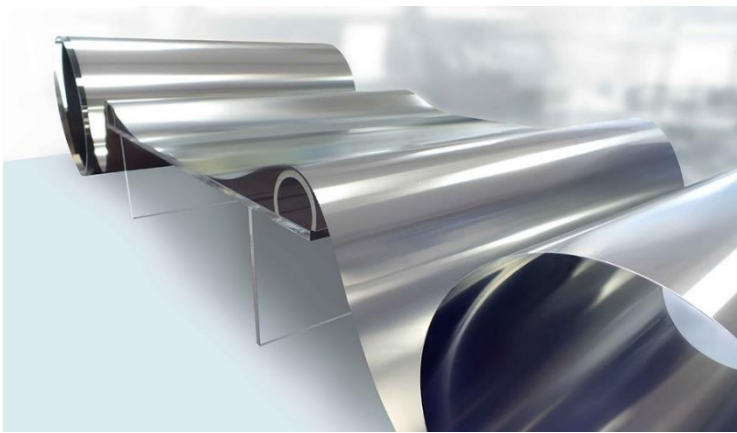


# NIPPON KINZOKU's Stainless Steel Wide Width Foil (BS/WS Finish)

NIPPON KINZOKU CO., LTD. (TOKYO: 5491) (Headquarters: Minato-ku, Tokyo) produces stainless steel foil by our proprietary technology for the automotive, battery, semiconductor and other markets. Our stainless steel foil features high precision, wide width and large unit weight, contributing to customers' productivity improvement, yield improvement and process reduction. In addition, we offer two types of finishes, "BS: Bright Surface" and "WS: White Surface," to meet the needs for surface design and functionality.



## NIPPON KINZOKU's Stainless Steel Wide Width Foil

- Steel grade: All steel grades (SUS304,SUS301,SUS430, etc.)
- Finish: Spring finish, TA finish, BA finish
- Feature:
  - ① Wide Width: Max. 600mm
  - ② High Precision: Min. longitudinal variation of thickness  $\pm 1\mu\text{m}$
  - ③ Surface: Bright Surface (BS), White Surface (WS)
  - ④ Unit weight: Max. 0.5kg/mm
  - ⑤ Min. thickness: 0.02mm

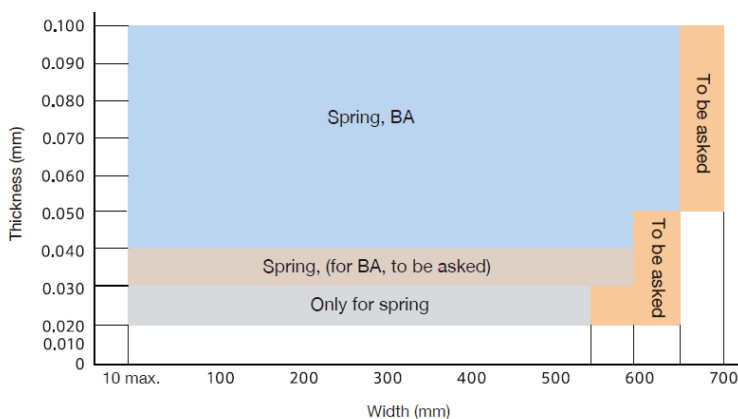


Fig. Manufacturing range for foil materials

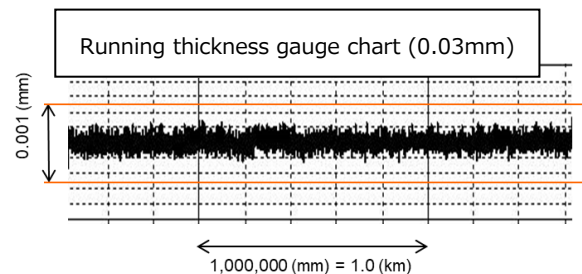
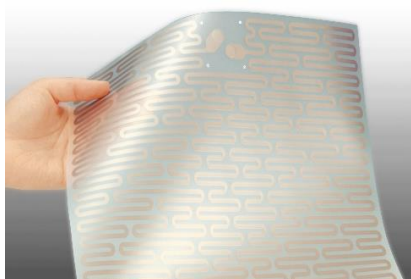


Fig. High-precision thickness

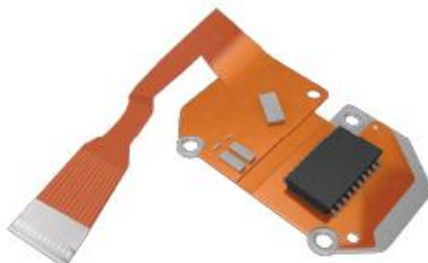
## Applications

One of the features of our stainless steel foils is that we produce wide width foil.

