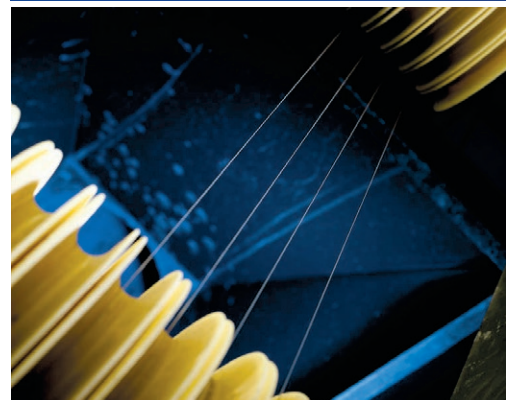
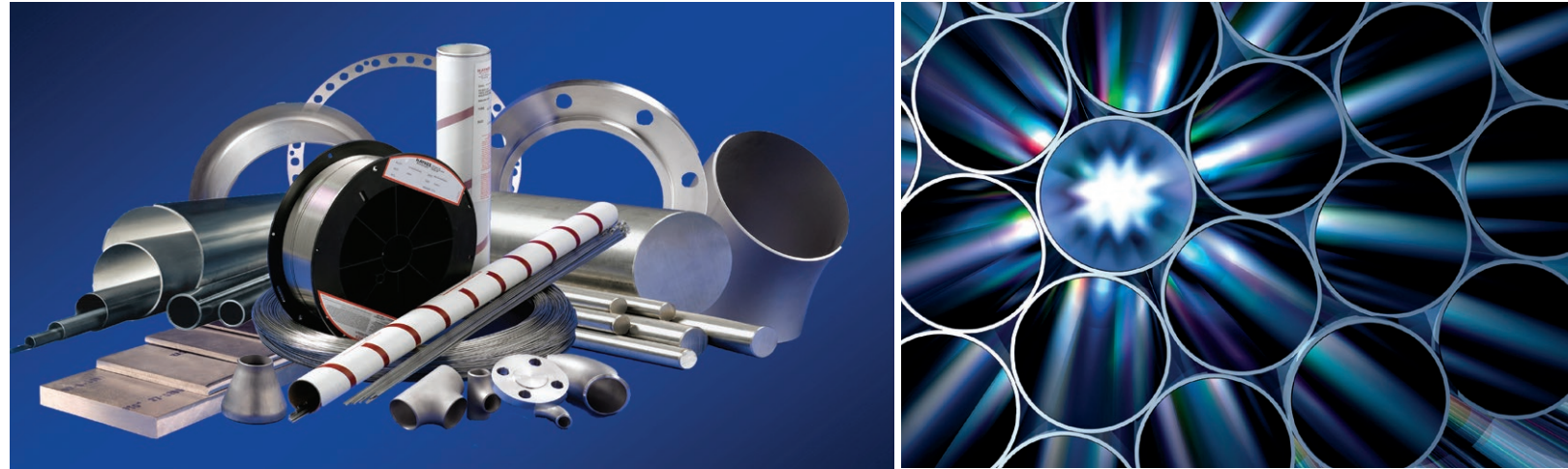


