

Cubic Ink® High Performance 4-2800 VP-ESD Black

Material with ESD-properties and toughness for final part production

Liquid Properties	Method	Value ¹	Unit
Viscosity (25 °C)	DIN EN ISO 3219	110	mPa·s
Density	DIN EN ISO 15212-1	1.09	g/mL
Critical Energy (E _c)	405 nm / 385 nm	2.7 / 3.5	mJ/cm ²
Depth of Penetration (D _p)	405 nm / 385 nm	0.10 / 0.08	mm
Tensile Properties			
Ultimate Tensile Strength	DIN EN ISO 527-5A ²	65	MPa
Yield Strength	DIN EN ISO 527-5A ²	65	MPa
Tensile Modulus	DIN EN ISO 527-5A ²	2700	MPa
Elongation at Break	DIN EN ISO 527-5A ²	4.0	%
Impact Properties			
Izod notched	DIN EN ISO 180	17	J/m
Hardness			
Shore Hardness	DIN EN ISO 7619	86	D
Thermomechanical Properties			
T _g	DSC ³	107	°C
HDT B	DIN EN ISO 75	94	°C
CTE (-50 °C, 50 °C)	DIN EN ISO 11359-2	76	x 10 ⁻⁶ K ⁻¹
CTE (50 °C, 120 °C)	DIN EN ISO 11359-2	277	x 10 ⁻⁶ K ⁻¹
CTE (120 °C, 190 °C)	DIN EN ISO 11359-2	169	x 10 ⁻⁶ K ⁻¹
Specific Heat Capacity, 20 °C	DIN EN ISO 11357-4	1.4	J/(g·K)
Electrical Properties			
Dielectric strength	IEC60243-1	1.5	kV/mm
Dielectric strength after 24 h/RT H ₂ O	IEC60243-1	4.2	kV/mm
Volume Resistivity	IEC60093	5.5 x 10 ⁷	Ω·cm
Volume Resistivity after 7 d/RT H ₂ O	IEC60093	6.1 x 10 ⁷	Ω·cm
Comparative Tracking Index	IEC60112	>600	V

Color, Storage, Compatibility

Color is black.

For best performance, use within 12 months of manufacturing date. Store at room temperature and protect from light. Stir prior to use.

Cubic Ink High Performance 4-2800 VP – ESD is compatible with Cubic Ink Cleaner 400.

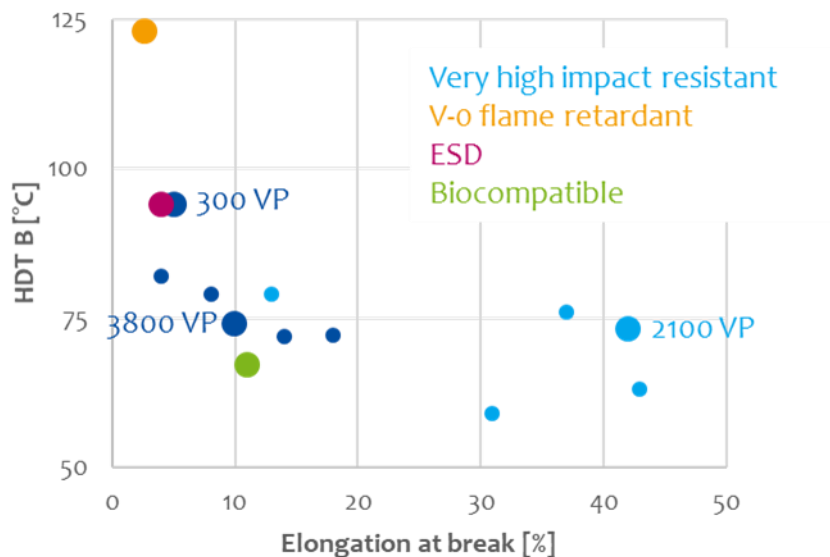
1Properties with post-processing – washed with water, UV and thermal post-cure. All material properties can vary with color, printer, print settings, object orientation, part geometry, post-processing and age of sample. 25 mm/min. 3-80 - 190°C, 5 K/min. 4Measured with SRM200.

Chemical Resistance Mass Gain [%]¹

Water	0.3
Acetic Acid (5%)	0.3
Hydrochloric Acid (1%)	0.3
Nitric Acid (5%)	0.3
Sodium Hypochlorite (10%)	0.2
Hydrogen Peroxide (3%)	0.3
Sodium Hydroxide (1%)	0.3
Isopropyl Alcohol	<0.1
Methanol	2.1
Butyl Glycol Acetate	<0.1
Super Gasoline	0.1
Acetone	1.3
Methyl Ethyl Ketone	0.1

¹Percent weight gained after 24 h submersion of printed and post-cured (washed with water, UV and thermal post-cure) 1 x 1 x 1 cm cubes.

Versatility and Customization of High Performance 4-Series



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