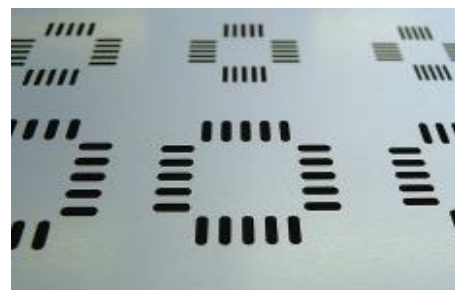
Applications include surface heating elements used in automobiles, FPC reinforcement plates, and metal masks used in electronic devices, and are used as composite materials with films etc. attached. In particular, there are few material manufacturers that produce materials with thickness of less than 30  $\mu\text{m}$  and a width of nearly 600 mm, contributing to improved processing yields and productivity.



Surface heating element



FPC

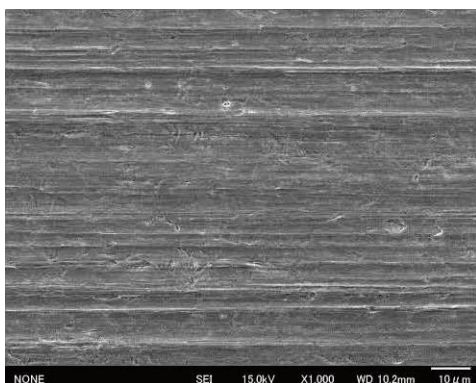


Metal mask

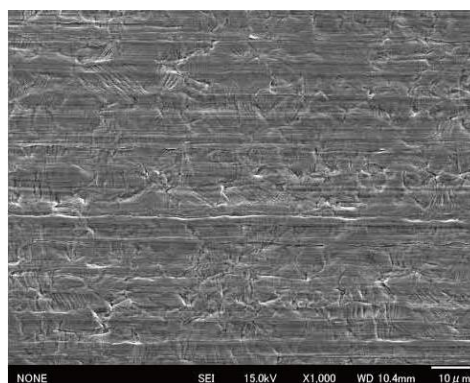
Fig. Wide width foil applications

## Surface texture

BS(Bright Surface)



WS(White Surface)



## Surface roughness, Glossiness (Representative value)

| Finish                | R a ( $\mu\text{m}$ ) | R y ( $\mu\text{m}$ ) | R z ( $\mu\text{m}$ ) | Glossiness (20°) |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
| BS                    | 0.025                 | 0.200                 | 0.150                 | 778              |
| WS                    | 0.045                 | 0.280                 | 0.230                 | 366              |
| Our general materials | 0.040                 | 0.253                 | 0.215                 | 554              |

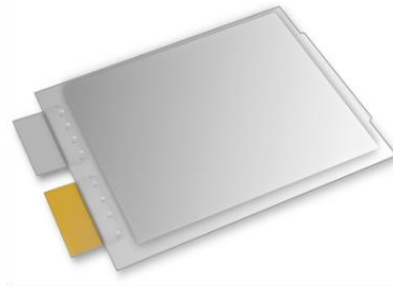
We meet various requirements for surface texture depending on the application.

In tact switch applications, there is concern about cracking due to minute surface irregularities during repeated use. In such cases, we recommend a Bright surface (BS finish) with a smooth surface, which contributes to improved durability.

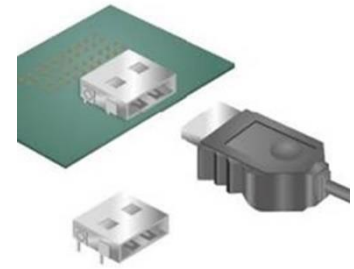
For the exterior of rechargeable batteries and connectors, on the contrary, we recommend a rougher White surface (WS finish), which contributes to improved adhesion with adhesives (exterior of rechargeable batteries) and visibility of laser engraving on the product surface (connectors).



Switch parts



Rechargeable Battery case



Connector

Fig Examples of Use(BS·WS finish)

### About NIPPON KINZOKU Group

Our products have been used in a range of areas from the precision field to the construction industry. <https://www.nipponkinzoku.co.jp/en/>

Note: This document has been translated from a part of the Japanese original for reference purposes only. In the event of any discrepancy between this translated document and the Japanese original, the original shall prevail.

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