DATASHEET

Nickel Foam Electrode Substrate | High Porosity for Batteries

Pure nickel foam sheets for electrode substrates. High porosity (95-98%) and conductivity. Ideal for supercapacitors and battery research. Custom sizes available.

APPLICATION

Energy Storage, Electrochemistry & Catalysis

KEY SPECS

- Dimensions: 100 × 100 mm
- Thickness: 1.6 mm
- Purity: ≥99.7 %
- Pore density: 110 PPI

1. Specifications

Dimensions	100 × 100 mm
Thickness	1.6 mm
Purity	≥99.7 %
Pore density	110 PPI
Porosity	≥95 %
Pore size	~160 µm
Structure	3D open-cell
Thickness options	0.1 / 0.2 / 0.3 / 0.5 / 1.0 / 1.6 / 1.7 / 2.0 / 3.0 / 5.0 mm
Size options	100 × 100 / 200 × 300 mm
Material	Pure nickel

2. Product Details

Nickel foam serves as a three-dimensional current collector and substrate for active

materials in batteries and supercapacitors. With porosity exceeding 95%, our nickel

foam provides excellent electrolyte access while maintaining high electrical conductivity.

Widely used in energy storage research for loading active materials via slurry coating,

hydrothermal growth, or electrodeposition.

Pure nickel (Ni ≥ 99.7%) foam with three-dimensionally interconnected open-cell structure, 110 PPI pore density, porosity ≥95%, pore size ~160μm, thickness 1.6mm, sheet dimensions 100×100mm. Suitable for lithium battery anode current collectors, Ni-MH/Ni-Cd battery electrode substrates, fuel cell gas diffusion layers, electrodeposition substrates, and catalyst supports. Uniform pore distribution combined with high porosity and electrical conductivity; high specific surface area facilitates uniform active material loading.

Related Guide: Nickel Foam Electrode Preparation Guide

Thickness Selection

The in-stock grade is 1.6 mm × 100 × 100 mm. Nine further thicknesses — 0.1, 0.2, 0.3, 0.5, 1.0, 1.7, 2.0, 3.0 and 5.0 mm — are available on request, in 100 × 100 mm or 200 × 300 mm sheets. Contact us for pricing, lead times and minimum order quantities on non-stock grades.

Thickness	Typical use	Rationale
0.1–0.3 mm	Low-loading electrodes, flexible electrodes, supercapacitor devices	Low areal loading, short ionic path, better rate performance; resists cracking on bending
0.5–1.0 mm	Moderate-loading electrodes, HER/OER electrocatalysis, flow-through electrodes	Compromise between loading and mass transport; ample gas-evolution channels
1.6–2.0 mm	High-loading electrodes, coin/ pouch cell device-level validation	High per-sheet loading, mechanically robust, easy to cut and clamp
3.0–5.0 mm	Large-format devices, heat sinks, catalyst supports	High structural strength for thick current-collector applications

Selection rule: the lower bound of thickness is set by your target areal loading — work backwards from target specific capacity (mAh/cm²) and active-material utilization to the pore volume required. The thicker the foam, the more the utilization and rate performance of deep active material is limited by ion transport. Fix the thickness within any comparison series; do not mix grades across a batch.

3. Order / Quote

Model	Pack Size	Availability
NF-110-1P	1 sheet per pack, 100 × 100 mm	In stock (Amazon / US warehouse)
NF-110-2P	2 sheets per pack, 100 × 100 mm each	In stock (Amazon / US warehouse)

Current pricing and ordering: labcorematerials.com/products/nickel-foam/

4. Shipping & Compliance

- Ships as raw material. No electrolyte, no lithium. Not classified as dangerous goods.

Contact

business@labcorematerials.com
www.labcorematerials.com/products/nickel-foam/