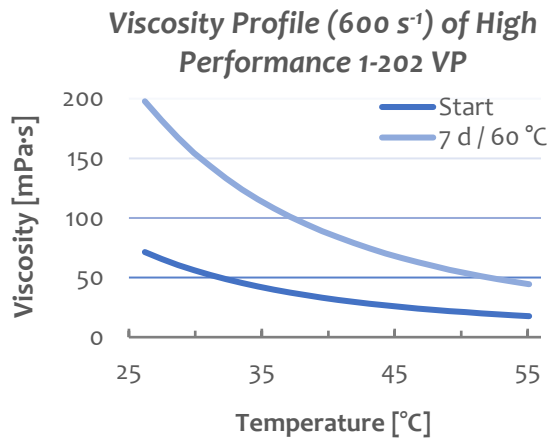
Natural color is brown. Also available in black.

Availability and Storage

Batch sizes starting from 1 kg.

Store at 8 °C and protect from light.

¹Properties with post-processing – washed with IPA, thermal post-cure. All material properties can vary with printer, print settings, object orientation, part geometry, post-processing and age of sample. ²5 mm/min; ³10 mm/min; ⁴Properties characterized on High Performance 1-301 VP; ⁵Shear-experiment 3 μm , 1 Hz, -40 - 320 °C, 3 K/min, $\tan \delta$; ⁶Relative loss of tensile strength compared to reference, DIN EN ISO 527-5A, 5 mm/min.



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