NIPPON STEEL

www.nipponsteel.com

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111

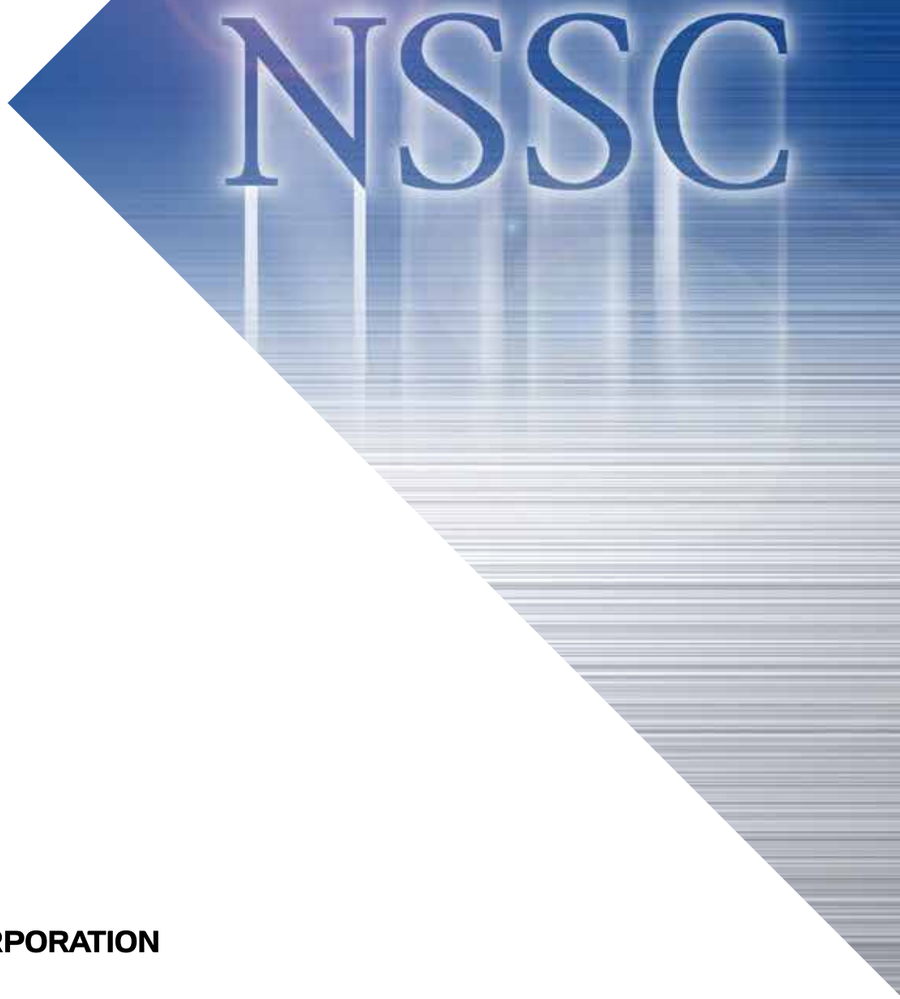
Introduction to NSSC™ Series
S007en_01_202503f

NIPPON STEEL

Stainless Steels

Introduction to NSSC™ Series

Stainless Steels



NET ZERO
NIPPON STEEL
Green Transformation
initiative

NIPPON STEEL CORPORATION

STAINLESS STEELS

NSSC SERIES

Content

NSSC SERIES
Austenitic Stainless Steels

The austenitic type stainless steels, as far as worked with solid solution heat treatment, are non-magnetic and nonhardenable by heat treatment, while they exhibit a wide range of mechanical properties and become slightly magnetic when cold worked.
And especially, they can exhibit the maximum softness, elongation and corrosion resistance in its annealed state; that is, rapid cooling from high temperatures.

NSSC SERIES
Ferritic Stainless Steels

This stainless steel is Cr-type, and 18%-Cr stainless is most typical.
It cannot be hardened by heat treatment, while it shows the maximum softness, elongation and corrosion resistance in its annealed state.
It offers magnetism as does the martensitic-type stainless steel.

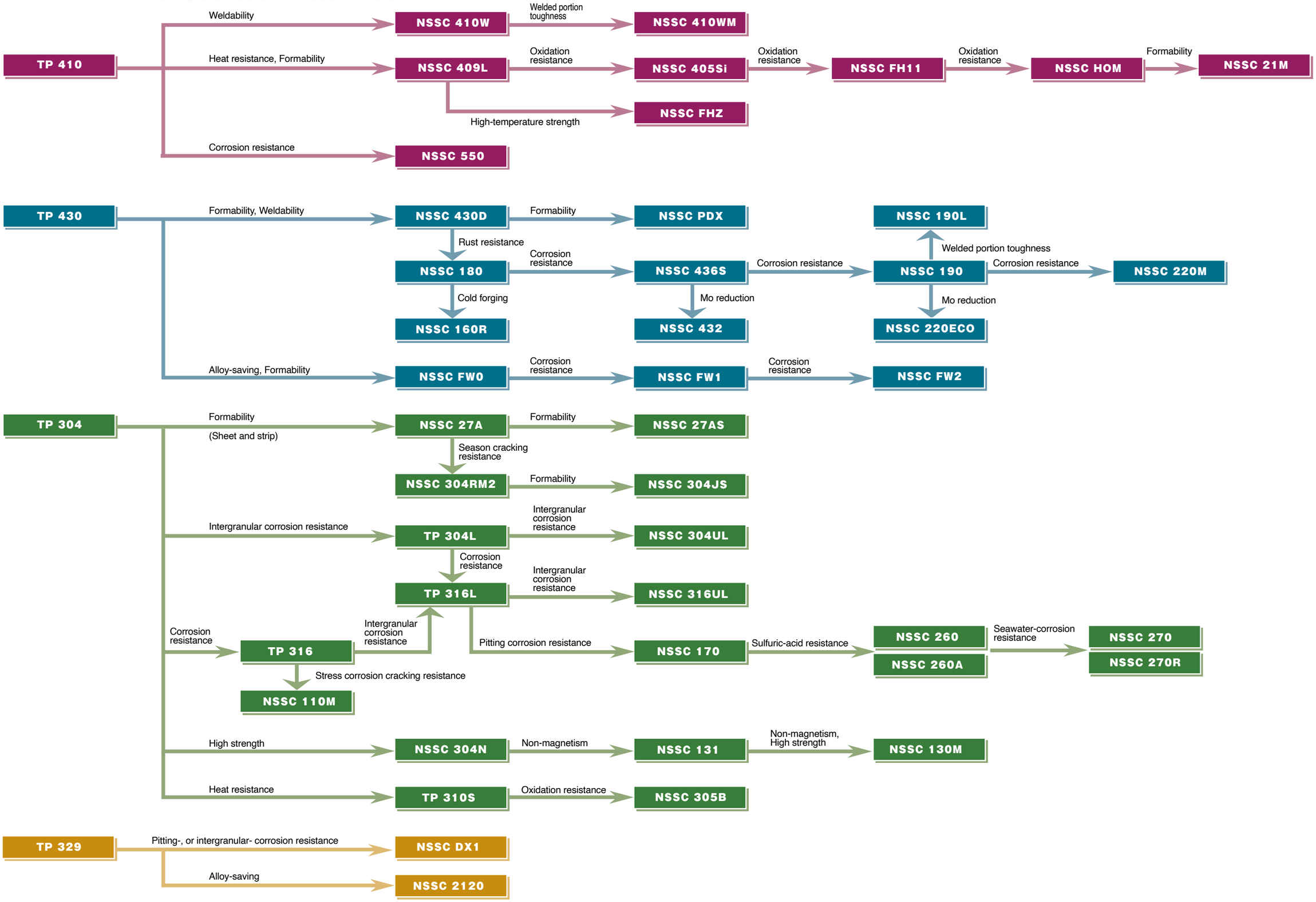
NSSC SERIES
Martensitic Stainless Steels

This type of stainless steel can offer heat-treatment effects similar to those of most alloy steels.
When subjected to appropriate heat treatment, it can also exhibit wide-ranging mechanical properties. This type features strong magnetism.

NSSC SERIES
Austenitic-Ferritic (Duplex) Stainless Steels

With a duplex structure of austenite and ferrite, duplex type stainless steels show excellence in corrosion resistance and strength.

Introduction to NSSC Series Stainless Steels



NSSC Series - Chemical Composition, Mechanical Properties and Other Key information

NSSC SERIES
Austenitic Stainless Steels

P : Plate
C : Strip in coil
W : Wire rod

	Symbol of grade	Similar grade	Typical composition	Characteristics	Applications	Product category available	Mechanical properties				
							Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness	Inside radius at bending angle of 180°
Formability	NSSC 27A (YUS 27A)	SUS 304J1	17Cr-7Ni-2Cu	High formability	Kitchen sinks, Door knobs	C	≧205	≧520	≧40	HV≦200	—
	NSSC 27AS		17Cr-7Ni-2Cu-LC,N	High formability, Softness	Design oriented kitchen sinks	C	≧155	≧450	≧40	HV≦200	—
	NSSC 304RM2 (NAR-304RM2)	—	18Cr-9Ni-1Cu	High formability, Season cracking resistance	Kitchen sinks, Beer barrels, Coins	C	≧205	≧540	≧50	HV≦188	—
	NSSC 304JS	SUS 304J1 SUS 304J2	17Cr-8Ni-3Mn-3Cu-LC,N	High formability,Softness, Season cracking resistance	Precision press equipment	C	≧155	≧450	≧40	HV≦200	—
High strength	NSSC 130M (YUS 130M)	—	18Cr-6Ni-9Mn-0.3N	High strength, Non-magnetism	Guide pins, Non-magnetic bolts	W	—	—	—	—	—
	NSSC 131 (YUS 131)	—	18Cr-6Ni-5Mn-0.2N	Non-magnetism	Non-magnetic apparel parts, Spokes	W	—	—	—	—	—
	NSSC 304N (YUS 304N)	SUS 304N2 ASTM XM-21	18Cr-8Ni-0.2N-Nb	High strength	High-pressure equipment, Centrifugal separators	P, C	≧345	≧690	≧35	HV≦260 HBW≦248	—
High corrosion-resistance	NSSC 304UL (YUS 304UL)	SUS 304L	18Cr-10Ni-LC	Intergranular corrosion resistance	Spent nuclear fuel reprocessing equipment	P	≧175	≧480	≧40	HBW≦187	—
	NSSC 316UL (YUS 316UL)	SUS 316L	17Cr-15Ni-2Mo-LC	Intergranular corrosion resistance	Spent nuclear fuel reprocessing equipment	P	≧175	≧480	≧40	HBW≦187	—
	NSSC 316C (YUS 316C)	SUS 316J1	18Cr-12Ni-2Mo-Cu	Corrosion resistance, Formability	Machine screws, Nuts and bolts	W	—	—	—	—	—
	NSSC 110M (YUS 110M)	SUS 315J1	18Cr-10Ni-2Cu-2Si-0.8Mo	Stress corrosion cracking resistance	Hot-water-supply systems, Home appliances, Heat exchangers	C	≧205	≧520	≧40	HV≦200	—
	NSSC 170 (YUS 170)	SUS 317J2	25Cr-13Ni-0.9Mo-0.3N	Pitting corrosion resistance, High strength	Exhaust gas desulfurizers, High temperature usage	P, (C), W	≧345	≧690	≧40	HV≦260 HBW≦250	—
	NSSC 317LN (YUS 317LN)	SUS 317LN	19Cr-13Ni-3.5Mo-0.2N-LC	Pitting corrosion resistance, High strength	Chemical plants, Chemical tanks	P	≧245	≧550	≧40	HBW≦217	—
	NSSC 260 (YUS 260)	—	20Cr-15Ni-3Mo-1.5Cu-0.2N-LC	Acid, High strength	Chimneys, Sulfuric acid plants	P, (C)	≧275	≧550	≧35	HBW≦217	—
	NSSC 260A	—	22Cr-16Ni-3.5Mo-2Cu-0.2N-LC	Acid, High strength	Chemical tankers	P	≧315	≧600	≧35	HBW≦230	—
	NSSC 270 (YUS 270)	SUS 312L ASTM S31254	20Cr-18Ni-6Mo-0.2N-LC	Seawater-corrosion resistance, High strength	Seawater desalination plants, Building exterior materials	P, C	≧300	≧650	≧35	HV≦230 HBW≦223	—
	NSSC 270R (YUS 270R)	—	20Cr-23Ni-6Mo-LN	Seawater-corrosion resistance	Corrosion resistant screws, Nuts and bolts, Wire nettings	W	—	—	—	—	—
High heat-resistance	NSSC 305B (NAR-305B)	SUS XM15J1 ASTM XM-15	19Cr-13Ni-3.5Si	Heat resistance, Oxidation resistance	Automotive exhaust systems, Burners	C	≧205	≧540	≧45	HV≦200	—

