Nickel 200 - UNS N02200

Common trade names

Nickel 200, Nickel 99.2

Nickel 200 is 99.6% pure nickel, one of the toughest metals. The Nickel 200's characteristics include excellent mechanical properties, a low gas content, low vapor- pressure, magnetic properties, high thermal and electrical conductivity. These properties and its chemical composition make Nickel 200 fabricatable and highly resistant to corrosive environment. Nickel 200 is useful in any environment below 600º F. It is highly resistant to corrosion by neutral and alkaline salt solutions. Nickel 200 also has low corrosion rates in neutral and distilled water.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of Nickel 200 (UNS N02200)

Nickel 200. Nickel 99.2

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb +Ta	Fe	other
.15 max	.35 max		.01 max	.35 max		99.0 max		.25 max			0.40	

Specifications

International Specifications	Sheet / Plate	Round Bar	Pipe	Tube	Fittings	Forgings
BS 3072, BS 3073, BS 3074, BS 3075, BS 3076, NA11 DIN 17740, 17750, 17751, 17752, 17753, 17754. Werkstoff Nr. 2.4060, 2.4066	ASME SB-168	ASME SB-160	ASME SB-161 ASME S B-829 ASME SB-775 ASME SB-725	ASME SB-161 ASME SB-163 ASME SB-730 ASME SB-751	ASME SB-366	ASME SB-564

ALLOY 400 – UNS N04400

common trade names

Monel 400®, Nickelvac® 400, Nicorros® 400

Monel 400® is a nickel-copper alloy that is hardened by cold working only. Monel 400® has low corrosion rate in flowing seawater, therefore it is widely used in marine applications. Monel 400® also has excellent resistance to stress corrosion cracking in most freshwaters. Monel 400® can be used in temperatures up to 1000 ºF. The alloy has great mechanical properties at subzero temperatures.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of ALLOY 400 (UNS N04400)

Monel 400®, Nickelvac® 400, Nicorros® 400

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb +Ta	Fe	other
.3 max	2.0 max		. 024 max	.5 max		63.0 max		28-34 max			2.5 max	

Specification

Sheet / Plate	Round Bar	Pipe	Tube	Fittings	Forgings
ASME SB-127 AMS 4544	ASME SB-164 QQ-N-281	ASME SB-165 ASME SB-829 ASME SB-775 ASME SB-725	ASME SB-165 ASME SB-163 ASME SB-730 ASME SB-751	ASME SB-366	ASME SB-564

Monel K500® – UNS N05500

Monel K-500® is a nickel-copper alloy with the same corrosion resistance and characteristics as the Monel 400®. The Monel K-500® has a greater strength and hardness then the 400, as a result of added aluminum and titanium. In age-hardened condition, it has greater tendency toward stress- corrosion cracking in some environments.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of Monel K500® (UNS N05500)

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb +Ta	Al	Fe	Others
.25max	1.5 max		. 01 max	.5 max		63.0 min		27-33			2.30-3.15	2.0 max	

Specifications					
Sheet / Plate	**Round Bar**	**Pipe**	**Tube**	**Fittings**	**Forgings**
QQ N 286	ASME SB-865 AMS 4676 QQ N 286				QQ N 286 AMS 4676

ALLOY 600 – UNS N06600

common trade names

Inconel 600®, Nickelvac® 600, Ferrochronin® 600

Inconel 600® is a standard engineering material and has a great resistance to heat and corrosion. Inconel 600® also has high strength and can be easily formed. Inconel 600® can be hardened and strengthened only by cold work. Inconel 600® can be used in the heat-treating industry for muffles, furnace components, and for heat-treating baskets and trays.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of ALLOY 600 (UNS N06600)

common trade names

Inconel 600®, Nickelvac® 600, Ferrochronin® 600

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	Other	Other
.15 max	1.0 max		.015 max	.5 max	14.0 - 17.0	72.0 min		.5 max					6.0 - 10.0		

