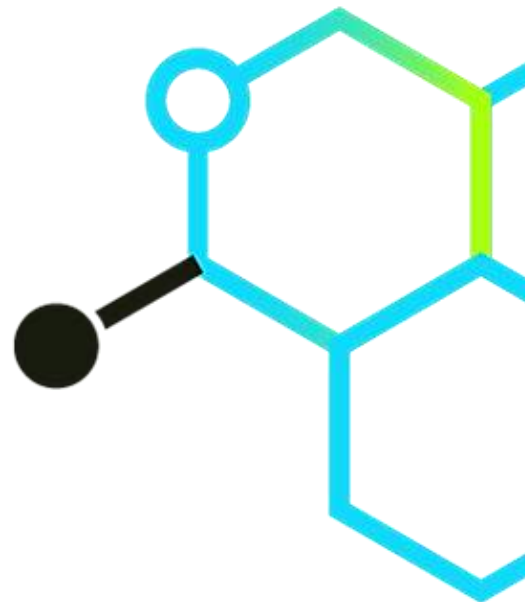


Technical Datasheet

E35B+

CARBON NANOTUBE DISPERSION IN BR-952
BLACK



E35B+

E35B+ is a stable dispersion of discrete, dispersed, and functionalized carbon nanotubes (D'Func) in urethane dimethacrylate (UDMA), BR-952. The Masterbatch can be used in rigid, high tensile strength SLA, DLP, or jettable resins to provide conductivity and decreased resistivity. ESD resins produced with E35B+ can achieve uniform conductivity with high resolution and isotropic mechanical properties

Advantages



- Tunable surface resistance $10^6 - 10^{11} \Omega$
- Easy addition to a formula without high shear mixing
- Stable dispersion of discrete CNTs

Industries



- Additive Manufacturing

Applications



- ESD resins for vat photopolymerization

EXAMPLE FORMULATION

Component	Control	E35B+	Units
BR-952	66.26	51.50	%
BR-371MS	7.00	6.90	%
HEMA	25.68	25.70	%
E35B+	0.00	14.90	%
TPO	1.00	1.00	%
OB	0.06	0.00	%
Viscosity, [cps] at 25°C*	400	428	%