NSSC Series - Chemical Composition, Mechanical Properties and Other Key information

P : Plate
C : Strip in coil
W : Wire rod

NSSC SERIES
Ferritic Stainless Steels

	Symbol of grade	Similar grade	Typical composition	Characteristics	Applications	Product category available	Mechanical properties				
							Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness	Inside radius at bending angle of 180°
High corrosion-resistance / Formability	NSSC 409L (YUS 409D,NAR-409L)	SUH 409L	11Cr-0.2Ti-LC	High formability	Automotive exhaust systems, Heat exchangers	C, P	≧175	≧360	≧25	HV≦180	1.0t
	NSSC 430D (YUS 430D)	SUS 430LX ASTM 439	17Cr-0.4Ti-LC,N	High formability	Kitchen furnishings, Gas burners	C	≧175	≧360	≧28	HV≦180	1.0t
	NSSC PDX (YUS PDX)	SUS 430LX ASTM 439	17Cr-0.2Ti-ULC,N	High formability, Softness	Combustion components, Front door of refrigerators	C	≧175	≧360	≧30	HV≦180	1.0t
	NSSC 160R	—	16Cr-0.4Cu-Nb-LC,N	Cold forging	Wire nettings, Screws	W	—	—	—	—	—
	NSSC 439	ASTM 439	17Cr-Ti-LC,N	High formability Corrosion resistance	Automotive mufflers	C	≧205	≧390	≧25	HV≦170	1.0t
	NSSC 432 (YUS 432,NAR-436J1L)	SUS 436J1L	17Cr-0.5Mo-Ti-LC,N	Corrosion resistance, High formability	Automotive mufflers, Kitchen furnishings,Home appliances	C	≧205	≧390	≧25	HV≦170	1.0t
	NSSC 436S (YUS 436S,NAR-436S)	SUS 436L ASTM 436	17Cr-1.2Mo-Ti-LSi-LC,N	Corrosion resistance, High formability	Automotive mufflers, Structural member	C, P	≧205	≧390	≧25	HV≦170	1.0t
	NSSC 180 (YUS 180)	SUS 430J1L	19Cr-0.4Cu-0.4Nb-LC,N	Rust resistance	Automotive trim material, kitchen furnishings	C, W	≧205	≧450	≧22	HV≦200	1.0t
	NSSC 190 (YUS 190)	SUS 444	19Cr-2Mo-Nb,Ti-LC,N	Pitting corrosion resistance	Hot-water boilers, Water tanks,Solar-heat collectors	C, W	≧205	≧450	≧22	HV≦200	t<8mm:0.5t
	NSSC 190L (YUS 190L)		19Cr-2Mo-Nb-V-LC,N	Pitting corrosion resistance, Weldability	Petro-chemical equipment, Heat exchangers, Storage tanks	P, (C)	≧245	≧410	≧22	HV≦230 HBW≦217	t<8mm:0.5t t≧8mm:1.0t
	NSSC 444M1		20Cr-2Mo-Nb-Cu-LC,N	Pitting corrosion resistance, Blazability	EGR cooler	C	≧245	≧410	≧22	≧230	1.0t
	NSSC 220ECO	SUS 445J1	22Cr-1.2Mo-Nb,Ti-LC,N	Pitting corrosion resistance, Mo reduction	Hot-water boilers, Water tanks	C	≧295	≧480	≧22	≧200	1.0t
	NSSC 220M (YUS 220M)	SUS 445J2	22Cr-1.6Mo-Nb,Ti-LC,N	High rust-resistance	Roofing, Siding	C	≧295	≧470	≧22	HV≦200	1.0t
Alloy-saving	NSSC FW0	—	13Cr-Sn-LC,N	High formability Corrosion resistance	Home appliances Other wide uses(interior parts)	C	≧175	≧360	≧28	HV≦160	1.0t
	NSSC FW1	—	14Cr-Sn-LC,N	High formability Corrosion resistance	Home appliances Other wide uses(interior parts)	C	≧175	≧360	≧28	HV≦180	1.0t
	NSSC FW2	—	17Cr-Sn-LC,N	High formability Corrosion resistance	Home appliance Other wide uses(Exterior parts)	C	≧205	≧390	≧25	HV≦200	1.0t
High heat-resistance	NSSC 405Si	—	12Cr-2Si-0.15Al	Oxidation resistance	Heaters, Burners, Gas burners	C	≧295	≧490	≧15	HV≦230	2.0t
	NSSC FHZ (NAR-FH-Z)	—	13Cr-1Si-Nb-LC	High-temperature strength	Automotive exhaust systems, Exhaust gas boiler ducts	C	≧205	≧410	≧25	HV≦200	1.0t
	NSSC FH11 (NAR-FH-11)	—	18Cr-2.5Si-Nb-LC	Oxidation resistance	Heaters, Burners, Gas burners	C	≧205	≧410	≧22	HV≦230	1.0t
	NSSC 21M	SUH 21	18Cr-2Al-Ti	Oxidation resistance	Motorcycle mufflers	C	≧205	≧410	≧15	HV≦230	—
	NSSC HOM (HOM 125)	—	15Cr-4Al-LC,N	Oxidation resistance, Electric resistance	Electric-resistant /heat-resistant apparatus	C	≧350	≧520	≧15	HV≦230	—
Weldability	NSSC 410W (YUS 410W)	SUS 410L	12Cr-LC	Weldability	Heat-resistant apparatus	P, C, W	≧195	≧360	≧22	HV≦200	1.0t
	NSSC 410WM (YUS 410W-MS)	SUS 410L	11Cr-Ni-LC,N	Weldability, Weld zone toughness	Marine container frame material	P, C	≧315	≧430	≧20	HV≦240	1.0t (t≦5mm)

NSSC SERIES
Martensitic Stainless Steels

High strength	NSSC 410DA	—	12Cr-0.07C	High hardness	Disc brake	C	≧205	≧410	≧20	HV≦200	—
	NSSC 420J1M	SUS 420J1M	13Cr-015C-N	High hardness Corrosion resistance	Tableware	C	—	—	—	—	—
	NSSC 550 (YUS 550)	—	13Cr-1Ni-2Mo	High hardness, High rust-resistance	Self-tapping screw, Nail of high-strength	W	—	—	—	—	—

NSSC SERIES
Austenitic-Ferritic (Duplex) Stainless Steels

High corrosion-resistance	NSSC 2120	ASTM S82122	21Cr-2Ni-3Mn-Cu-N	高強度・耐孔食性 溶接性、省Ni	大型構造物 化学・エネルギー関連プラント	P, C	*1 ≧500	≧700	≧25	HV≦320 HBW≦290	—
							*2 ≧400	≧600	≧30	HV≦320 HBW≦290	—
	NSSC DX1 (YUS-DX1)	SUS 329J3L DIN 1.4462	22Cr-5Ni-3Mo-LC-0.13N	High strength, Pitting-corrosion /intergranular-corrosion resistance	Chemical plant, Energy-related plat	P	≧450	≧620	≧25	HBW≦290	—

*1 Thickness＜3.00mm *2 Thickness≧3.00mm

NIPPON STEEL

NSSC SERIES

AUSTENITIC

High-Formability Austenitic Stainless Steel

NSSC 27A, NSSC 27AS

17Cr-7Ni-2Cu-(LC,N)／Similar grade : SUS 304J1

Features and Applications

NSSC 27A: Superior to SUS 304 in deep drawability and stretchability.
NSSC 27AS: High performance in formability by softening NSSC 27A.

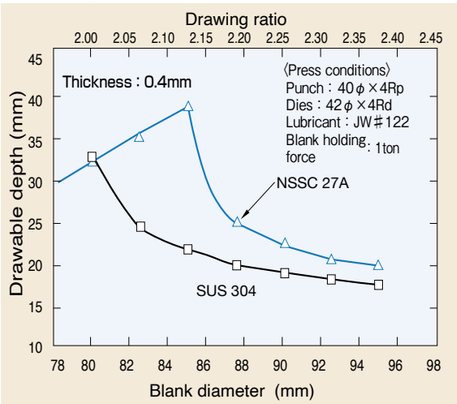
[Applications] Kitchen sinks, Door knobs（NSSC 27A）
Design oriented kitchen sinks（NSSC 27AS）

Characteristics

[**Mechanical properties**]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV	Erichsen value mm
NSSC 27A-Specification	≧205	≧520	≧40	≦200	–
NSSC 27A-Typical values	257	629	56	146	14.4
NSSC 27AS-Specification	≧155	≧450	≧40	≦200	–
NSSC 27AS-Typical values	238	550	52	133	14.2
SUS 340- Typical values	298	668	52	159	11.8

[**Drawability**]



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Deep-Drawing Austenitic Stainless Steel

NSSC 304RM2

18Cr-9Ni-1Cu

Features and Applications

1. Superior to SUS 304 in press forming as deep-drawing.
2. Superior to SUS 304 in season cracking resistance.

[Applications] Kitchen sinks for home and business use, Beer barrels, Coins for game machines

Characteristics

[**Mechanical properties**]

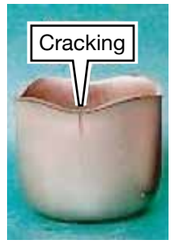
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧540	≧50	≦188
Typical values	272	594	57	150

[**Season cracking resistance**]

Grade	NSSC 304RM2	SUS 304
Result of test	No cracking	Cracking within 24 hours

Thickness of test specimens: 1.5mm Drawing ratio: 2.25
Immersed in hot water of 80°C for 360 hours, after cup drawing

NSSC 304RM2



SUS 304

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Ultra-Soft, High-Formability Austenitic Stainless Steel

NSSC 304JS

17Cr-8Ni-3Mn-3Cu-LC,N／Similar grade : SUS 304J1,J2

Features and Applications

NSSC 304JS is a new grade of austenitic stainless steel with ultrasoftness（low yield strength and restrained work hardening）

1. High performance in multistage drawing and secondary work after press forming with a minimal spring back.
2. High resistance to season cracking.
3. Extremely smaller magnetism than SUS 304 after forming.
4. The line-up includes a pre-coated, oil-free, highly lubricated sheet.