# HAYNES

International

## Products and Capabilities



High-temperature Alloys



Corrosion-resistant Alloys



## Descriptions of High-temperature Alloys

<b>HAYNES® 25 alloy</b> R30605	51Co-20Cr-15W-10Ni-1.5Mn-0.10C-3Fe*-0.4Si* Excellent strength, good oxidation resistance to 1800°F (980°C), very good sulfidation resistance and relatively good resistance to wear and galling. Used in gas turbine parts, bearings and various industrial applications.
<b>HAYNES® 75 alloy</b> N06075	76Ni-20Cr-5Fe-0.4Ti-0.11C-1Mn*-1Si*-0.5Cu* Basic heat-resistant alloy used in low-stress gas turbine and industrial applications.
<b>HAYNES® 188 alloy</b> R30188	39Co-22Ni-22Cr-14W-0.35Si-0.10C-0.03La-3Fe*-1.25Mn* Excellent strength with superior oxidation resistance and thermal stability compared to HAYNES® 25 alloy. Good sulfidation resistance. Used extensively in demanding military and civil aircraft gas turbine engine combustors and other key components.
<b>HAYNES® 214® alloy</b> N07214	75Ni-16Cr-4.5Al-3Fe-0.05C-0.01Y-0.5Mn*-0.2Si*-0.1Zr*-0.01B* Outstanding oxidation resistance to 2300°F (1260°C), excellent resistance to carburization, and excellent resistance to chlorine-bearing environments. Used in demanding industrial heating applications and specialized gas turbine parts, such as honeycomb seals.
<b>HAYNES® 230® alloy</b> N06230	57Ni-22Cr-14W-2Mo-0.5Mn-0.4Si-0.3Al-0.10C-0.02La-5Co*-3Fe*-0.015B* Best balance of strength, thermal stability, oxidation resistance, thermal cycling resistance and fabricability of any major high-temperature alloy. Used in gas turbine combustors and other key stationary components. Also used for heat treating and industrial heating applications, chemical/petrochemical processing industry and fossil energy plants. For welding, use 230-W® filler wire.
<b>HAYNES® 233™ alloy</b>	48Ni-19Co-19Cr-7.5Mo-3.25Al-0.6Ta-0.5Ti-1.5Fe*-0.4Mn*-0.20Si*-0.1C-0.03Zr-0.025Y*-0.006B* Alumina scale-former gives excellent oxidation resistance and exceptional creep strength up to 2100°F (1149°C) with ready fabricability. Potential applications include hot gas and combustion components in aero and industrial gas turbines, heating fixtures, and sensors and thermocouples.
<b>HAYNES® 242® alloy</b> N10242	65Ni-25Mo-8Cr-2.5Co*-2Fe*-0.8Mn*-0.8Si*-0.5Al*-0.5Cu*-0.03C*-0.006B* Age-hardenable alloy with excellent strength to 1300°F (705°C), low thermal expansion characteristics, good oxidation resistance to 1500°F (815°C) and excellent fabricability. Also has excellent resistance to high-temperature fluorine and fluoride-bearing environments. Used in gas turbine seal rings, containment structures and high-strength fasteners. Also used in fluoropolymer plastics production and chemical processing industry applications.
<b>HAYNES® 244® alloy</b>	62Ni-22.5Mo-8Cr-6W-1Co*-2Fe*-0.8Mn*-0.1Si*-0.5Al*-0.5Cu*-0.03C*-0.006B* lower thermal expansion and improved yield and creep strength to 1400°F (760°C) compared to HAYNES® 242® alloy. Excellent low-cycle fatigue and good oxidation resistance. Used for turbine rings in gas turbines for enhanced dimensional control, sealing tolerances and containment.
<b>HAYNES® 263 alloy</b> N07263	52Ni-20Co-20Cr-6Mo-0.06C-2.4Ti*-0.7Fe*-0.6Mn*-0.6Al*-0.4Si*-0.2Cu* Age-hardenable alloy with excellent strength in the 1000-1400°F (540-760°C) temperature range and excellent forming and welding characteristics.
<b>HAYNES® 282® alloy</b> N07208	57Ni-19.5Cr-10Co-8.5Mo-2.1Ti-1.5Al-1.5Fe*-0.3Mn-0.15Si-0.06C-0.005B Unique age-hardenable superalloy which combines exceptional high-temperature properties to 1650°F (900°C) with good weldability and fabricability. Used in aerospace and industrial gas turbine combustion path parts.