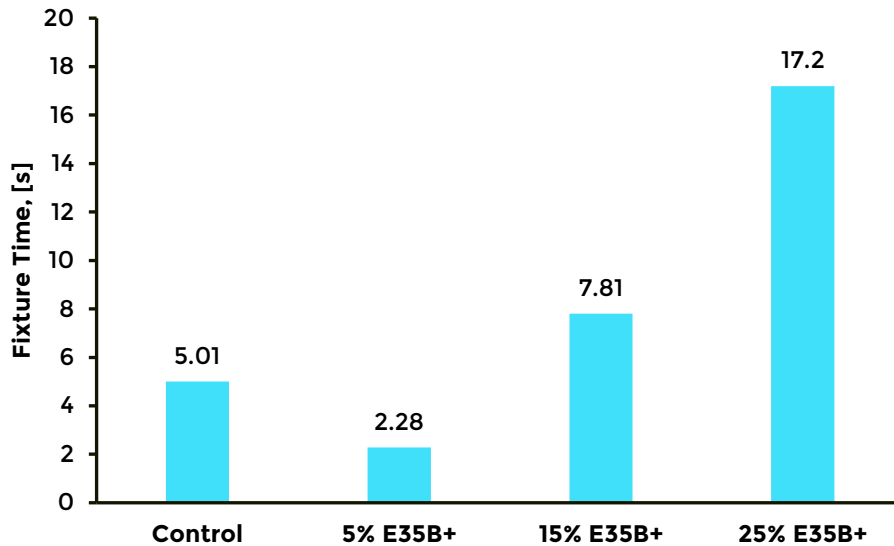
*Brookfield - CAP 2000+ @ 25°C



PROPERTIES

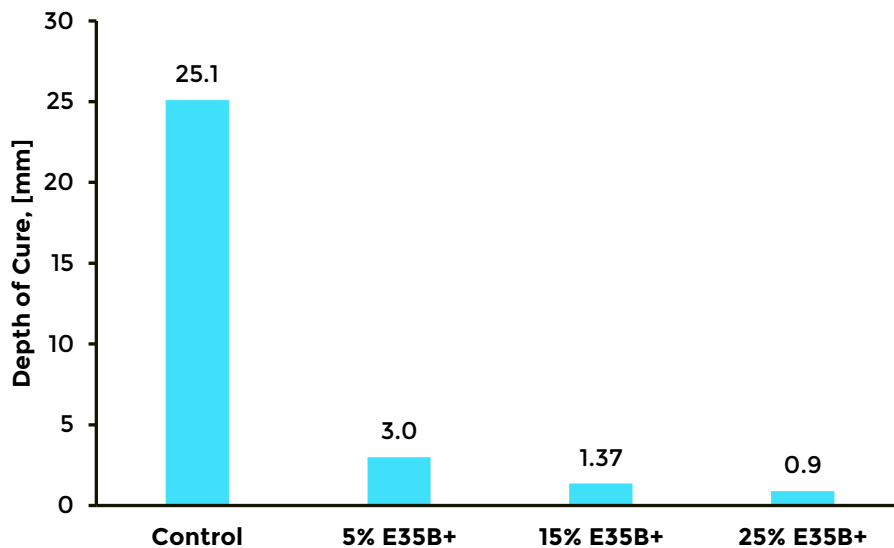
FIXTURE TIME

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.



DEPTH OF CURE

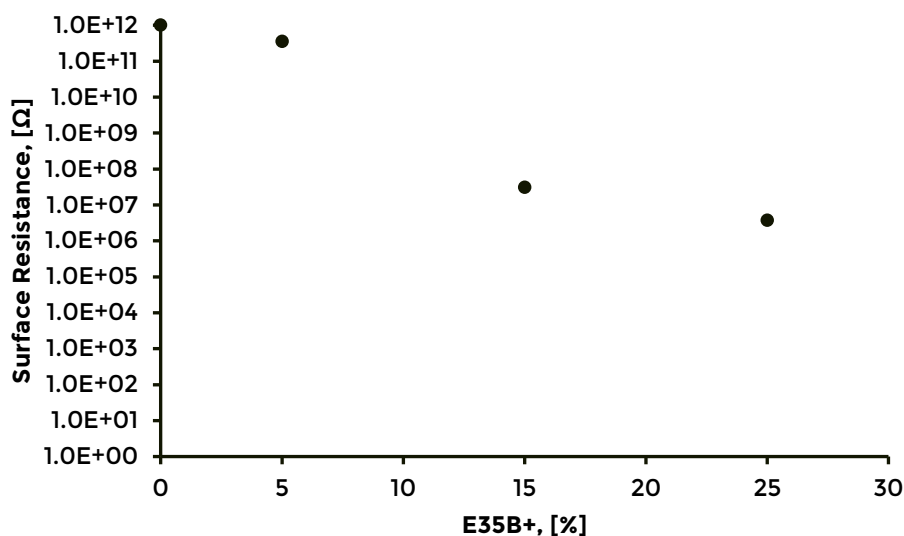
Depth of cure is measured by curing resins with EC-5000, 200 mW/cm² and 11.5 J/cm².



CURED MECHANICAL PROPERTIES

Property	Control	15% E35B+	Units	Method
Ultimate Tensile Strength	66.2	74.5	MPa	ASTM D 882
Tensile Modulus	2661.4	2895.8	MPa	ASTM D 882
Elongation	7.0	4.3	%	ASTM D 882
Durometer Hardness	87D	90D	**	**
MEK Double Rubs (#)	>200	>200	**	**

SURFACE RESISTANCE CURVE



UNCURED PROPERTIES

Property	Values	Units	Conditions
Viscosity	Thixotropic paste	cps	60°C
Appearance	Black paste	**	**
Refractive Index	0	**	25°C
Specific Gravity	1.08	**	20°C

Notes: This product is intended for industrial use only.

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.