

## Precision Metal-Foil Processing Technology for Energy and Other Various Fields of Industry

### Features, Unique Qualities

Our company produces and sells metal mesh products, including precision-expanded metals and perforated metals. We supply our products to customers in various fields, including light electric appliances, automobiles, and plant manufacturing.

### Technology

We specialize in machining thin foil with thickness of less than 100  $\mu\text{m}$ . Our company has experience in large-scale machining of materials such as iron, stainless steel, nickel, titanium, copper, aluminum, and Inconel, and we are ready to handle new materials. We also design and produce dies in association with the above machining.

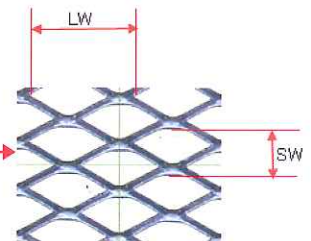
### Product example (1): Foil-perforated metal

Materials: Iron, copper, aluminum, stainless steel, nickel, titanium, etc.  
 Plate thickness: 20–100  $\mu\text{m}$   
 Plate width: 500 mm max. (depending on plate thickness)  
 Applications: Energy industry



### Product example (2): Micro lath expanded metal

Materials: stainless steel, copper, aluminum, nickel, titanium, etc.  
 Plate thickness: 35–100  $\mu\text{m}$   
 Plate width (in photo): 200 mm (SW: 1.0 mm; LW: 2.0 mm)  
 Applications: Energy industry

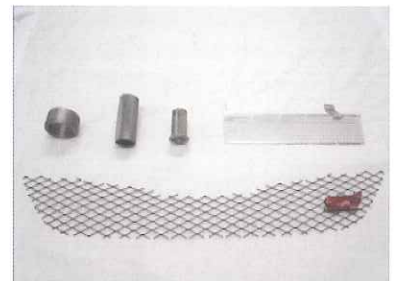


(Enlarged photo)  
 SW = Short width, LW = Long width

### Product example (3): Various filters and screens, auto parts, etc.

### Facilities

- High-speed press machine for creating perforated metal, 5–250 tons
- Total 56 units of expanded metal manufacturing machines and high-speed micro lath manufacturing machines
- Rolling equipment, various leveling machines, shearing machines, coil cutting machines, degreasing cleaning equipment, image-measuring instruments
- Tensile strength tester, precision flat grinding machine (latest model), NC large machining center, NC fine pore electric discharge machines (latest model)
- Wire-cut electric discharge machine (latest model), CAD/CAM system, and other various testing instruments and jigs



### Customer Benefits

- Comprehensive machining from design and production of dies to processing of products in short delivery times
- More than 30-year history of proven manufacturing capability, with experience in manufacturing battery components
- Delivery in coil form is available, which helps to reduce the manufacturing process

### Past Achievements, Future Developments

- We believe that our techniques for precisely machining metal foil, accumulated over 90 years since our founding in 1924, can contribute to various fields in the global market, while spurring the development of new applications.
- We intend to expand and globally market the Nikken brand for high-quality metal mesh products made in large-scale production facilities in Japan using our machining techniques and special metal foil materials.
- Expected business fields include energy (secondary battery electrodes, etc.), automotive (air-bag filters, front grilles, etc.), agricultural machines (machine covers, etc.), plants (various electrode materials, catalytic filters, silencers, etc.), light electric appliances (parts and components for washing machines, heating equipment, refrigerators, etc.), and electromagnetic wave shielding materials.

### ⇒ Company Profile

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