Characteristics

[**Mechanical properties**]

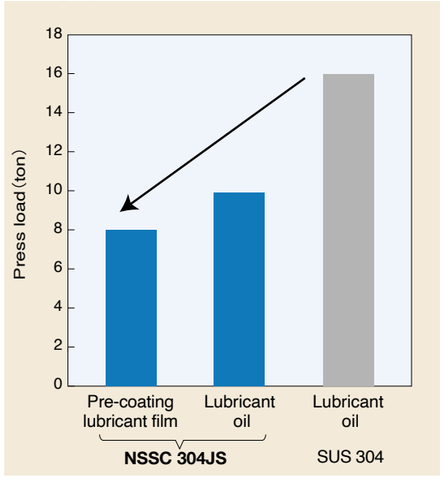
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV	n value	Liquid press buldge height mm
Specification	≧155	≧450	≧40	≦200	–	–
Typical values	190	484	59	117	0.39	42.2
SUS 304- Typical values	267	655	60	170	0.49	40.3

（Surface finish: No. 2D,Thickness: 1.0mm）

Formability

[**Cup drawing formability**]

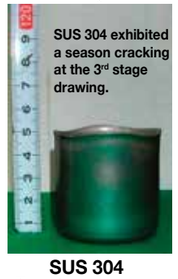
Thickness : 1.5mm
Blank diameter : 90mmϕ, Punch diameter: 50mmϕ
Drawing depth : 25mm



[**Multistage cup drawing formability**]

Thickness: 0.8mm　Lubricant: Johnson-Wax#122
Initial blank diameter : 96mmϕ
Punch diameter : 48mmϕ（1st stage）-22mmϕ（7th stage）

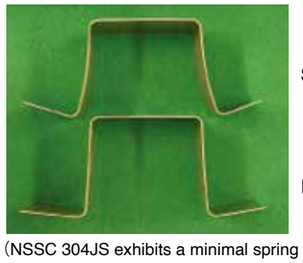
NSSC 304JS
Seven-stage drawings
（drawing ratio: 4.4）



SUS 304
Two-stage drawings
（drawing ratio: 2.2）

[**Shape-fixability in hat bending**]

Thickness : 0.8mm　Forming height : 70mm　Blank holding force : 5ton



SUS 304

NSSC 304JS

（NSSC 304JS exhibits a minimal spring back after press forming.）

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111　Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Non-Magnetic, High-Strength Austenitic Stainless Steel

NSSC 130M

18Cr-6Ni-9Mn-0.3N

Features and Applications

1. Can obtain hardness of more than HV500 through cold working.
2. Non-magnetic with permeability less than 1.01 after severe wire drawing.
3. Corrosion resistance to saltwater equal to that of SUS 304.
4. Cold working of more than 70% can be applied.

[Applications]　Guide pins, Non-magnetic bolts, Non-magnetic clothing parts

Characteristics

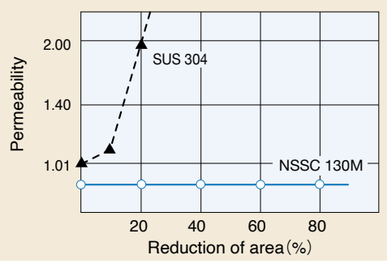
[**Mechanical properties**] - after solution heat treatment -

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %
Typical values	500	850	42.5

[**Work hardening characteristics**]

Relationship between reduction of area by wire drawing and mechanical properties

[**Permeability**] - after wire drawing -



Notice:"NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111　Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Non-Magnetic Austenitic Stainless Steel

NSSC 131

18Cr-6Ni-5Mn-0.2N

Features and Applications

1. Non-magnetic with permeability less than 1.02 after severe cold working.
2. Corrosion resistance to saltwater equal to that of SUS 304.
3. Cold working of more than 80% can be applied.

[Applications] Non-magnetic clothing parts, Non-magnetic nails, Spokes

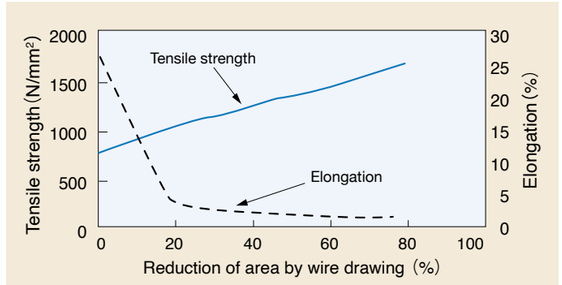
Characteristics

[Mechanical properties] - after solution heat treatment -

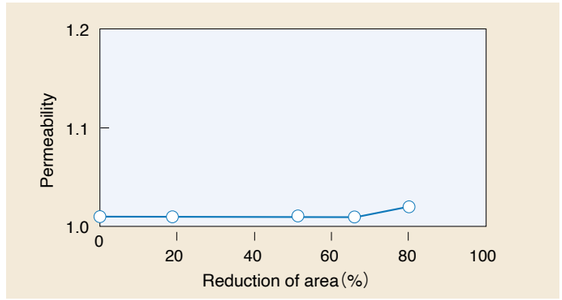
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %
Typical values	600	780	26

[Work hardening characteristics]

Relationship between reduction of area by wire drawing and mechanical properties



[Permeability] - after wire drawing -



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

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.
3. Welded joints of sound quality can be obtained using welding materials of similar composition.

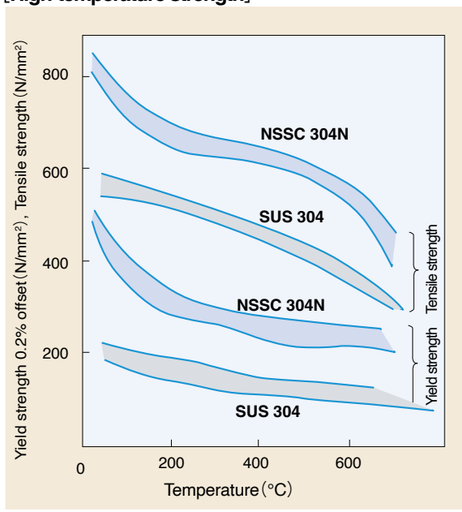
[Applications] High-pressure equipment, Centrifugal separators, Various equipment employing SUS 304

Characteristics

[Mechanical properties]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	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_2SO_4	Boil	6	184.8	172.4	206.0
Reduction acid	1% HCl	〃	〃	83.5	57.9	25.0
Reduction acid	10% HCl	25	24	1.60	1.70	0.81
Oxidizing acid	65% HNO_3 (5cycle)	Boil	48	0.22	0.26	0.15
Organic acid	20% CH_3COOH	〃	6	0.03	0.05	0.17
Pitting corrosion	0.5M $FeCl_3$	25	48	4.75	8.08	9.80

（Test specimens :2mm×30mm×30mm）

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

Non-Magnetic Austenitic Stainless Steel
S007en_01_202503p
© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Ultra-Low-Carbon Austenitic Stainless Steel

NSSC 304UL, NSSC 316UL

18Cr-10Ni-LC, 17Cr-15Ni-2Mo-LC／Similar grade : SUS 304L, SUS 316L

Features and Applications

NSSC 304UL and NSSC 316UL have been developed to have C≦0.020% as a countermeasure against intergranular corrosion.

1. Superior to SUS 304L and SUS 316L in intergranular corrosion resistance.
2. Assures further improved safety against intergranular corrosion.

[Applications] Spent nuclear fuel reprocessing equipment, Various equipment susceptible to intergranular corrosion

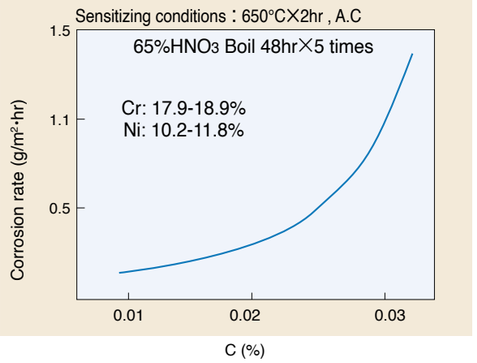
Characteristics

[**Mechanical properties**]

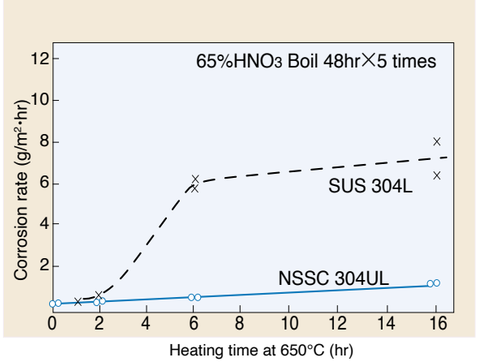
		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW
NSSC 304UL	Specification	≧175	≧480	≧40	≦187
	Typical values	235	549	66	131
NSSC 316UL	Specification	≧175	≧480	≧40	≦187
	Typical values	235	510	65	121

[**Intergranular corrosion resistance**] -65% Nitric Acid Corrosion Test; JIS G 0573-

Effects of carbon on susceptibility to intergranular corrosion



Effects of heating time on susceptibility to intergranular corrosion



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Stress Corrosion Cracking Resistant Austenitic Stainless Steel

NSSC 110M

18Cr-10Ni-2Cu-2Si-0.8Mo／Similar grade : SUS 315J1

Features and Applications

NSSC 110M has excellent stress corrosion cracking resistance against neutral chloride surroundings.

1. High performance in pitting corrosion resistance and crevice corrosion resistance, in addition to stress corrosion cracking resistance.
2. Equal level of formability as SUS 316.
3. Superior to SUS 316 in oxidation resistance.