<b>HAYNES® 556® alloy</b> R30556	31Fe-22Cr-20Ni-18Co-3Mo-2.5W-1Mn-0.6Ta-0.4Si-0.2N-0.2Al-0.1C-0.02Zr-0.02La High-strength alloy with broad spectrum of resistance to high-temperature corrosive environments. Used in waste incineration, heat-treating, calcining, chemical processing, galvanizing, refinery, boiler and gas turbine components of various types. Excellent fabricability and excellent as a dissimilar filler metal for welding nickel or cobalt alloys to iron-base alloys.
<b>HAYNES® 617 alloy</b> N06617	54Ni-22Cr-12.5Co-9Mo-1Al-0.3Ti-0.07C Widely used in gas turbines for combustion cans, ducting and transitions.
<b>HAYNES® 625 alloy</b> N06625	62Ni-21Cr-9Mo-3.7(Cb+Ta)-5Fe*-1Co*-0.5Si*-0.5Mn*-0.4Al*-0.4Ti*-0.10C* Widely used in various aerospace, chemical processing and industrial heating components.
<b>HAYNES® 625SQ® alloy</b> N06626	62Ni-21Cr-9Mo-3.7(Cb+Ta)-5Fe*-1Co*-0.15Si*-0.5Mn-0.4Al*-0.4Ti*0.03C*-0.02N* Widely used in the aerospace industry.
<b>HAYNES® 718 alloy</b> N07718	52Ni-19Fe-18Cr-5(Cb+Ta)-3Mo-0.9Ti-0.5Al-0.05C-0.009B-1Co*-0.35Mn*-0.35Si*-0.1Cu* Age-hardenable alloy with excellent strength to 1200°F (650°C). Used extensively in gas turbine components.
<b>HAYNES® HR-120® alloy</b> N08120	33Fe-37Ni-25Cr-0.7Mn-0.7Cb-0.6Si-0.2N-0.1Al-0.05C-0.004B-3Co*-2.5Mo*-2.5W* Economical high-strength alloy with good resistance to industrial environments. Designed for use in heat treating fixture and industrial heating applications as an upgrade from 330 alloy, 800H alloy and stainless steels. Excellent carburization and sulfidation resistance.
<b>HAYNES® HR-160® alloy</b> N12160	37Ni-29Co-28Cr-2.75Si-2Fe-0.5Mn-0.05C Outstanding resistance to sulfidation and other high-temperature aggressive environments. Used in waste incineration, boiler, high-temperature reaction vessel, rotary calciner applications and thermocouple shielding.
<b>HAYNES® HR-224® alloy</b>	46Ni-27.5Fe-20Cr-3.8Al-0.5Mn*-0.5Ti*-0.4Si*-0.05C-0.025Zr*-0.004B* Excellent oxidation resistance to 2200°F (1204°C), with improved fabricability and weldability compared to HAYNES® 214® alloy. Used in demanding industrial heating applications and steam reformer parts.
<b>HAYNES® HR-235® alloy</b> N06235	58Ni-31Cr-5.6Mo-3.8Cu-1.5Fe*-0.7Mn*-0.6Si*-0.4Al*-0.06C High-chromium, copper-bearing nickel alloy has excellent resistance to metal-dusting in carbonaceous high-temperature environments while being readily fabricated and welded. Potential uses include applications in petrochemical production and syngas plants.
<b>MULTIMET® alloy</b> R30155	30Fe-21Cr-20Ni-20Co-3Mo-2.5W-1.5Mn-1(Cb+Ta)-0.15N-0.12C-1Si* Predecessor of 556® alloy, used extensively in older aircraft gas turbines.
<b>HAYNES® R-41 alloy</b> N07041	52Ni-19Cr-11Co-10Mo-3.1Ti-1.5Al-0.09C-0.006B-5Fe*-0.5Si*-0.1Mn* Age-hardenable alloy with excellent strength in the 1000-1650°F (540-900°C) temperature range. Used for critical gas turbine engine components.
<b>HASTELLOY® S alloy</b> N06635	67Ni-16Cr-15Mo-0.5Mn-0.4Si-0.25Al-0.02La-3Fe*-2Co*-1W*-0.02C*-0.015B* Excellent thermal stability, good thermal fatigue and oxidation resistance, and relatively low expansion characteristics. Used in low-stress gas turbine parts. Excellent dissimilar filler metal.
<b>HAYNES® Waspaloy alloy</b> N07001	58Ni-19Cr-13.5Co-4Mo-3Ti-1.5Al-0.08C-0.006B-2Fe*-0.15Si*-0.1Mn* Age-hardenable alloy with excellent strength in the 1000°F - 1600°F (540°C - 870°C) temperature range. Used for aerospace and industrial gas turbine engine components.
<b>HASTELLOY® X alloy</b> N06002	47Ni-22Cr-18Fe-9Mo-1.5Co-0.6W-0.10C-1Mn*-1Si*-0.008B* Very good balance of strength, oxidation-resistance and fabricability. Widely used material for aircraft, marine and industrial gas turbine engine combustors and fabricated parts.
<b>HAYNES® X-750 alloy</b> N07750	70Ni-16Cr-8Fe-2.5Ti-1(Cb+Ta)-0.8Al-1Co*-0.5Cu*-0.35Mn*-0.35Si*-0.08C* Age-hardenable alloy with good strength to 1500°F (815°C).

