

T50B Carbon Nanotube Dispersion in UV-curable Resin

APPLICATIONS

- ESD 3D printing resins
- Low surface resistivity coatings and adhesives
- Conductive inks

FEATURES

- Stable dispersion of discrete nanotubes
- Promotes electrostatic dissipation in UV-curable formulations.
- No degradation of mechanical properties

FEATURES

- Capable of achieving $10^4 - 10^9 \Omega/\text{sq}$ resistivity
- Easy addition to a formula without high shear mixing
- Provide carbon content with no trails.

T50B is a concentrated dispersion of discrete, dispersed, and functionalized carbon nanotubes (D'Func) in UV-curable resins. A more versatile dispersion than E35A, this material can be used in SLA, DLP, or jettable resins ranging from rigid to flexible to provide conductivity and decreased surface resistivity. When compared to FDM-printed ESD parts, ESD resins produced with T50B can achieve fully isotropic conductivity with high resolution and isotropic mechanical properties.

UNCURED PROPERTIES

Property	Value
Viscosity, cps (25°C)	Thixotropic paste
Appearance	Black Paste
Refractive Index (25°C)	0
Specific Gravity, (20°C)	1.06

CURED MECHANICAL PROPERTIES

Property	Control	10% T50B
Tensile Strength, psi**	2,700	3,900
Elongation, %**	25.0	18.0
Elastic Modulus, ksi**	78	120
Durometer Hardness	76D	77D
MEK Double Rubs (#)	17	13

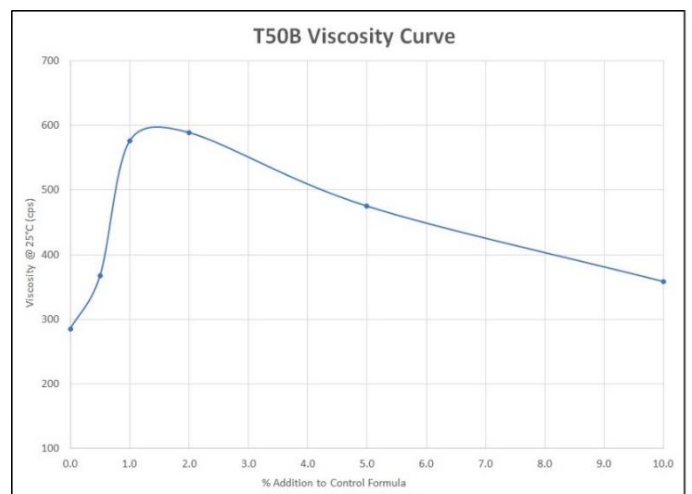
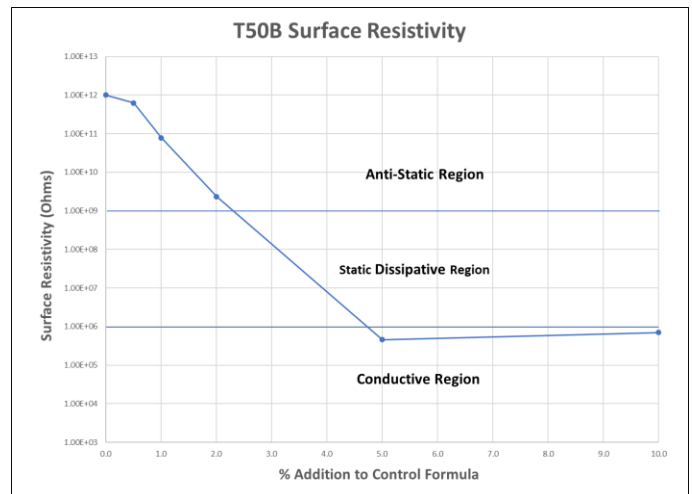
T_g (DMA) = Not Measured

** Per ASTM D882

TYPICAL FORMULATIONS

Test Formulation	Control	10% T50B
BR-541MB	49.00	49%
TEGDMA	39.20	29.4%
EOEOEA	9.80	9.8%
T50+		9.8%
TPO	2.00	2%
OB	0.01	-
Viscosity (cps), 25°C *	285	358

* Brookfield – CAP 2000+ @ 25°C



GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the I Safety Data Sheet before use.

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