[Applications] Hot-water equipment, such as hot-water-supply systems and heat exchangers, Automotive exhaust systems, such as flexible pipes, Various corrosion resistance equipment

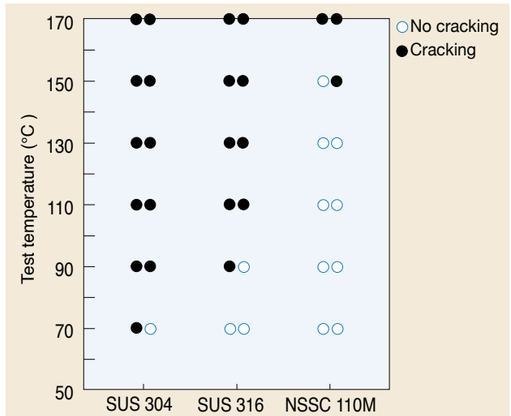
Characteristics

[**Mechanical properties**] - Formability-

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Limit drawing ratio L.D.R.	Buldge height mm	Erichsen value mm
NSSC 110M	Specification	≧205	≧520	≧40	—	—	—
	Typical values	320	640	52	2.3	40.0	12.0
Comparison properies	SUS 304	300	680	50	2.3	43.5	13.6
	SUS 316	300	620	46	2.2	40.4	12.4

[**Stress corrosion cracking resistance**]

Test conditions: Spot welding crevice, 200ppm of Cl¯ion, 7days



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

High Strength, Pitting Corrosion Resistant Austenitic Stainless Steel

NSSC 170

25Cr-13Ni-0.9Mo-0.3N／Similar grade : SUS 317J2

Features and Applications

NSSC 170 is a stainless steel that has greatly improved resistance to pitting corrosion—one of the critical drawbacks of stainless steels.

1. Pitting corrosion resistance and crevice corrosion resistance superior to those of SUS 316 and SUS 317L.
2. Excellent in resistance to acids, such as sulfuric acid and hydrochloric acid, and can be used at higher acid concentrations and at higher temperatures than SUS 316 and SUS 317L.
3. One and a half times greater strength than SUS 304, providing advantage in the potential of strength-oriented designs.
4. High performance formability and in weldability.

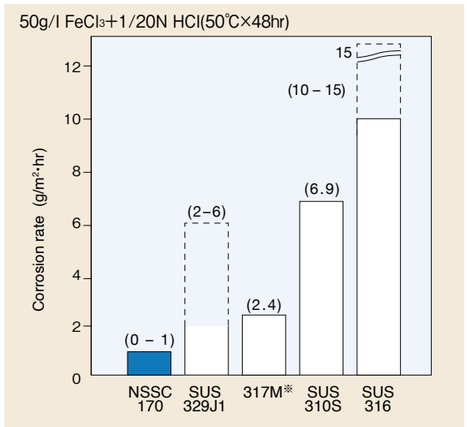
[Applications] Flue gas desulfurizers, Waste liquid treatment equipment, Sludge treatment equipment, High-temperature applications (cement plants and others), General plant equipment

Characteristics

[**Mechanical properties**]

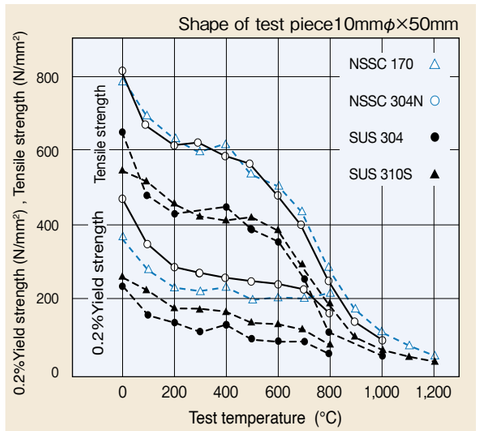
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW
Specification	≧345	≧690	≧40	≦250
Typical values	392	785	50	175

[**Pitting corrosion resistance**]



※ 317M·····18Cr-16Ni-5Mo

[**High-temperature strength**]



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Sulfuric-Acid Resistant Austenitic Stainless Steel

NSSC 260, NSSC 260A

20Cr-15Ni-3Mo-1.5Cu-0.2N-LC, 22Cr-16Ni-3.5Mo-2Cu-0.2N-LC

Features and Applications

1. Excellent sulfuric acid resistance.
2. Good localized corrosion resistance, such as pitting corrosion resistance and crevice corrosion resistance.
3. High-strength stainless steel around 1.5 times that of SUS 304 and SUS 316L at room temperature.
4. Can be welded in the same manner as conventional austenitic stainless steels with welding materials of similar composition; the performance of welded joints is good as well.
5. NSSC 260A is most suitable for chemical tanker.

[Applications] Chimney lining, Exhaust gas desulfurizers

Characteristics

[**Mechanical properties**]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW
NSSC 260	Specification	≧275	≧550	≧35	≦217
	Typical values (t=8mm)	380	705	47	172
	〃 (t=3.2mm)	370	735	47	191
NSSC 260A	Specification	≧315	≧600	≧35	≦230
	Typical values (t=16mm)	333	675	52	159

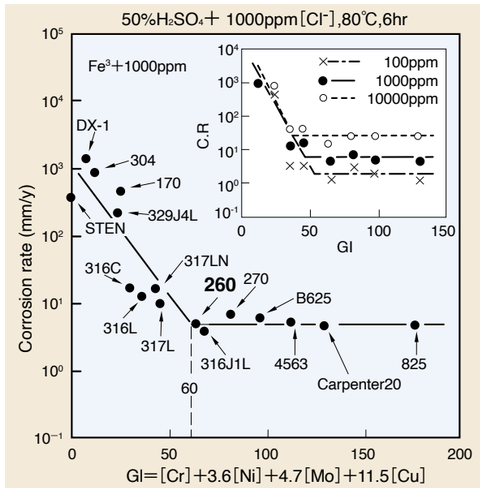
[**Localized corrosion resistance**]

Critical pitting corrosion temperature (CPT) and Critical crevice corrosion temperature (CCT)
Test conditions : ASTM G48 Method B
Test solution : 100g $FeCl_3 \cdot 6H_2O$+900ml H_2O(6% $FeCl_3$)
Test period : 72hr

	CPT (°C)	CCT (°C)
NSSC 260	40	20
NSSC 270	70	50
SUS 329JI	55	35
SUS 317L	20	5
SUS 316L	15	0

[**General corrosion resistance**]

Arrangement of corrosion rate of various stainless steels by use of general corrosion resistance index (GI)



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

High-Strength,Pitting Corrosion Resistant Austenitic Stainless Steel

NSSC 270, NSSC 270R (Super Stainless Steel)

20Cr-18Ni-6Mo-0.2N-LC／Similar grade : SUS 312L, ASTM S31254
20Cr-23Ni-6Mo-LN

Features and Applications

1. Excellent corrosion resistance to seawater.
2. Good corrosion resistance to sulfuric acid and organic acid.
3. Higher stresscorrosion cracking resistance to chlorides than that of SUS 316 austenitic stainless steel and duplex stainless steels.
4. High-strength stainless steel with yield strength of around 1.5 times that of SUS 304 and SUS 316 at room temperature.
5. Can be welded in the same manner as conventional austenitic stainless steel through use of Inconell 625 welding materials.
6. NSSC 270R is most suitable for bar and wire rods required for cold working.

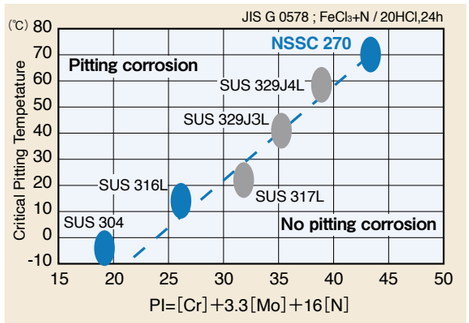
[Applications] Seawater desalination plants, Seawater heat exchangers, Roofing, Food manufacturing plants, Corrosion resistant screws, nuts and bolts, wire netting

Characteristics

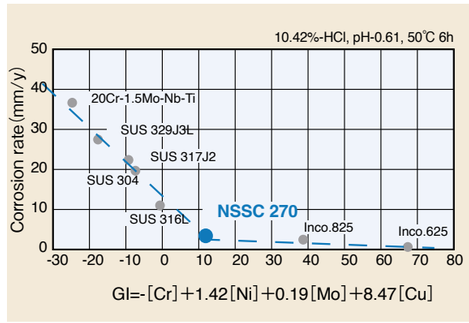
[**Mechanical properties**]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW	Hardness HV
NSSC 270	Specification	≧300	≧650	≧35	≦223	≦230
	Typical values t=10mm	363	755	51	170	—
	Typical values t=4mm	412	804	45	175	—
	Typical values t=1.2mm	461	843	39	—	192
NSSC 270R	Typical values (Wire rod)	230	560	47	—	—

[**Relationship between Critical Pitting Temperature and PI (Pitting Index)**]



[**Corrosion resistance in hydrochloric acid HCl**]



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC

Heat-Resistant Austenitic Stainless Steel

NSSC 305B

19Cr-13Ni-3.5Si／Similar grade : SUS XM15J1

Features and Applications

Superior to SUS 310S in oxidation resistance at high temperatures.
Superior to SUS 310S also in high-temperature strength and creep strength.

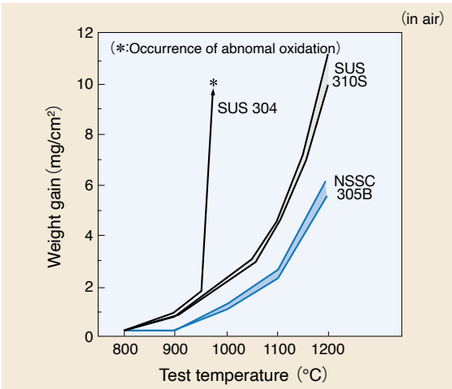
[Applications] Automotive exhaust systems, Industrial oven components, Incinerators

Characteristics

[**Mechanical properties**]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧540	≧45	≦200
Typical values	305	665	60	161

[**Oxidation resistance**]



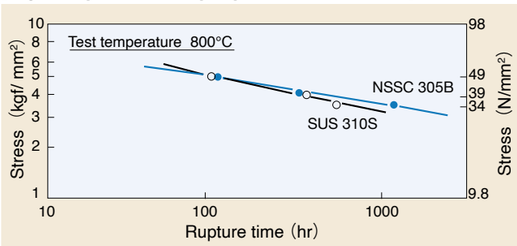
[**Oxidation resistance**]

(in combustion gas)

Grade	Oxidation test conditions		Weight loss by oxidation (mg/cm²) 0 100 200
NSSC 305B	1200°C	EX.GAS	
		AIR	
	1100°C	EX.GAS	
		AIR	
	1000°C	EX.GAS	
		AIR	
SUS 310S	1200°C	EX.GAS	
		AIR	
	1100°C	EX.GAS	
		AIR	
	1000°C	EX.GAS	
		AIR	

EX. GAS: Exhaust gas, intermittent heating (heating for 30 minutes and cooling for 30 minutes), 200 cycles
AIR: Continuous heating in air for 100 hours

[**High-temperature creep rupture characteristics**]



Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

High-Formability Ferritic Heat-Resistant Steel

NSSC 409L

11Cr-0.2Ti-LC／Similar grade : SUH 409L

Features and Applications

NSSC 409L is an improved workability and weldability grade of Ti-containing 11 Cr heat-resistant steel such as ASTM TP 409 and SUH 409.