Specifications

Sheet / Plate	Round Bar	Pipe	Tube	Fittings	Forgings
ASME SB-168 AMS 5540	ASME SB-166 AMS 5665	ASME SB-167 ASME SB-829 ASME SB-517 ASME SB-775	ASME SB-163 ASME SB-516 ASME SB751 AMS 5580	ASME SB-366	ASME SB-564 AMS 5665

ALLOY 625 – UNS N06625

common trade names

Inconel 625®, Chronin® 625, Altemp® 625, Haynes® 625, Nickelvac® 625, Nicrofer® 6020

Inconel ® 625 is a nonmagnetic, corrosion and oxidation resistant, nickel-base alloy. It has high strength and toughness in the temperature range cryogenic to 2000°F (1093°C) which is derived largely from the solid solution effects of the refractory metals, columbium and molybdenum, in a nickel-chromium matrix. Alloy 625 has excellent fatigue strength and stress-corrosion cracking resistance to chloride ions.

Typical applications for Alloy 625 have included heat shields, furnace hardware, gas turbine engine ducting, combustion liners and spray bars, chemical plant hardware and special seawater applications.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of ALLOY 625 (UNS N06625)

common trade names

Inconel 625®, Chronin® 625, Altemp® 625, Haynes® 625, Nickelvac® 625, Nicrofer® 6020

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	Nb	Other
.10	.50 max	.015 max	.015 max	.50 max	20.0 - 23.0	58.0 min	8.0 - 10.0		1.0 max		0.40 max	0.40 max	5.0 max	3.15 - 4.15	

Specifications for Inconel 625 ® (UNS N06625)

International Specifications	Sheet / Plate	Round Bar / Wire	Pipe	Tube	Fittings	Forgings
BS 3072, BS 3074, BS 3076, NA 21 DIN 17744, DIN 17750, DIN 17751, DIN 17752, DIN 17754. Werkstoff Nr. 2.4856 AFNOR NC 22 D Nb	ASME SB-443 AMS 5599 AMS 5869	ASME SB-446 AMS 5666 AMS 5837	ASME SB-444 ASME SB-829 ASME SB-775 ASME SB-705	ASME SB-444 ASME SB-829 ASME SB-751 ASME SB-704 AMS 5581	ASME SB-366	ASME SB-564 AMS 5666

ALLOY 800 – UNS N08800

common trade names

Incoloy 800H®, Ferrochronin® 800, Nickelvac® 800, Nicrofer® 3220

Incoloy 800® is a nickel-chromium alloy with good strength and excellent resistance to oxidation and carburization. The alloy maintains stable structure during exposure to high temperature, therefore incoloy 800® has good corrosion resistance to many acidic environments.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of ALLOY 800 UNS (N08800)

common trade names

Incoloy 800H®, Ferrochronin® 800, Nickelvac® 800, Nicrofer® 3220

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	Al + Ti	Grain
.10 max					19.0 - 23.0	30.0 - 35.0					0.15 - 0.60	0.15 - 0.60	39.5 min	0.30 1.20	

Specifications

Sheet/Plate	Round Bar	Pipe	Tube	Fittings	Forgings
ASME SB-409 AMS 5877	ASME SB-408 AMS 5766	ASME SB-407 ASME SB-829 ASME SB-514 ASME SB-775	ASME SB-407 ASME SB-829 ASME SB-515 ASME SB-751	ASME SB-366	ASME SB-564 AMS 5766

ALLOY 825 – UNS N08825

common trade names

Incoloy 825®, Nickelvac® 825, Nicrofer® 4221

Incoloy 825® is a nickel-iron- chromium alloy with titanium, copper, and molybdenum. Incoloy® 825's chemical composition provides great resistance to many corrosive environments, such as pitting, crevice corrosion, intergranular corrosion, and stress- corrosion cracking. Incoloy 825® has good mechanical properties from moderately to high temperatures. The hot- working range for Incoloy 825® is 1600 to 2150º F. The material has good weldability by all conventional processes.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of ALLOY 825 (UNS N08825)

common trade names

Incoloy 825®, Nickelvac® 825, Nicrofer® 4221

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	Other	Other
.05 max	1.0 max		.03 max	.5 max	19.5 - 23.5	38.0 - 46.0	2.5 - 3.5	1.5 - 3.0			0.6 1.2	0.2 max	22.0 min		

