



# High-Strength Austenitic Stainless Steel

# NSSC 304N

18Cr-8Ni-0.2N-Nb/Similar grade : SUS 304N2

## Features and Applications

NSSC 304N is a nitrogen-added grade that exhibits much higher strength (yield strength of a 0.2% offset is particularly high), and provides advantages over SUS 304 concerning the potential of structural designs.

- 1. Remarkably higher strength at room to high temperatures and higher fatigue strength than that of SUS 304. 2. Corrosion resistance, heat resistance and physical properties similar to those of SUS 304.
- Welded joints of sound quality can be obtained using welding materials of similar composition.

[Applications] High-pressure equipment, Centrifugal separators, Various equipment employing SUS 304

# Characteristics

#### [Mechanical properties]

		Yield strength 0.2% offset N/mm <sup>2</sup>	Tensile strength N/mm <sup>2</sup>	Elongation %	Hardness HBW
NSSC 304N	Specification	≧345	≧690	≧40	≦250
	Typical values	481	814	49	170
SUS 304	Specification	≧205	≧520	≧40	≦187
	Typical values	255	579	63	126

#### [High-temperature strength]



#### [Corrosion resistance]

	Test conditions			NSSC 304N		SUS 304
	Solution composition	Temperature °C	Period hr	Base metal g/m²/hr	Welded portion g/m²/hr	Base metal g/m²/hr
Reduction acid	2% H <sub>2</sub> SO <sub>4</sub>	Boil	6	184.8	172.4	206.0
Reduction acid	1% HCI	"	11	83.5	57.9	25.0
Reduction acid	10% HCI	25	24	1.60	1.70	0.81
Oxidizing acid	65% HNO <sub>3</sub> (5cycle)	Boil	48	0.22	0.26	0.15
Organic acid	20% CH₃COOH	"	6	0.03	0.05	0.17
Pitting corrosion	0.5M FeCl₃	25	48	4.75	8.08	9.80

(Test specimens :2mm×30mm×30mm)

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