

# NIPPON GOKIN FG

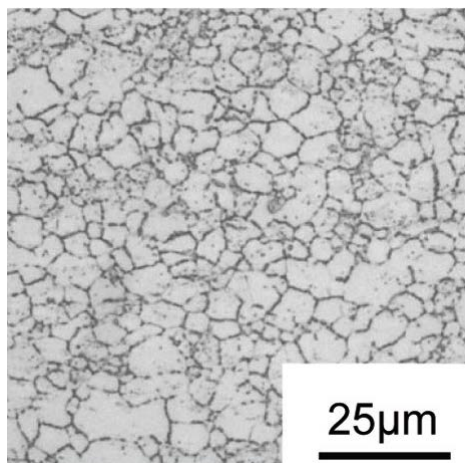
## Fine Grain Microstructure for advanced laser & etched Stencils



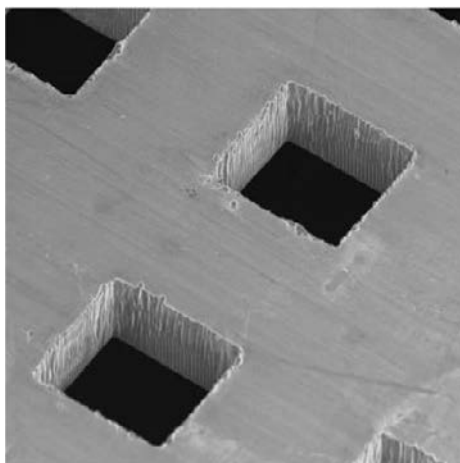
## DATASHEET

### Chemical Composition

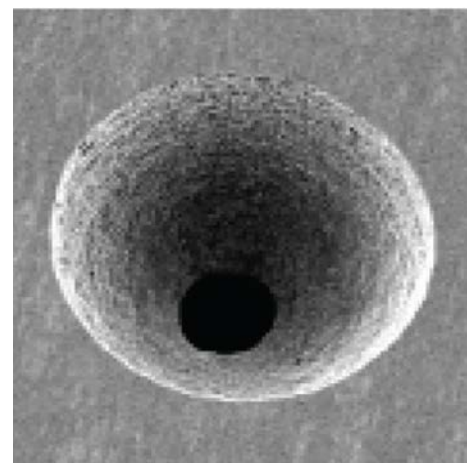
| 304H<br>% Mass | Carbon<br>(C) | Silicon<br>(Si) | Manganese<br>(Mn) | Phosphorus<br>(P) | Sulfur<br>(S) | Chromium<br>(Cr) | Nickel<br>(Ni) | Iron<br>(Fe) |
|----------------|---------------|-----------------|-------------------|-------------------|---------------|------------------|----------------|--------------|
| Min            | -             | -               | -                 | -                 | -             | 18.00            | 8.00           | Bal          |
| Max            | 0.08          | 1.00            | 2.00              | 0.045             | 0.03          | 20.00            | 10.50          |              |



2~5µm molecular grain size



Defined laser cutting edges



Stable etching properties

### Mechanical Properties

| Hardness<br>(HV) | Yield Strength<br>(MPa) | Tensile Strength<br>(MPa) | Elongation<br>(%) | Grain Size<br>(µm) | Available<br>Thickness<br>(mm)    | Available Sizes<br>(mm)            |
|------------------|-------------------------|---------------------------|-------------------|--------------------|-----------------------------------|------------------------------------|
| 370 ~ 410        | ≥ 800                   | ≥ 1050                    | ≥ 5               | 2 ~ 5              | 0.080 ~ 0.500<br>Tolerance: ±2-3% | Width: ≤610 ±0.1<br>Length: Any ±1 |

### Product Brief

Nippon Gokin's FG is a fine grain microstructure alloy which is designed for advanced stencils used in the SMT and etching industry. This stainless steel alloy was developed as an alternative to traditional SUS304 used to make stencils. SUS304 has a grain size of 20~30µm whereas FG has a grain size of 2~5µm giving it a composition very close to FG+ alloys but at a very much lower price point. This gives fabricators the opportunity to offer a much better quality product.

FG also has very good etching characteristics. Due to its stress relieving properties field tests show that etched jobs do not experience the effect of warping.