## Description of Titanium Tubular Alloy

<b>HAYNES® Ti-3Al-2.5V alloy</b> R56320	94Ti-3Al-2.5V-0.25Fe*-0.120H**~0.05C*-0.02N* Alloy used where strength/weight ratio is of prime importance (43% lighter than 21-6-9 stainless steel). Used mostly in the form of seamless tubing for aircraft hydraulic systems.
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\* As balance   <sup>b</sup>Minimum   <sup>c</sup>Maximum   <sup>\*\*</sup>Maximum varies with specification

B = designation specifications are ASTM   SB = designation specifications are ASME Vessel Code   SFA = designation specifications are ASME   A = designation specifications are AWS   AMS = designation specifications are SAE

## Applicable Specifications of High-temperature Alloys

Alloy	Sheet, Plate & Strip	Billet Rod/Bar	Coated Electrodes	Bare Welding Rods	Seamless Pipe & Tube	Welded Pipe & Tube	Fittings	Forgings
<b>HAYNES® 25 alloy</b> R30605	AMS 5537	AMS 5759 MIL-C-24252D	AMS 5797	AMS 5796				AMS 5759
<b>HAYNES® 75 alloy</b> N06075								
<b>HAYNES® 188 alloy</b> R30188	AMS 5608	AMS 5772		AMS 5801				AMS 5772
<b>HAYNES® 214® alloy</b> N07214								
<b>HAYNES® 230® alloy</b> N06230 <b>HAYNES® 230-W® alloy</b> N06231 (W86231)	AMS 5878 SB 435/B 435	AMS 5891 SB 572/B 572 B 472	SFA 5.11 (ENiCrWMo-1) A 5.11 (ENiCrWMo-1)	SFA 5.14 (ERNiCrWMo-1) A 5.14 (ERNiCrWMo-1) AMS 5839	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	AMS 5891 SB 564/B 564
<b>HAYNES® 233™ alloy</b>								
<b>HAYNES® 242® alloy</b> N10242	SB 434/B 434	SB 573/B 573 B 472		SFA 5.14 (ERNiMo-12) A 5.14 (ERNiMo-12)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	SB 564/B 564
<b>HAYNES® 244® alloy</b>								
<b>HAYNES® 263 alloy</b> N07263	AMS 5872	AMS 5886		AMS 5966				AMS 5886
<b>HAYNES® 282® alloy</b> N07208	AMS 5951	AMS 5915 B 637		SFA 5.14 (ERNiCrCoMo-2) A 5.14 (ERNiCrCoMo-2)				AMS 5915 B 637
<b>HAYNES® 556® alloy</b> R30556	AMS 5874 SB 435/B 435	AMS 5877 SB 572/B 572 B 472		SFA 5.9 (ER3556) A 5.9 (ER3556) AMS 5831	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	AMS 5877
