



宝鸡难熔金属开发公司

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NICKEL-BASE ALLOY PRODUCTS

● NICKEL-BASE ALLOY——Incoloy

✧ Grade comparison table:

	GB	UNS	SEW VDIUV	BS	AFNOR
Incoloy 800	NS111	N08800	W.Nr.1.4876 (X10NiCrAlTi3220)	NA15	Z8NC32.21
Incoloy 800H	NS112	NO8810	W.Nr.1.4958 (X5 NiCrAlTi 31-20)	NA 15 (H)	
Incoloy 800HT		N08811	W.Nr.1.4959* (X 8 NiCrAlTi 32-21)		
Incoloy 825	NS142	N08825	W.Nr.2.4858 (NiCr21Mo)	NA16	NC21FeDu
Incoloy 901		N09901			
Incoloy 925		N09925			
Incoloy 926		N08926	W.Nr.1.4529 (X1NiCrMoCu)	X1NiCrMoCu	X1NiCrMoCu

✧ Chemical Composition:

Grade	%	Ni	Cr	Fe	C	Mn	Si	Cu	S	Al	Ti	P	Mo	Nb	Co	B	N
Incoloy 800	min	30	19.0	balance						0.15	0.15						
	max	35	23.0		0.10	1.5	1.0	0.75	0.015	0.60	0.60	0.03					
Incoloy 800H	min	30	19.0	balance	0.05					0.15	0.15						
	max	35	23.0		0.10	1.5	1.0	0.75	0.015	0.60	0.60	0.03					
Incoloy 800HT	min	30	19.0	balance	0.05					0.15	0.15						
	max	35	23.0		0.10	1.5	1.0	0.75	0.015	0.60	0.60						
Incoloy 825	min	38	19.5	balance				1.50			0.60		2.5				
	max	46	23.5		0.05	1.0	0.5	3.00	0.030	0.20	1.20	0.03	3.5				
Incoloy 901	min	40	11.0	balance							2.35			5		0.01	
	max	45	14.0		0.10	1.0	0.6	0.50	0.030	0.35	3.10	0.03		7	1	0.02	
Incoloy 925	min	42	19.5	balance				1.50		0.15	1.90		2.5				
	max	46	23.5		0.03	1.0	0.5	3.00	0.030	0.50	2.40	0.03	3.5				
Incoloy 926	min	24	19.0	balance				0.50			0.60		6.0				0.15
	max	26	21.0		0.02	2.0	0.5	1.50	0.010		1.20	0.03	7.0				

✧ Physical properties:

Grade	Density g/cm ³	Melting point °C	Tensile strength Rm N/mm ²	Yield strength RP0.2 N/mm ²	Elongation A5 %	Hardness HB
Incoloy 800	7.95	1357-1385	520	205	30	
Incoloy 800H	8.00	1350-1400	450	180	35	
Incoloy 800HT	8.00	1350-1400	500	210	35	
Incoloy 825	8.14	1370-1400	550	220	30	≤200
Incoloy 901	8.14	1280-1345	1034	689	12	
Incoloy 925	8.14	1343	650	300	30	
Incoloy 926	8.10	1320-1390	650	295	35	

✧ Products show:



✧ Properties:

Incoloy 800

- High strength iron-nickel-chromium alloy
- Has strong inoxidizability and Anti-carbonate properties Under high temperature conditions.
- Good corrosion resistance in water environment

Incoloy 800H & Incoloy 800HT

- Has excellent anti-corrosion properties at extremely high temperatures aqueous medium above 500°C
- Has excellent stress corrosion resistance property
- Easy to be processed

Incoloy 825

- Outstanding stress corrosion cracking resistance
- Excellent resistance to spot and crevice corrosion
- Excellent resistance to oxidizing and non-oxidizing hot acid
- Good mechanical properties when in room temperature and above 550°C environment.
- With certification for manufacturing pressure vessels above 450°C

Incoloy 901

- Precipitation hardening, Creep resistant steel.
- With high yield strength and endurance strength when the temperature below 650°C
- Has good anti-oxidation property below 760°C
- Stable for long-term use

Incoloy 925

- Good mechanical strength
- Wide range of corrosion resistance

Incoloy 926

- Excellent resistance to spot and crevice corrosion when used in Halide medium and acid medium which contains H2S
- In a real world application, it has effectively resistance to Chloride stress corrosion cracking
- With excellent corrosion resistance to oxidation and reduction environment
- Has relatively better mechanical properties compared to Cronifer 1925 LC-Alloy 904 L
- Compared to the same series, 18% nickle contained alloy has better metallurgy Stability
- Has pressure vessels manufacturing related certification (VdTUV-196~400°C and ASME certificate)

✧ Range of use:

Incoloy 800

- Heat exchanger and piping system
- Ammonia nitrogen waste water cooler
- Vaporizing device and reaction still, melting furnace spare and accessory parts
- Electric range heating element sheath
- Extruded tubing ethylene and Steam methane reforming furnace

Incoloy 800H & Incoloy 800HT

- Nitric acid condenser—Good corrosion resistance to Nitric acid
 - Steam heating tube—excellent mechanical property
 - Heating elements—excellent mechanical property
- Supply status of alloy is annealing, when used in above 500 environment

Incoloy 825

- Food engineering
 - Heating tube, vessels, basket, chain
 - Chemical process
 - Air heat exchanger for petroleum refining
 - Heat exchanger, evaporator, washing and dip pipe used for manufacturing phosphoric acid
 - Burn resistant alloys used for high-pressure oxygen
 - Seawater cooling heat exchanger, marine products pipeline system, acidic gas environment pipeline.
- Widely used in various industry fields which temperature is below 550°C.

Incoloy 901

- Static structure
- Turbine outer ring and fasteners etc
- Manufacturing Disk shaped pieces(turbine disc, compressor disk, and journal etc.) of aviation and ground gas turbine engine, which used below 650°C

Incoloy 925

- Used for manufacturing parts for oil and gas drilling equipment

Incoloy 926

- Bleaching pool for alpha pulp production
- Polished rod for corrosive oil wells
- Hose system for oceanographic engineering
- Used as pipeline, connector, airflow system etc in the production of acid gas
- Parts for flue gas desulfurization system
- Phosphoric acid condensation separating system
- Evaporator for concentrated and crystallographic salt
- Condensation and pipeline system of power plant which use sewage cooling water
- Container for corrosive chemicals transportation
- Organic derivatives production process, in which Acidic chloride catalyst
- Reverse osmosis desalination plants
- Fire extinguishing system, seawater purification system, hydraulic pressure and filling pipeline system of oceanographic engineering
- Evaporator, heat exchanger, filter, commingler etc for phosphoric acid production