

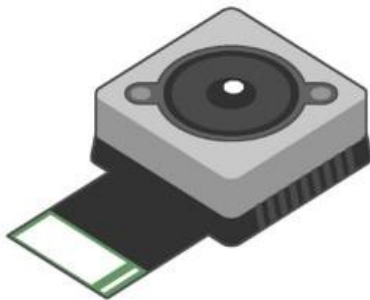
Significantly reduces residual magnetism after processing,
greatly expanding the possibilities for deep drawing
Newly Expanding Sales of the “NK-305 Series” as an Eco-Product

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 now strengthening sales of its stainless steel **“NK-305 Series”**, which achieves both **low permeability (non-magnetic)** and **high deep-drawing formability**, as the sixth installment in its environmentally conscious **“Eco-Product”** lineup.

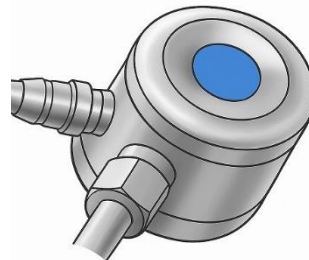
This product addresses market needs such as improving the reliability of electronic components and supporting the increasing complexity of automotive parts. It contributes to enhancing performance and improving the productivity of our customers' products.

Non-magnetic applications



Camera Parts (NK-305S)

Deep Drawing Applications



Automotive Parts (NK-305Y)

Figure 1: Examples of NK-305 Series Adoption

Development Background

In recent years, with the miniaturization and higher density of electronic devices and the lightweighting of automobiles, the metal materials used are increasingly required to simultaneously achieve higher levels of both **low permeability (non-magnetic) properties** that resist magnetization even after processing and **deep drawability** that enables the formation of complex shapes. However, achieving both of these properties simultaneously has been a difficult challenge with conventional stainless steel.

Features and Benefits of the NK-305 Series

To meet these market needs, our company has developed the “NK-305 Series” using proprietary technology. We offer two steel grades that deliver optimal performance tailored to specific applications.

1. NK-305S: Extremely low permeability for enhanced reliability of electronic components

It significantly suppresses the generation of magnetism during heavy processing, achieving properties that surpass those of SUS316 - a common low-permeability stainless steel. This makes it ideal for camera modules (Figure 1) and various sensor components where magnetic interference must be minimized, contributing to the prevention of product malfunctions. Furthermore, cost reduction is possible by replacing SUS316 with NK-305S.

(Example applications: camera components, mobile device components, etc.)

2. NK-305Y: Excellent deep drawing properties improve productivity for complex-shaped parts

Exceptionally soft with excellent elongation, it handles demanding deep drawing processes. It facilitates forming complex automotive parts and other shapes that were previously difficult to manufacture, significantly contributing to improved processing efficiency and yield in customer production.

(Examples of applications: automotive parts, electronic component enclosures, etc.)

Environmental Contributions and Future Outlook

The NK-305 Series has been certified as an “Eco-Product” under our proprietary standards to contribute to resource conservation by improving customer yield rates. Through providing this product, we aim to support extended product lifespans and enhanced productivity for our customers, thereby reducing environmental impact throughout the entire supply chain.

Moving forward, under the vision of our 11th Management Plan “NIPPON KINZOKU 2030,” we will strengthen the development and supply of unique products tailored to customer needs for the automotive, electronic components, and semiconductor-related markets.

Chemical Composition and Properties of the NK-305 Series

1) Chemical Composition

The NK-305 series is an austenite-stabilized steel grade compared to the general SUS304, and its chemical composition is adjusted within the JIS specifications for SUS305 (Table 1).

Steel Grade	C	S i	M n	P	S	N i	C r
SUS305 (JIS Standard)	0.12 or less	1.00 or less	2.00 or less	0.045 or less	0.030 or less	10.50 -13.00	17.00 -19.00
NK-305S (One Example)	0.080	0.69	1.45	0.027	0.001	12.07	18.09
NK-305 Y (One Example)	0.013	0.72	0.91	0.025	0.001	11.04	18.08
SUS304 (One Example)	0.060	0.41	1.11	0.031	0.004	8.04	18.05

Table 1: Comparison of Chemical Composition (Representative Values)

2) Low Permeability (Non-Magnetic) & Deep Drawability

1. NK-305S

The NK-305 series exhibits lower permeability compared to SUS304. Specifically, NK-305S **suppresses the generation of work-hardening-induced martensite that induces magnetism during processing**, making it a **steel grade less prone to magnetization than SUS316** (Figure 2). This enables cost reduction compared to SUS316.