<b>HAYNES® 617 alloy</b> N06617 (W86117)	AMS 5888 AMS 5889 SB 168/B 168	AMS 5887 SB 166/B 166 B 472	SFA 5.11 (ENiCrCoMo-1) A 5.11 (ENiCrCoMo-1)	SFA 5.14 (ERNiCrCoMo-1) A 5.14 (ERNiCrCoMo-1)	SB 167/B 167			SB 564/B 564
<b>HAYNES® 625 alloy</b> N06625 (W86112)	AMS 5599 SB 443/B 443 AMS 5869	AMS 5666 SB 446/B 446 B 472	SFA 5.11 (ENiCrMo-3) A 5.11 (ENiCrMo-3)	SFA 5.14 (ERNiCrMo-3) A 5.14 (ERNiCrMo-3) AMS 5837	AMS 5581 SB 444/B 444	AMS 5581 SB 704/B 704 SB 705/B 705	SB 366/B 366	AMS 5666 SB 564/B 564
<b>HAYNES® 625SQ® alloy</b> N06626	AMS 5879					ASME Code Case No. 2276	ASME Code Case No. 2276	
<b>HAYNES® 718 alloy</b> N07718	AMS 5596 AMS 5597	AMS 5662 AMS 5663 AMS 5664 SB 637/B 637		A 5.14 (ERNiFeCr-2) AMS 5832	AMS 5589 AMS 5590 B 983			AMS 5662 AMS 5663 AMS 5664 SB 637/B 637
<b>HAYNES® HR-120® alloy</b> N08120	AMS 5916 SB 409/B 409	SB 408/B 408 B 472			SB 407/B 407 SB 163/B 163	SB 514/B 514 SB 515/B 515	SB 366/B 366	SB 564/B 564
<b>HAYNES® HR-160® alloy</b> N12160	SB 435/B 435	SB 572/B 572 B 472		SFA 5.14 (ERNiCoCrSi-1) A 5.14 (ERNiCoCrSi-1)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	SB 564/B 564
<b>HAYNES® HR-224® alloy</b>								
<b>HAYNES® HR-235® alloy</b> N06235	ASTM B168	ASTM B166			ASTM B167	ASTM B619 ASTM B626	ASTM B366	
<b>MULTIMET® alloy</b> R30155 (W73155)	AMS 5532	AMS 5769	SFA 5.4 (E3155) A 5.4 (E3155) AMS 5795	AMS 5794				AMS 5768 B 639
<b>HAYNES® R-41 alloy</b> N07041	AMS 5545	AMS 5712		AMS 5800				AMS 5712
<b>HASTELLOY® S alloy</b> N06635	AMS 5873	AMS 5711		AMS 5838				AMS 5711
<b>HAYNES® Waspaloy alloy</b> N07001	AMS 5544	AMS 5704 AMS 5706 AMS 5707 SB 637/B 637		AMS 5828				AMS 5704 AMS 5706 AMS 5707 SB 637/B 637
<b>HASTELLOY® X alloy</b> N06002 (W86002)	AMS 5536 SB 435/B 435	AMS 5754 SB 572/B 572 B 472	SFA 5.11 (ENiCrMo-2) A 5.11 (ENiCrMo-2)	SFA 5.14 (ERNiCrMo-2) A 5.14 (ERNiCrMo-2) AMS 5798	SB 622/B 622	AMS 5588 SB 619/B 619 SB 626/B 626	SB 366/B 366	AMS 5754
<b>HAYNES® X-750 alloy</b> N07750	AMS 5542 AMS 5598	AMS 5667 AMS 5668 AMS 5670 AMS 5671 AMS 5747		SFA 5.14 (ERNiCrFe-8) A 5.14 (ERNiCrFe-8) AMS 5778	AMS 5582 AMS 5583			AMS 5667 AMS 5668 AMS 5670 AMS 5671 AMS 5747 SB 637/B 637