Specifications					
Sheet/Plate	**Round Bar**	**Pipe**	**Tube**	**Fittings**	**Forgings**
ASME SB-424	ASME SB-425	ASME SB-423 ASME SB-829 ASME SB-705 ASME SB-775	ASME SB-163 ASME SB-704 ASME SB-751	ASME SB-366	ASME SB-564

Alloy C22 – UNS N06022

common trade names

Hastelloy C22®, Inconel® 22, Nicrofer® 5621

Hastelloy C22® provides resistance to general corrosion, pitting, crevice corrosion, intergranular attack, and stress corrosion cracking. Inconel 22® can be used for many applications such as marine, power, chemical processing, pollution control, paper processing, and waste disposal industries. Hastelloy C22® contains chromium, molybdenum, tungsten, and iron which makes the alloy resistant to corrosion in stagnant or flowing seawater. The alloy is formed by gas tungsten-arc, gas metal-arc, and shielded metal-arc processes.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of Alloy C22 (UNS N06022)

common trade names

Hastelloy C22®, Inconel® 22, Nicrofer® 5621

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	W	V
.015 max	.50 max	.02 max	.02 max	.08 max	20.0 - 22.5	rem	12.5 - 14.5		2.5 max				2.0 - 6.0	2.5 - 3.5	.35 max

Specifications

Sheet/Plate	Round Bar	Pipe	Tube	Fittings	Forgings
ASME SB-575	ASME SB-574	ASME SB-622 ASME SB-619 ASME SB-775	ASME SB-622 ASME SB-516 ASME SB-626	ASME SB-366	ASME SB-564

Alloy C276 – UNS N10276

common trade names

Hastelloy C276®, Nickelvac® HC-276, Inconel® C276, Nicrofer® 5716

Inconel C-276® is a nickel-molybdenum-chromium alloy with excellent corrosion resistance in severe environments. Inconel C-276® is used in pollution control, chemical processing, pulp and paper production, and waste treatment.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of Alloy C276 (UNS N10276)

common trade names

Hastelloy C276®, Nickelvac® HC-276, Inconel® C276, Nicrofer® 5716

C	MN	P	S	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	W	V
.01 max	1.00 max	.04 max	.03 max	.08 max	14.5 - 16.5	rem	15.0 - 17.0		2.5 max				4.0 - 7.0	3.0 - 4.5	.35 max

Specifications					
Sheet / Plate	**Round Bar**	**Pipe**	**Tube**	**Fittings**	**Forgings**
ASME SB-575	ASME SB-574	ASME SB-622 ASME SB-619 ASME SB-775	ASME SB-622 ASME SB-516 ASME SB-626	ASME SB-366	ASME SB-564

CP Titanium Grade 2

Ti Grade 2 has moderate strength with excellent cold formability, weldability. This titanium also has excellent resistance to high oxidization.

Available forms are seamless pipe, welded pipe, seamless tube, welded tube, bar, wire, sheet, plate, forgings, pipe fittings and flanges.

Chemical Analysis of CP Titanium Grade 2

C	N	O	H	Si	Cr	Ni	Mo	Cu	Co	Cb+Ta	Ti	Al	Fe	Nb	Other
.08 max	.03 max	.25 max	.015 max								bal		.30 max		

Specifications					
Sheet/Plate	**Round Bar/Wire**	**Pipe**	**Tube**	**Fittings**	**Forgings**
ASME SB-265 AMS 4902	ASME SB-348 ASTM F-67 AMS 4921	ASME SB-337 ASME SB-338	ASME SB-337 ASME SB-338 AMS 4942	ASME SB-363	ASME SB-381