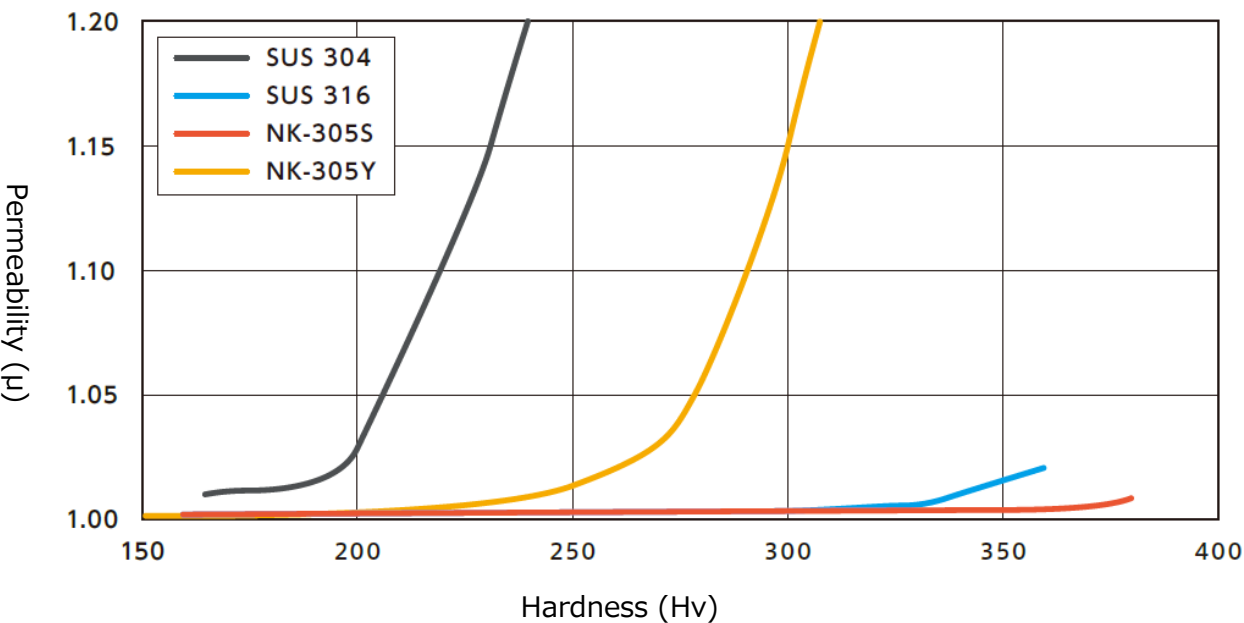


Figure 2: Permeability by Steel Grade

2. NK-305Y

The NK-305 series is soft with low strength but offers excellent deep drawability. Among these, NK-305Y **further enhances deep drawability**. Tensile strength and elongation are equivalent to standard SUS304 (Table 2).

Steel Grade	Hardness (HV)	Tensile strength (MPa)	Endurance (MPa)	Elongation (%)
SUS305 (JIS)	200 or less	480 or more	175 or more	40 or more
NK-305S (One Example)	163	640	270	53
NK-305 Y (One Example)	148	638	250	55
SUS304 (One Example)	177	752	330	56

Table 2: Mechanical Properties (Representative Values: 2B Finish)

Steel Strip Products Overview

Our proprietary equipment, designed with accumulated cold rolling expertise, and the industry-leading proprietary technologies developed by it, meet all your needs.

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

Regarding the 11th Business Plan “NIPPON KINZOKU 2030”

Our company's vision is to be a “Multi & Hybrid Material company that co-creates new value that is kind to people and the planet.” This philosophy means we process diverse materials using our unique rolling and composite forming technologies to achieve the required performance of final products at the material level, thereby contributing to a sustainable future for people and the planet. To realize this vision, we have established three key concepts: “Multi & Hybrid Material” (utilizing diverse materials), “Near Net Shape” (achieving complex forming close to the final product shape), and “Near Net Performance” (products that achieve the required performance of the final product at the material level). Based on these concepts, we will advance future-oriented product development using our proprietary technologies. We will then aim to transform our business structure by focusing on new technologies and products to meet emerging needs.

Contact for Inquiries Regarding This Product and Technical Information

NIPPON KINZOKU CO., LTD. Production Process & Support Department

TEL: +81-3-5765-8113

<https://www.nipponkinzoku.co.jp/en/inquiry>