

NANOMYTE® BE-50E (NMC111)

Active Material Characteristics

Product Description: Lithium Nickel Manganese Cobalt Oxide (NMC111) electrode sheets

Formula: $\text{LiNi}_{0.33}\text{Mn}_{0.33}\text{Co}_{0.33}\text{O}_2$

Average Particle Size (D₅₀): 8 – 12 μm

Specific Surface Area: 0.3 – 0.8 m²/g

Electrode Tape Characteristics

Current Collector: Aluminum

Current Collector Thickness: 16 μm

Sheet Size: 5 in x 10 in (127 mm x 254 mm)

Coating: Single or Double-sided sheets (as specified)

Areal Capacity: 2.0 mAh/cm² ± 5% (per side)

Active Material Loading: 12.9 mg/cm² ± 5% (per side)

Tape Thickness: 70 μm ± 5% (excluding current collector)

Standard Tape Composition:

%	Material	Description
90%	Lithium Nickel Manganese Cobalt Oxide ["NMC111"]	(active material)
5%	Poly(vinylidene fluoride) ["PVDF"]	(binder)
5%	Carbon Black ["Super P"]	(conductive carbon)

*Specifications can be modified upon request to accommodate different active material loadings, coating thickness, & capacity

Electrical Characteristics

Nominal voltage vs. Li/Li⁺: 3.75V

Minimum capacity: 150 mAh/g

Experimental capacity: ≥ 155 mAh/g (2.7 – 4.3V @ 0.1C)

Recommended Operating Conditions

Maximum Charge Voltage: 4.4V vs. Li/Li⁺

Cutoff Voltage for Discharge: 2.7V vs. Li/Li⁺

Maximum Charge Current: 1C

Maximum Discharge Current: 5C

Available Quantities

NEI's standard electrode sheets are available in packages of 2, 5, & 10 sheets. Bulk quantities are also available.

Precautions for Safe Storage & Handling

Personal protective equipment should be used at all times. Avoid contact with eyes and skin. Ensure adequate ventilation and avoid inhalation of dusts. Wash hands thoroughly after handling. Store in a dry and sealed pouch or under inert atmosphere, away from heat. Avoid moisture. [Refer to SDS for complete safety information of this material.](#)

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