1. Excellent oxidation resistance in high temperatures up to around 750°C.
2. Extra-low carbon ferritic structure, and excellent in workability and weldability compared with conventional similar grades.

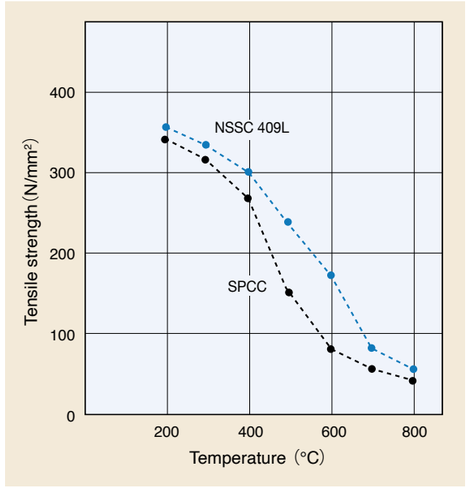
[Applications] Automotive exhaust systems （front pipes, converters, mufflers, etc. ）, Equipment requiring oxidation resistance, such as heat exchangers or others, Farm machinery, Transformer cases

Characteristics

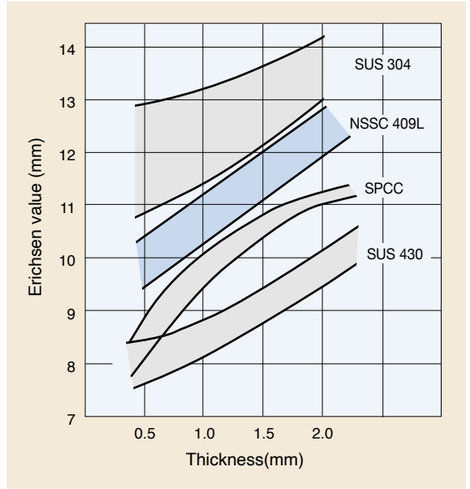
[Mechanical properties] (Thickness:1.2mm)

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧175	≧360	≧25	≦180
Typical values	233	420	36	132

[High-temperature strength]



[Strechability]



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High-Formability Ferritic Heat-Resistant Steel

NSSC 430D

17Cr-0.4Ti-LC,N／Similar grade : SUS 430LX

Features and Applications

1. Excellent formability, particularly deep drawability and stretchability, due to ultra-low carbon content.
2. Rust resistance superior to that of SUS 430.
3. High performance in corrosion resistance and formability at weld zone.

[Applications] Home appliances（drums of washing machiners, etc.）, Various kitchen equipment, Door knobs, Gas burners

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧175	≧360	≧28	≦180
Typical values	296	436	32	144

[Formability] (Thickness:0.7mm)

	r value	n value	Erichsen value mm	Conical-cup value
NSSC 430D	1.67	0.27	10.0	27.0
SUS 430	1.18	0.23	9.3	28.4

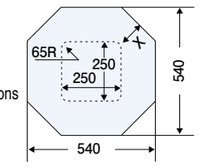
[Corrosion resistance]

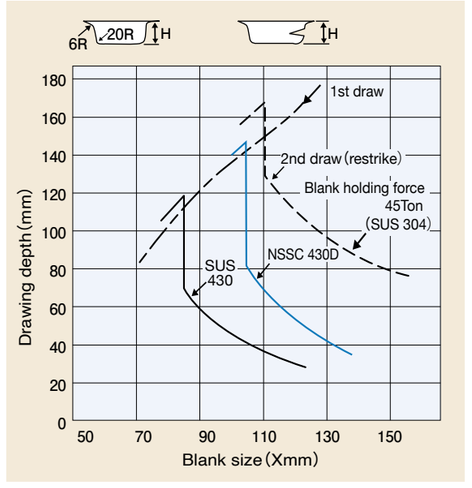
Grade	3% NaCl solution; dip & dry	3% NaCl solution; immersed
NSSC 430D	○ ○	○ ○
SUS 430	△ △	△ ○

Remarks) ○: Ratio of rusted area is less than 1%
△: Ratio of rusted area is between 1% and 5%

[Drawability]

(Test conditions)
Blank size（mm）: see the right figure
Press conditions : blank holding force of 35 tons
Lubricant : Johnson Wax #122





Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

High-Formability Ferritic Heat-Resistant Steel
S007en_01_202503p
© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

High-Formability Ferritic Stainless Steel

NSSC PDX

17Cr-0.2Ti-ULC,N／Similar grade : SUS 430LX

Features and Applications

NSSC PDX is a 17% Cr ferritic stainless steel in which high formability has been realized owing to technological advancement both for steel refining and for steel sheet producing.

1. High forming limits and minimal press ridging（surface streaks）.
2. Metal molds for carbon steel can be applicable, owing to its softness.
3. Rust resistance superior to that of SUS 430.
4. High performance of weldability and excellent corrosion resistance and formability at weld zones.

[Applications] Combustion components, Front doors of refrigerators, Battery cases, Structural fittings.

Characteristics

[Mechanical properties] (Thickness:1.0mm)

Grade		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
NSSC PDX	Specification	≧175	≧360	≧30	≦180
	Typical values	237	386	38	130
SUS 430	Specification	≧205	≧420	≧22	≦200
	Typical values	319	486	28	151

[Formability] (Thickness:0.5mm)

Grade	r value	n value	Erichsen value mm	Ridging rank
NSSC PDX	2.0	0.27	11.2	A
SUS 430	1.1	0.18	9.3	B

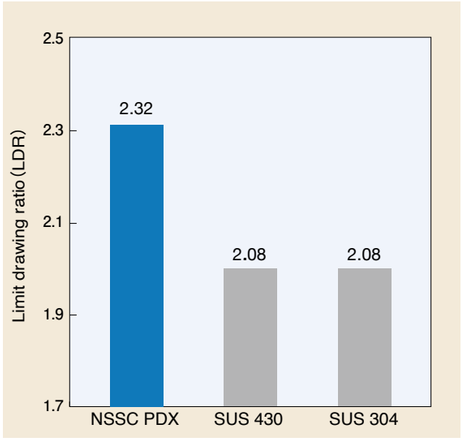
Ridging rank A: surface streaks of ≦10μm at tensile test

[Characteristics of welded portion（in case of TIG weld）]

	Erichsen value (mm)	Results of intergranular corrosion resistance test (Strauss test)
NSSC PDX	10.2	No intergranular corrosion
SUS 430	3.0	Generation of intergranular corrosion (desulfurization)

[Limit drawing ratio -TZP test-]

(Test conditions) ・Thickness of test specimens : 0.5mm
・Blank diameter : 80—130mmϕ
・Punch diameter : 50mmϕ
・Punch shoulder R : 5mm



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111　Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High-Rust Resistant Ferritic Stainless Steel

NSSC 160R

17Cr-0.4Cu-Nb-LC,N

Features and Applications

NSSC 160R was developed for wire rods with advanced corrosion resistance without Ni and Mo addition.

1. Rust resistance superior to conventional ferrite stainless steel SUS 430.
2. Superior in elongation, and less work hardening compared with austenitic stainless steels.
3. Superior properties at the weldments（Corrosion resistance and ductility）.

[Applications] A variety of wire nettings, Fastening products, Precision machine component, Automotive component

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Wire Drawing %
Typical values	260	430	32	82

(Data of 5.5ϕ wire rod)

[Physical properties]

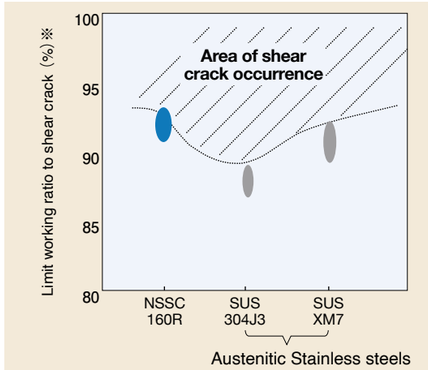
	Density (g/cm³)	Electric resistivity ($\mu\Omega$·cm) [20℃]	Thermal expansion ratio (/℃) [0—800℃]	Thermal conductivity (W/m·℃) (100℃)	Specific heat (J/kg/℃)
Typical values	7.70	62	11.8×10^{-6}	26.0	460

[Corrosion resistance]

Salt spray test（SST）
(Test conditions)
5%NaCl, 35°C, 1000h

	(inferior) ⟵ Stain resistance rating ⟶ (superior)					
	F	E	D	C	B	A
NSSC 160R					■	■
SUS 430			■	■		
SUS 304					■	

[Formability]



※Limit working ratio to shear crack after two-stepped cold forging of wire edge（Imitation of screw head working）

Applications

Stainless steel fasteners（screw, nail, bolt, etc.）

・Replacement from nickel-based stainless steel（VA）
・Replacement from plated steel products（improved durability）
・Magnetic tools compatible

Wire netting（for industrial machinery or building materials, etc.）

・Replacement from nickel-based stainless steel（VA）
・Replacement from plated steel products（improved durability）
・Enabling magnetic detection and removal of fragments in wire netting

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111　Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

High-Rust Resistant Ferritic Stainless Steel

NSSC 432

17Cr-0.5Mo-0.2Ti-LC,N／Similar grade : SUS 436J1L

Features and Applications

NSSC 432 is a low-cost grade of NSSC 436S, due to reduction of Mo content.
1. Application performance (condensate corrosion resistance, salt corrosion resistance and others) slightly below those of NSSC 436S, but offers excellent workability similar to that of NSSC 409L.

