MATERIAL DATA SHEET

T50B

MASTERBATCH FOR CONDUCTIVE UV-CURABLE FORMULATIONS

T50B is a concentrated masterbatch of dCNT carbon nanotubes dispersed in a UV-curable resin matrix. Designed for integration into SLA, DLP, and jettable photopolymer systems, T50B enables the development of conductive and static-dissipative formulations across rigid and flexible resin platforms.

The formulation supports uniform electrical performance while preserving print resolution and mechanical integrity. By delivering a stable, ready-to-integrate nanotube dispersion, T50B simplifies the development of advanced photopolymer systems requiring controlled conductivity.

M-MB-AC-ESD-205-01

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This product, its composition, its method of manufacture, or its use may be covered by one or more patents.
See: http://mechnano.com/ip/

DATE:
12-05-2023
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V01 12-05-2023

Disclaimer: The data contained in this document is based on our current knowledge and experience. The performance of the product may vary with processing conditions, operating conditions, application, or with end use. Mechnano, LLC makes no warranties, expressed or implied, regarding the accuracy of these results with regards to system or end application.

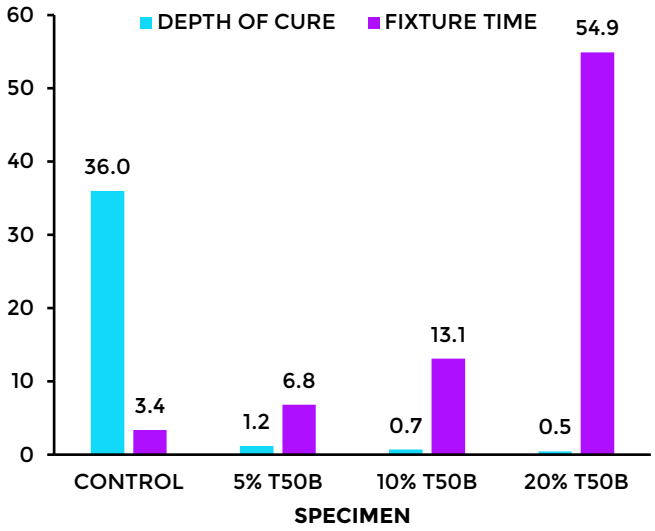
PROPERTIES

UNCURED PROPERTIES	VALUE	UNITS	CONDITIONS
Viscosity	Thixotropic paste	cps	25°C
Appearance	Black paste	**	**
Refractive Index	0	**	25°C
Specific Gravity	1.06	**	20°C

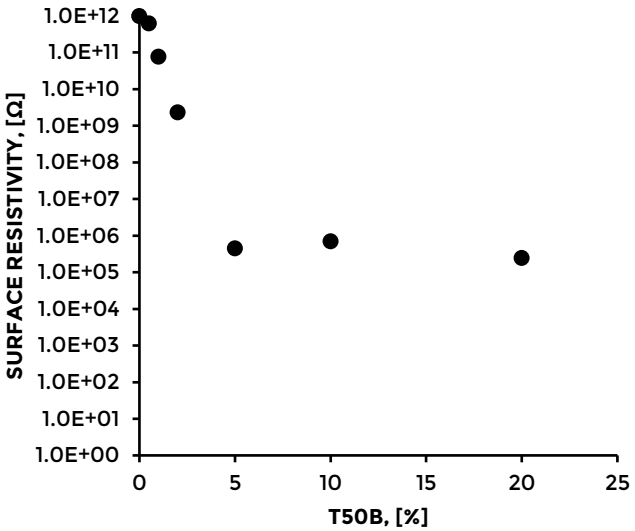
EXAMPLE FORMULATION	CONTROL	T50B	UNITS
BR-541MB	49.00	49.00	%
TEGDMA	39.20	29.40	%
EOEOEA	9.80	9.80	%
T50B	0.00	9.80	%
TPO	2.0	2.0	
OB	0.01	0.00	%
Viscosity at 25°C[1]	285	358	cps

CURED PROPERTIES	CONTROL	10% T50B	UNITS	STANDARD
Ultimate Tensile Strength	18.6	26.9	MPa	ASTM D882
Tensile Modulus	537.8	827.4	MPa	ASTM D882
Elongation	25.0	18.0	%	ASTM D882
Durometer Hardness "D"	76	77	**	**
MEK Double Rub	17	13	#	**

DEPTH OF CURE[2] AND CURE SPEED[3]



RESISTIVITY PERFORMANCE



[1] Brookfield – CAP 2000+ @ 25°C
[2] Depth of cure is measured by curing resins with EC-5000, 200 mW/cm² and 11.5 J/cm²
[3] Cure speed measured on an HR-2 hybrid rheometer while curing with a 405nm LED at 100mW/cm². Fixture time is considered the time it takes for the material to develop 1MPa of complex modulus.