NEWS RELEASE

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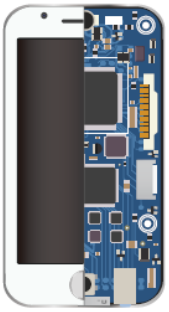
NIPPON KINZOKU CO., LTD.

Achieving Precise Processing through Etching Warpage Elimination and Refined Grain Size

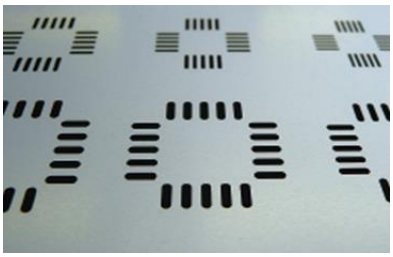
New Launch of “STA Finish” Stainless Steel for High-Precision Etching as an “Eco-Product”

- NIPPON KINZOKU: Co-creating New Value with Earth-friendly “Eco-Product” -

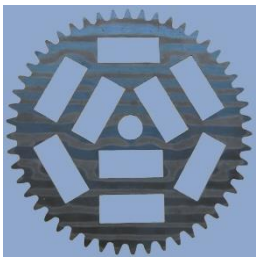
NIPPON KINZOKU CO., LTD. (Headquarters: Minato-ku, Tokyo; President: Yasushi Shimokawa; Securities Code: 5491) is pleased to announce the launch of its fourth environmentally-friendly “Eco-Product” series, STA (Special Tension Annealing) finish stainless steel, which eliminates warping and refines crystal grain size for high-definition etching.



Smartphone Components



Metal Mask



Wrapping Carrier

Figure 1: Example of STA Finish

Conventional TA (Tension Annealing) finish has been highly evaluated as a stainless spring material with excellent flatness, low residual stress, and dimensional stability after processing. STA finish, which is a further evolution of this finish, minimizes residual stress and is optimized for etching processing.

In the etching process, particularly in the half-etching process, spring material warping has been an issue. STA finish greatly reduces this warping, dramatically improving dimensional stability.

Furthermore, in response to demand for smoother etched surfaces, we have achieved finer crystal grain sizes. This makes the product suitable for high-precision microfabrication applications.

These characteristics enable process elimination and simplification, contributing to improved energy efficiency and reduced environmental impact throughout your manufacturing process. Additionally, greater product design flexibility enables the optimization of shapes and specifications, thereby contributing to improved processing efficiency and yield.

Leveraging these characteristics, our product has been widely adopted in various applications as shown in Figure 1.

Therefore, we have certified STA finish as an “Eco-Product” from these perspectives. We are working to achieve net zero CO_2 emissions by 2050 and are engaged in sustainable manufacturing through the widespread use of environmentally friendly materials.

In addition, this product is in line with our 11th management plan, “NIPPON KINZOKU 2030,” and is a unique product that meets customer needs with the keyword “Near Net Performance” (achieving the performance required of the final product with the material). We aim to further expand sales in fields such as 5G communications, mobile devices, and semiconductor-related products.

Features

1. The material undergoes heat treatment and shape correction simultaneously, resulting in excellent flatness (Figure 2).
2. Internal stress (distortion) accumulated during processing is minimized to the utmost, making it ideal for applications requiring high processing accuracy (Figure 2).
3. As an option, products with a refined grain size, which allows for a smoother etching surface, are also available (Figure 3).

Figure 2: Comparison of Shapes after Half Etching

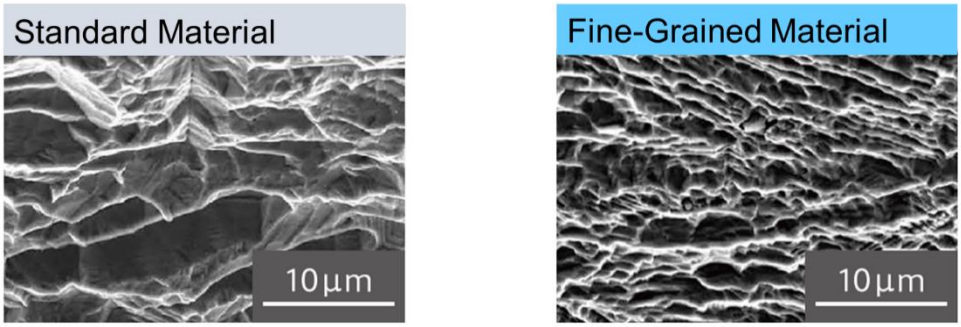


Figure 3: Examples of Cross-Sectional Photographs after Etching

Specifications

1) Steel Grade: SUS304, SUS301, SUS430, etc.
2) Thickness: 0.1–0.5 mm
3) Width: Maximum 600 mm
* Fine-Grained Material is available only for SUS304.

Steel Strip Product Overview

With our unique equipment designed based on our accumulated cold rolling expertise and the industry-leading technologies developed from it, we can meet all of our customers' needs.
URL: https://www.nipponkinzoku.co.jp/en/corporate-profile/business/cold-rolled-stainless-steel-strip

About the 11th Management Plan "NIPPON KINZOKU 2030"

We are pursuing future-oriented product development by leveraging our proprietary technologies, guided by the vision: "Multi & Hybrid Material Company: Creating new value that is kind to people and the earth through Multi & Hybrid Materials. By rolling and compositely forming a wide variety of materials, we realize the performance required of final products, contributing to the future of people and the earth." Our key concepts are "Multi & Hybrid Material" (utilizing diverse materials to suit various needs), "Near Net Shape" (achieving complex forming processes that result in shapes close to the final product), and "Near Net Performance" (realizing high performance through material design). Furthermore, we aim to transform our business structure by prioritizing new technologies and products that address emerging needs.

Note: This document has been translated from a part of the Japanese original. It is provided for reference purposes only. If there's a difference between this translated document and the Japanese original, the Japanese original will take precedence.

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