[Applications] Automotive exhaust systems, Kitchen furnishings, Home appliances, Building interior materials, Gates, Handrails

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧390	≧25	≦170
Typical values	245	450	34	134

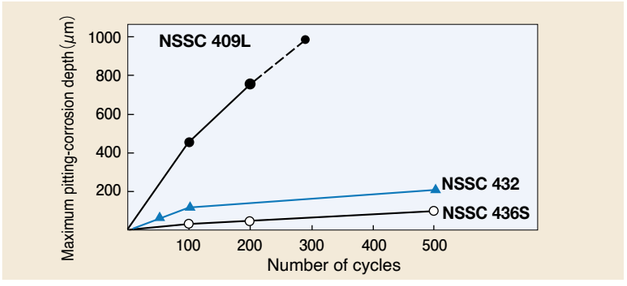
[Formability]

	r value	n value
NSSC 432	1.74	0.26
NSSC 436S	1.61	0.24
NSSC 409L	1.30	0.24

[Corrosion resistance]

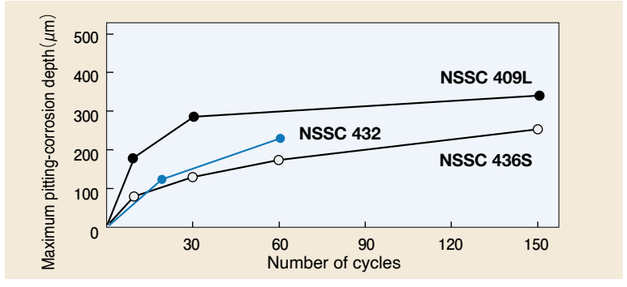
(1) Saltwater spraying test

(Test conditions)
Artificial seawater/ASTM standard
One cycle consists of 'spraying for 4 hours, drying for 2 hours and wetting for 2 hours'



(2) Tests using condensate prepared by simulating automotive exhaust gas

(Test conditions)
One cycle consists of 'partial immersion in condensate, heating at 130°C for 4 hours and cooling'
Condensate: 50ppm [Cl^-], 100ppm [SO_4^{2-}], 5000ppm [CO_3^{2-}], 220ppm [NH_4], pH8.5



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High Rust-Resistant Ferritic Stainless Steel

NSSC 436S

17Cr-1.2Mo-0.2Ti-LSi -LC,N／Similar grade : SUS 436L

Features and Applications

NSSC 436S is a high-quality stainless steel having both improved corrosion (pitting corrosion) resistance and workability by adding Mo and Ti to high purity ferritic base material.
1. Superior to SUS 430LX in corrosion resistance, and excellent formability owing to its softness.
2. High performance intergranular corrosion resistance as well as drawability in weld zone.

[Applications] Automotive exhaust systems Kitchen furnishings, Home appliances, Building interior materials, Gates, Handrails

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧390	≧25	≦170
Typical values	275	470	33	142

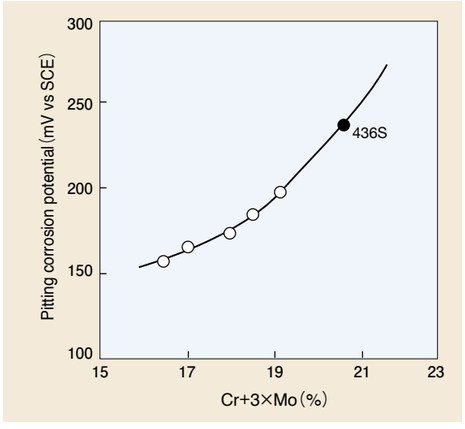
[Formability] (Thickness:1.2mm)

	r value	n value	Erichsen value mm	Conical-cup mm
NSSC 436S	1.61	0.24	10.7	45.6
NSSC 180	1.14	0.24	9.9	46.8
NSSC 409L	1.30	0.24	–	–

[Corrosion resistance]

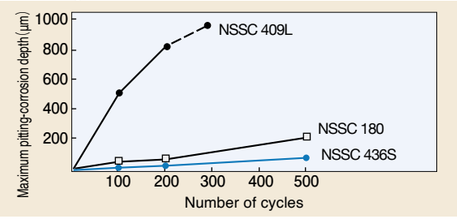
(1) Measurement of pitting corrosion potential

(Test conditions)
Measurement conditions:30°C, 3.5% NaCl solution, Ar deaeration
Potential sweep rate :20mV/mm



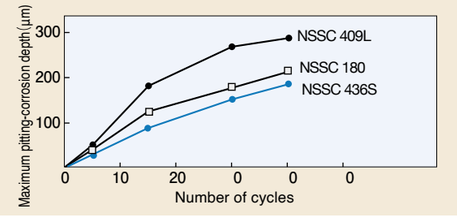
(2) Salt spray test

(Test conditions)
Artificial seawater/ASTM standard
One cycle consists of 'spraying for 4 hours, drying for 2 hours and wetting for 2 hours'



(3) Automotive exhaust gas test using mimic condensate

(Test conditions)
One cycle consists of 'partial immersion in condensate, heating at 250°C for 3 hours and cooling'
Condensate:1000ppm [Cl^-], 5000ppm [SO_4^{2-}], 100ppm each of [CO_3^{2-}], [NO_3^-], pH8.9



Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

High-Rust Resistant Ferritic Stainless Steel
S007en_01_202503p
© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

High Rust-Resistant Ferritic Stainless Steel

NSSC 180

19Cr-0.4Cu-0.4Nb-LC,N／Similar grade: SUS 430J1L

Features and Applications

NSSC 180 has no Mo content but features improved rust resistance.

1. Rust resistance approximately as good as SUS 304, making it an ideal choice for exterior applications.
2. Thanks to low carbon content, superior to SUS 430 in ductility and formability.
3. Excellent high-temperature characteristics（oxidation resistance and high-temperature strength）.

[Applications] Automobile trim, Automotive exhaust system parts, Kitchen equipment, Home electric appliance parts, Solar collector casing, Gates, Handrails

Characteristics

[Mechanical properties]

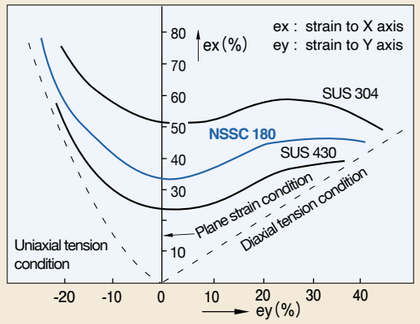
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧450	≧22	≦200
Typical values	314	500	32	153

[Formability]

（Thickness:0.8mm）

	r value	Limiting drawing ratio (LDR)	Buldge height mm	Erichsen value mm
NSSC 180	1.41	2.3	31.5	9.6

[Formability / Forming limits curve]



[Rust resistance]

（Test condition）

0.5%NaCl+0.2%H_2O_2, 35°C, 24hr Based on JIS Z 2371

Grade	Surface finish	(superior)← A	B	C	D	E	F →(inferior)
NSSC 180	2B	■	■				
	BA	■					
	HL	■	■				
SUS 430	2B	■	■	■	■	■	
	BA		■	■	■	■	■
	HL			■	■	■	■
SUS 304	2B	■	■				
	BA	■					
	HL	■					

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High Corrosion Resistant Ferritic Stainless Steel

NSSC 190

19Cr-2Mo-Nb,Ti-L LC,N／Similar grade: SUS 444

Features and Applications

While the weak points of austenitic stainless steel are their susceptibility to stress corrosion cracking, NSSC 190 ferritic stainless steel demonstrates excellent resistance to stress corrosion cracking and further offers outstanding performance and major improvements in intergranular, pitting and crevice corrosion resistance.
（NSSC 190 is mainly suitable for sheets, while NSSC 190L is suitable for plates.）

1. Excellent resistance to stress corrosion cracking and intergranular corrosion.
2. Superior to SUS 304 in pitting corrosion resistance and crevice corrosion resistance.
3. Good formability and weldability.

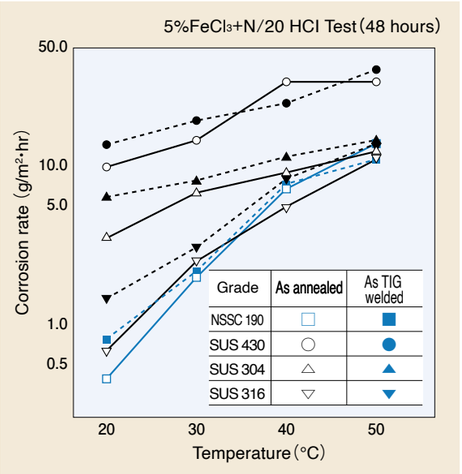
[Applications] Hot-water tanks, Solar collector panels, Water tanks

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧450	≧22	≦200
Typical values	358	533	29	172

[Pitting corrosion resistance]



[Stress corrosion cracking resistance]

(1) 42%$MgCl_2$ Solution(as annealed)

Grade	Load stress (Kgf/mm²)	Load stress (N/mm²)	Rupture time
NSSC 190	27	265	No rupture after 1,000 hours
	30	294	〃
	32	314	〃
SUS 304	15	147	Rupture after 3 hours
	20	196	Rupture after 1 hours
SUS 316	15	147	Rupture after 7 hours
	20	196	Rupture after 4 hours

(2) High-temperature chloride solution

（Test conditions）

Pure water and NaCl（Cl^- concentration: 30,600ppm）,300°C（853N/cm²）

Test piece:1mmt×15mmw×100mmL（10R U-Bend）

Judgment ○:No cracking ×:Cracking

Grade	Heat treatment	Cl^-concentration	Cracking 100hr	200hr	300hr
NSSC 190	Anneal	30	○	○	○
		600	○	○	○
	Sens	30	○	○	○
		600	○	○	○
SUS 304	Anneal	30	○	○	○
		600	○	×	×
	Sens	30	○	○	×
		600	○	×	×
SUS 316	Anneal	30	○	○	○
		600	×	×	—
	Sens	30	○	○	○
		600	—	—	—

（Heat treatment）

Anneal: as annealed

Sensitizing conditions:NSSC 190 1200°C×5min, A.C.

SUS 304,316 650°C×2hr, A.C.

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

High Corrosion Resistant Ferritic Stainless Steel

NSSC 190L

19Cr-2Mo-Nb-V-LC,N／Similar grade : SUS 444

Features and Applications

NSSC 190L was developed on the basis of NSSC 190, exclusively for usage as heavy plate, and it exhibits high-performance toughness and weldability in the shape of plates with a large thickness.

1. High performance of toughness in both base metal and weld zones at temperatures over 0°C.
2. Exquisite performance of stress corrosion cracking resistance.
3. Higher level of pitting corrosion resistance and crevice corrosion resistance than SUS 304, and especially as high performance of pitting corrosion resistance as SUS 316.
4. Susperior to SUS 304 in acid resistance, and to SUS 316 in organic acid resistance.
5. Recommended as material for end plates, welded tubes, clad plates or others because of its high-performance weldability and formability.

