

NIPPON KINZOKU Co-Creating New Value with Rolling Technology

Develops Insulated Stainless Steel FI (Fine Insulation) Finish

-Meeting the Need for Miniaturization of Electronic Devices-

NIPPON KINZOKU CO., LTD. (TOKYO: 5491) (Headquarters: Minato-ku, Tokyo, President Yasushi Shimokawa) announced that it has developed the "FI (Fine Insulation) finish", a stainless steel with high surface insulation resistance.

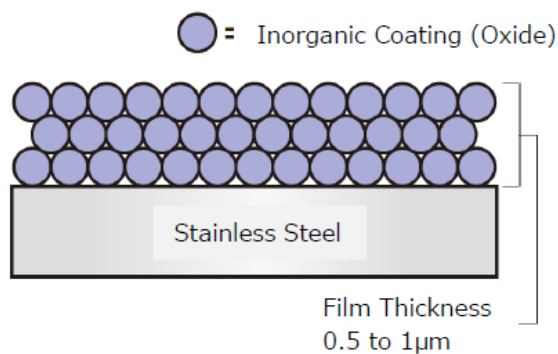
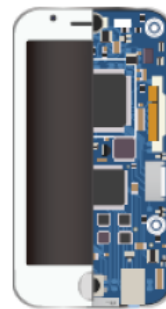


Image of FI finish



Electronic Device



Secondary Battery

Application examples

In recent years, miniaturization and low-profile design have become increasingly prominent in electronic devices such as smartphones and game consoles. Until now, measures have been taken to avoid short circuits by installing insulating tape or resin composites at points that come into contact with conductive parts. However, these solutions have led to higher costs and have obstructed miniaturization, and low-profile design.

Against the backdrop of such issues, we have developed our own "FI finish", a stainless steel surface pre-coated with an inorganic coating (about 1μm in thickness) that offers electrical insulation resistance (see image).

Since the "FI finish" does not require post-processing for surface treatment, it is a space-saving product that also contributes to process simplification, improved productivity, and cost reduction for customers.

This is an original product that meets new needs in line with the vision of NIPPON KINZOKU's 11th business plan, "NIPPON KINZOKU 2030", with the key concept of "Near Net Performance" (i.e., materials that achieve the performance required by the end product). We aim to expand sales in the future, focusing on applications in electronic devices and secondary battery.

“FI finish” is also an “Eco-Product,” certified under our own standards as an environmentally friendly product, because it reduces environmental impact by eliminating the need for insulation treatment at the customer's site. Our goal is to achieve Net Zero CO₂ emissions by 2050, and we will contribute to realizing carbon neutrality through the expanded sales of “Eco-Product”.

■ Features of FI finish

1. This is a coating with high surface insulation resistance (50MΩ or more*).
*Resistance in the thickness direction is measured with a digital multimeter.
2. The coating has high heat resistance, maintaining stable performance even at high temperatures (up to 850°C).
3. This hard inorganic coating offers excellent scratch resistance and is suitable for sliding parts.
4. The thickness of the coating is between 0.5 and 1μm.
5. Metals other than stainless steel can be considered.

■ Specifications

- 1) Steel Grade: SUS304, SUS301, SUS430, etc.
- 2) Thickness: 0.05 to 0.15mm
- 3) Width: Max. 500mm

*For specifications other than the above, please consult us.

Overview of Steel Strip Products

Our original designed equipment, built upon our extensive cold-rolling know-how, and our industry-leading proprietary technologies developed through these facilities and our deep expertise, are ready to meet all the diverse needs of our customers.

URL: <https://www.nipponkinzoku.co.jp/en/corporate-profile/business/cold-rolled-stainless-steel-strip>

The vision of the 11th Business Plan “NIPPON KINZOKU 2030”

We have set vision of becoming a “Multi & Hybrid Material Company that creates new eco- and human-friendly values together. By rolling and composite forming a wide variety of materials, we achieve the performance required for the final product and contribute to the future of both people and the planet” in our 11th Business Plan. With "Multi & Hybrid Material" (i.e., utilizing a wide variety of materials to meet various needs), "Near Net Shape" (i.e., achieving complex molding processes close to the final product shape), and "Near Net Performance" as key concepts, we are advancing future-oriented product development through our original technologies, and aiming to transform our business structure by focusing on new technologies and products that meet emerging needs.

* * * Contact * * *

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