[Applications] Petroleum refining equipment, Petro-chemical equipment, Desalinization equip ment, Industrial heat exchangers, Town gas manufacturing facility, Cl^-containing device, Hot water tanks

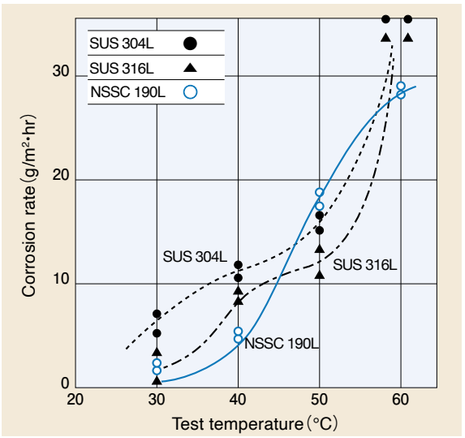
Characteristics

[Mechanical properties]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW	Bending 180
Specification		≧275	≧410	≧22	≦217	t<8mm r=0.5t (t:thickness) t≧8mm r=1.0t (r:inside radius)
Typical values	t=6mm	412	500	35	166	No cracking
	t=12mm	392	500	35	170	No cracking

[Pitting corrosion resistance]

(Test conditions)
Test solution:50g/l $FeCl_3$+HCl
Test period:48hr
Test piece: 6mmt×30mmϕ
Surface finish:Full surface finished with #320 polish



[Stress corrosion cracking resistance in High-temperature chloride solution]

(Test conditions)
Cl^-:600ppm and NaCl added (Test solution was renewed every 100 hours)
Test temperature:300°C
Pressure:87kg/cm²
Test piece:U-bent type for stress test

Base metal	Welding material	Welding method	Heat input KJ/cm	Result of microscopic observation
NSSC 190L	D316UL	TIG	10.8	No occurrence of stress corrosion cracking
			14.4	No occurrence of stress corrosion cracking
			19.3	No occurrence of stress corrosion cracking
			24.0	No occurrence of stress corrosion cracking
		Arc manual welding	13.4	No occurrence of stress corrosion cracking
SUS 304L	D308L	Arc manual welding	15.0	Transgranular-type stress corrosion cracking in base metal
SUS 316L	D316L	Arc manual welding	15.0	Transgranular-type stress corrosion cracking in base metal and weld zone

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High Rust-Resistant Ferritic Stainless Steel

NSSC 220M

22Cr-1.6Mo-Nb,Ti- LC,N／Similar grade : SUS 445J2

Features and Applications

High performance of rust resistance is available in this grade, which has been developed by combined addition of Ti and Nb to 22%Cr-1.6% Mo ferritic base material.

1. Rust resistance superior to that of SUS 316.
2. Lower thermal expansion coefficient suitable for such applications as roofs and exterior walls in which thermal expansion and contraction are problematic.
3. Slightly higher hardness than SUS 304 due to high chromium content.

[Applications] Exteriors of buildings, such as roofing, siding, or others.

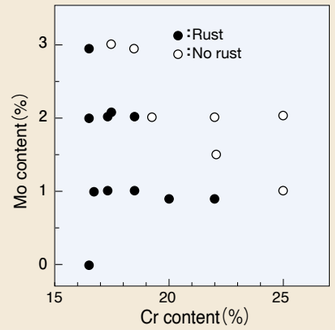
Characteristics

[Mechanical and physical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV	Bending 180°	Average thermal expansion coefficient (multiplied by 10^{-6}/°C)
Specification	≧295	≧470	≧22	≦200	1.0t	—
Typical values	370	516	30	175	No cracking	10.4 (30—100℃)

[Corrosion resistance]

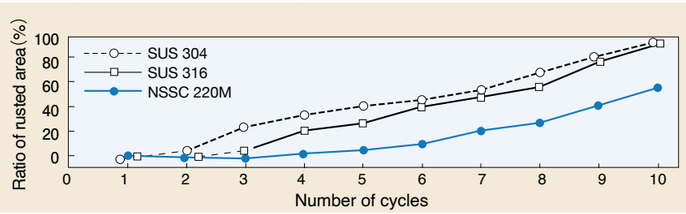
(1) Rust resistance and content of Cr and Mo



(Test conditions)
100 cycle repetition
5% NaCl solution(60°C)
spraying → drying
(one cycle takes 24hours)

(2) Accelerated corrosion test with cyclic dry and wet

(Test method)
10-cycle repetition : Seawater spraying(room temperature)
→Drying(60°C×15minutes)→Wetting (50°C, 100%RH ,30 minutes)



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

Oxidation Resistant Ferritic Stainless Steel

NSSC 405Si

12Cr-2Si-0.15Al

Features and Applications

1. Excellent in oxidation resistance at high temperatures.
2. Low thermal deformation due to low thermal expansion coefficient.
3. Excellent in workability, which facilitates cold working and welding.

[Applications] Combustion tubes for oil-burning stoves, Components of burners for firing furnaces

Characteristics

[Mechanical properties]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification		≧295	≧490	≧15	≦230
Typical values	Hot-rolled sheet	530	660	19	210
	Cold-rolled sheet	345	560	28	180

[Oxidation resistance]

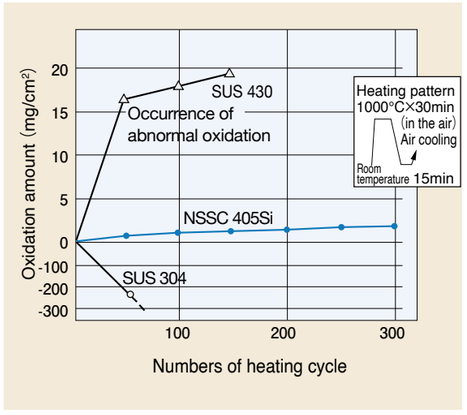
Oxidation test inside an oil-burning stove

Grade	Surface finishes	50 h	100h	200 h	600 h
NSSC 405Si	#400 polished	○	○	○	○
SUS 430	2B	×	×	×	×
SUH 409	2B	×	×	×	×

Hanged in combustion tube of a small-sized oil-burning stove with reflex mirrors
○:No rust ×:Generation of red rust

Intermittent oxidation test in the air

The figure shows the relationship between oxidation amount and repetitive reheating to 1,000°C for 30 mimutes.



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

Heat Resistant Ferritic Stainless Steel

NSSC FHZ

13Cr-1Si-Nb-LC

Features and Applications

NSSC FHZ has improved heat resistance through the addition of Nb.
1. High performance high-temperature strength and thermal fatigue characteristics through the addition of Nb.
2. Superior to SUH 409L in oxidation resistance because of its high Si content.

[Applications] Automotive exhaust systems (exhaust manifolds, front pipes, etc.),
Plant components (waste-heat boiler ducts of power plant and others)

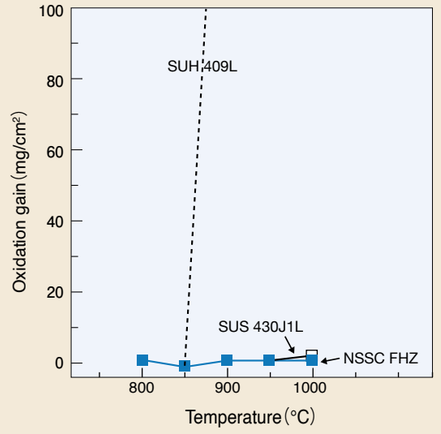
Characteristics

[Mechanical properties]

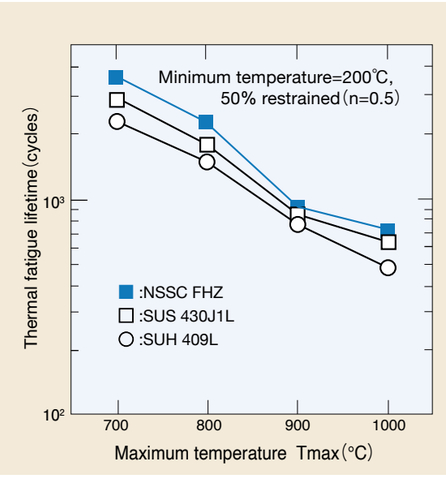
	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧205	≧410	≧25	≦200
Typical values	311	492	34	152

[Oxidation resistance]

Continuous oxidation test in the air (200 hours)



[Thermal fatigue characteristics]



Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

FERRITIC

Heat Resistant Ferritic Stainless Steel

NSSC FH11

18Cr-2.5Si-Nb-LC

Features and Applications

NSSC FH11 has improved heat resistance through the addition of Si and Nb.

1. High performance red rust resistance in a burning atmosphere, as well as in a high-temperature humid atmosphere.
2. Superior to SUS 430 in high-temperature strength.

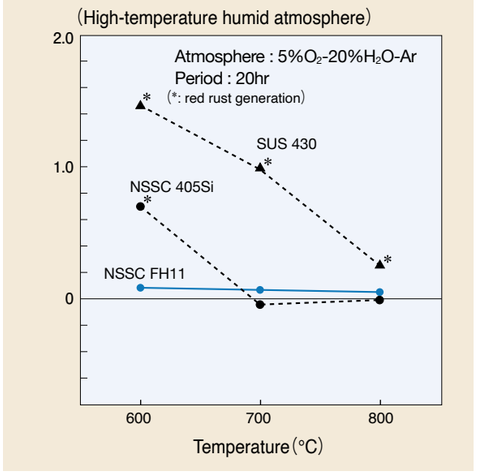
[Applications] Heater combustion parts, etc.

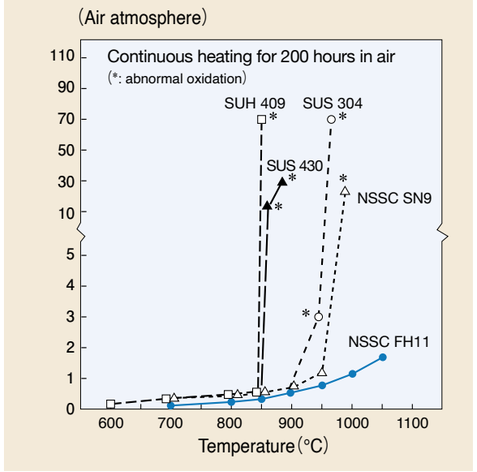
Characteristics

[**Mechanical properties**]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV/1kg
Specification	≧205	≧410	≧22	≦230
Typical values	431	588	29	203

[**Oxidation resistance**]





NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

Oxidation- and Electric-Resistant Ferritic Stainless Steel

NSSC HOM

15Cr4Al-LC,N

Features and Applications

1. Distinguished performance of oxidation resistance owing to the forming of alumina oxide on its surface when in high-temperature atmosphere.
2. Smaller thermal expansion coefficient than austenitic stainless steel, thus offering small thermal deformation.
3. Large electric resistivity.

[Applications] Combustion tubes of oil-burning stoves, Grid resisters of cars or ships.

Characteristics

[**Mechanical properties**]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	≧350	≧520	≧15	≦230
Typical values	493	656	24	208

[**Physical properties**]

Specific gravity.	Electric resistivity	Average thermal expansion coefficient
7.20	125±6μΩ·cm (at 20°C)	11.5×10⁻⁶ (1/°C) 20–(500°C)

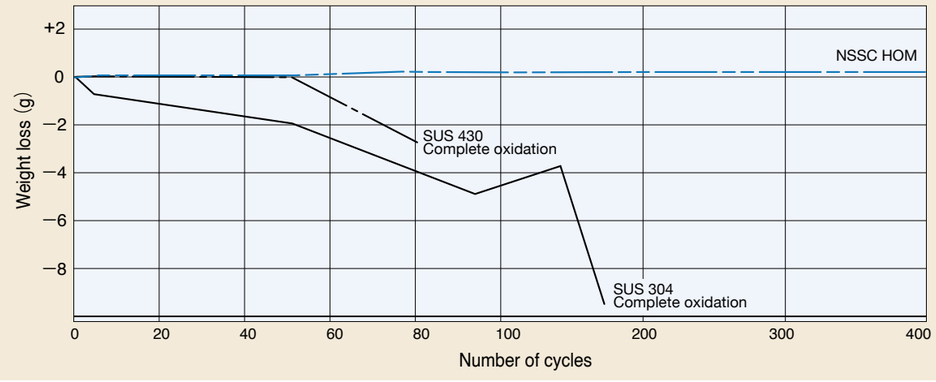
[**Oxidation resistance**]

intermittent oxidation test in the air

(Test condition)

Heating conditions : One cycle consists of '30 minutes at 1200°C and 30 minutes at room temperature'

Test specimens : thickness×20×50mm



Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High Weldability Ferritic Stainless Steel

NSSC 410W

12Cr-LC／Similar grade : SUS 410L

Features and Applications

NSSC 410W has improved weldability and mechanical properties at each weld.
1. Excellent weldability enables MIG welding and arc welding to be carried out without pre- and post-heating.
2. Excellent bendability and toughness of weld joints.
3. Wide range of mechanical properties obtained through selection of the appropriate heat-treating conditions.
4. Corrosion resistance and high-temprerature oxidation resistance equal to those of conventional SUS 410L.

[Applications] Heat-resistant equipment, other equipment and building materials not exposed to severely corrosive environments.

Characteristics

[**Mechanical properties**]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV	Bending	
					Angle	Inside radius
Specification	≧195	≧360	≧22	≦200	180°	1.0t
Typical values	284	462	30	145	No cracking	

[**Mechanical properties after temper heat treatment**]

Tempering temperature °C	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Bending (r=1t)	Hardness HV
700	481	627	22.0	No cracking	187
750	320	523	27.6	No cracking	170
800	285	490	32.8	No cracking	136

(Thickness : 8mm)

[**Mechanical properties of welded joints**]

Grade	Welding Method	Welding materials	Thickness mm	Tensile strength N/mm²	Rupture location	Impact test*			Bending test**
						vE_0 J	vE_{20} J	vTrs °C	
NSSC 410W	Base metal	—	9.5	549	—	51.0	61.8	<−100	r=1.0t No cracking
	MIG	YM-309	〃	DIe	Base metal	66.7	74.5	−60	r=2.0t No cracking
	Arc hand	309R	〃	557	〃	54.9	69.6	−18	r=2.0t No cracking
	〃	410Nb	〃	556	〃	44.1	59.8	+32	r=2.0t No cracking
SUS 405	Base metal	—	7.0	—	—	30.4	32.4	−35	
	Arc hand	309R	〃	500	Base metal	—	6.9	—	
	〃	410Nb	〃	504	〃	—	—	—	

(*impact test piece: L direction, subsize 5mm **Bending test : L direction, roller bend test)

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

FERRITIC

High Weldability Ferritic Stainless Steel

NSSC 410WM (YUS 410W-MS)

11Cr-Ni-LC,N／Similar grade : SUS 410L

Features and Applications

NSSC 410WM has high perfomance yield strength, weldability and weld zone characteristics, and therefore suitable for welded structures with a thickness of over 3 mm above all.
1. Excellent weldability, enabling welding to be carried out without pre- and post-heating.
2. Excellent in bendability and toughness of weld joints.
3. Yield strength superior to that of SUS 410.
4. YUS 410W-MS is a grade designated by article 37 in the Japan Building Standards Law.

[Applications] Marine container frame materials, other equipment requiring high yield strength ane bendalility

Characteristics

[**Mechanical properties**]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV
Specification	Plate thickness	≧315	≧430	≧20	≦240
Typical values	t=4.5mm	412	510	28	157
	t=6.4mm	392	490	31	153

[**Bendability**]

	Thickness (mm)	Bending angle	Inside radius	Judgment
Specification	t ≦5.0	90°	1.0t	No cracking on outside bent zone
	5.0<t≦6.4	〃	1.5t	〃
	6.4<t	〃	2.0t	〃
Results of test	t=4.5	〃	1.0t	No cracking
	t=6.4	〃	1.5t	No cracking

(Test specimens : JIS No.4)

[**Toughness**]

Thickness (mm)		Direction	NSSC 410WM			TP 409		
			vE_0 J	vE_{20} J	vTrs °C	vE_0 J	vE_{20} J	vTrs °C
4.5	*1	L	29	28	−86	—	—	—
		C	30	29	−82	—	—	—
6.5	*2	L	64	73	−80	32.4	37.3	−32
		C	49	53	−85	23.5	29.4	−32

*1: Subsize 3mm, Charpy test specimens(2mm V-notch)
*2: Subsize 5mm, Charpy test specimens(3mm V-notch)

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

High Weldability Ferritic Stainless Steel
S007en_01_202503p
© 2025 NIPPON STEEL CORPORATION

NIPPON STEEL

NSSC SERIES

MARTENSITIC

High Strength high Rust-Resistant Ferritic Stainless Steel

NSSC 550

13Cr-1Ni-2Mo

Features and Applications

NSSC 550 is a martensitic grade with remarkably improved quench hardening.

1. Superior to SUS 304 in corrosion resistance by appropriate addition of Cr and Mo, as well as by control of trace elements.
2. Superior to SUS 304 in its performance of wire drawings as well as cold-heading.

[Applications] Self-tapping screws, High-strength nails, Various kinds of pins, High-strength chains and other applications requiring high hardness and high rust resistance

Characteristics

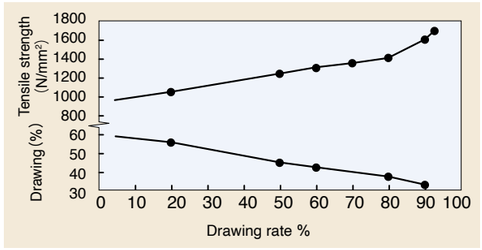
[Physical properties]

Longitudinal elastic modulus N/mm²	Transverse elastic modulus N/mm²	Density g/mm²	Thermal expansion coefficient ×10⁻⁶/°C
2.05×10⁵	7.94×10⁴	7.75	11.5

[Mechanical properties]

	Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HV	Impact value J/cm²
After annealing	—	872	61	283	—
After tempering At 200°C following annealing at 1,150°C	1150	1750	29	550	80

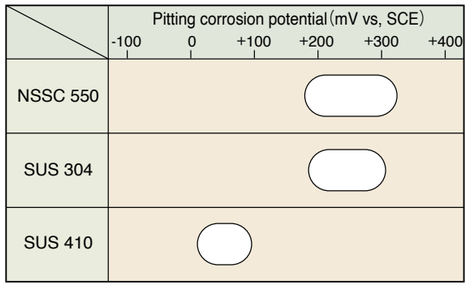
[Cold workability]



[Rust resistance]

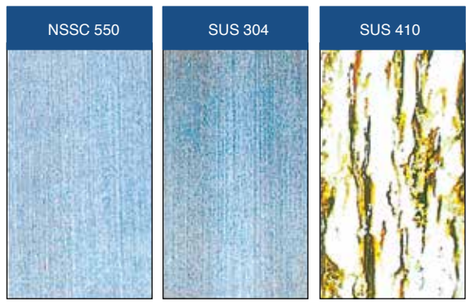
Pitting potential

(Test conditions)
Solution of 3.5% NaCl , Ar deaeration at 30°C



Salt spray test

(Test conditions) JIS Z 2371, 240 hours



NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

NIPPON STEEL

NSSC SERIES

AUSTENITIC-FERRITIC

High Strength, High Corrosion Resistant Duplex Stainless Steel

NSSC DX1

22Cr-5Ni-3Mo-LC-0.13N／Similar grade : SUS 329J3L, ASTM A240 S31803, EN 1.4462

Features and Applications

NSSC DX1 is a duplex stainless steel of EN 1.4462 type.

1. Superior to SUS 316 and SUS 317 in pitting corrosion resistance as well as in crevice corrosion resistance.
2. High-strength stainless steel with yield strength at room temperature approximately twice that of SUS 304 and SUS 316.
3. Can be welded in the same manner as conventional austenitic stainless steel through use of welding materials of similar composition.

[Applications] Equipment for chemical plants, Revolving equipment for centrifugal separators, Equipments for desalination plants

Characteristics

[Mechanical properties]

		Yield strength 0.2% offset N/mm²	Tensile strength N/mm²	Elongation %	Hardness HBW	Charpy absorbed energy vEo J
Specification		≧450	≧620	≧25	≦290	—
Typical values	t=6.0mm	588	784	35	216	—
	t=12.7mm	549	774	40	224	304
	t=20.0mm	510	745	39	226	314

[Crevice corrosion resistance]

(Test conditions) ASTM G48 Method B
Test temperature : 0—25°C
Test solution : 100g $FeCl_3 \cdot 6H_2O$+900ml H_2O(6% $FeCl_3$)
Test period : 72hr

Test temperature (℃) \ Grade	NSSC DX1 Base metal	NSSC DX1 welds SMAW (12.7t)	NSSC DX1 welds SAW (12.7t)	NSSC DX1 welds SAW (20.0t)	SUS 316L Base metal	SUS 316LN Base metal	SUS 317L Base metal
25	×	×	×	×	×	×	×
22.5	×	×	×	×	×	×	×
20	×	×	×	×	×	×	×
17.5	○	×	○	○	×	×	×
15	○	○	○	○	×	×	×
12.5	○	○	○	○	×	×	×
10	○	○	○	○	×	○	○
7.5	○	○	○	○	×	○	○
5	○	○	○	○	×	○	○
2.5	○	○	○	○	×	○	○
0	○	○	○	○	×	○	○

(○ : No crevice corrosion × : Crevice corrosion)

Notice: "NSSC" is a trademark of NIPPON STEEL CORPORATION. While every effort has been made to ensure the accuracy of the information contained within this publication, the use of the information is at the reader's risk and no warranty is implied or expressed by NIPPON STEEL CORPORATION with respect to the use of the information contained herein. The information in this publication is subject to change or modification without notice. Please contact the NIPPON STEEL CORPORATION office for the latest information. Please refrain from unauthorized reproduction or copying of the contents of this publication.The names of our products and services shown in this publication are trademarks or registered trademarks of NIPPON STEEL CORPORATION, affiliated companies, or third parties granting rights to NIPPON STEEL CORPORATION or affiliated companies. Other product or service names shown may be trademarks or registered trademarks of their respective owners.

NIPPON STEEL CORPORATION
2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan
Tel: +81-3-6867-4111 Fax: +81-3-6867-5607
www.nipponsteel.com

© 2025 NIPPON STEEL CORPORATION