## Applicable Specifications of Titanium Tubular Alloy

<b>HAYNES® Ti-3Al-2.5V alloy</b> R56320					AMS 4943 AMS 4944 AMS 4945 AMS 4946 AS5620 SB 338/B 338Gr9			
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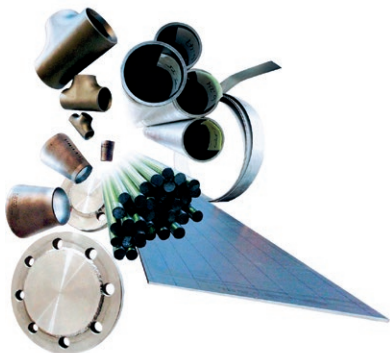
## Descriptions of Corrosion-resistant Alloys

<b>HASTELLOY® B-3® alloy</b> N10675	65Ni-28.5Mo-1.5Cr-1.5Fe-3Co*-3Mn*-3W*-0.5Al*-0.2Ti*-0.1Si*-0.01C* Same excellent resistance to hydrochloric acid and other strongly reducing chemicals such as B-2 alloy, but with significantly better thermal stability, fabricability and stress cracking resistance.
<b>HASTELLOY® C-4 alloy</b> N06455	65Ni-16Cr-16Mo-0.7Ti-3Fe*-2Co*-1Mn*-0.08Si*-0.01C* High-temperature stability in the 1200-1900°F (650-1040°C) range as evidenced by good ductility and corrosion resistance. Virtually the same uniform corrosion resistance as C-276 alloy.
<b>HASTELLOY® C-22® alloy</b> N06022	56Ni-22Cr-13Mo-3Fe-3W-2.5Co*-0.5Mn*-0.35V*-0.08Si*-0.01C* Better overall corrosion resistance in oxidizing corrosives than C-4, C-276, and 625 alloys. Outstanding resistance to localized corrosion and excellent resistance to stress corrosion cracking. Best alloy to use as universal weld filler metal to resist corrosion of weldments.
<b>HASTELLOY® C-22HS® alloy</b> N07022	61Ni-21Cr-17Mo-2*Fe-1*W-0.08*Si-0.01*C This alloy was designed to exhibit corrosion resistance comparable to other C-type alloys, but can be heat treated to obtain approximately double the yield strength. Excellent resistance to sour gas environments.
<b>HASTELLOY® C-86 alloy</b> N06686	59Ni-20.5Cr-16Mo-4W-5Fe*-1Mn*-0.5Cu*-0.25Ti* Good overall corrosion resistance with special use as overmatching filler metal for other C-type alloys, and as a corrosion-resistant overlay on carbon and low alloy steels.
<b>HASTELLOY® C-276 alloy</b> N10276	57Ni-16Cr-16Mo-5Fe-4W-2.5Co*-1Mn*-0.35V*-0.08Si*-0.01C* Versatile, corrosion resistant alloy. Very good resistance to reducing and mildly oxidizing corrosives. Excellent stress corrosion cracking resistance with very good resistance to localized attack.
<b>HASTELLOY® C-2000® alloy</b> N06200	59Ni-23Cr-16Mo-1.6Cu-0.08Si*-0.01C* Most versatile, corrosion resistant alloy with excellent resistance to uniform corrosion in oxidizing or reducing environments. Excellent resistance to stress corrosion cracking and superior resistance to localized corrosion as compared to C-276 alloy.
<b>HASTELLOY® G-30® alloy</b> N06030	43Ni-30Cr-15Fe-5.5Mo-2.5W-5Co*-2Cu*-1.5Cb*-1.5Mn*-1Si*-0.03C* Many advantages over other metallic and non-metallic materials in handling phosphoric acid, sulfuric acid, nitric acid, fluoride environments and oxidizing acid mixtures.
<b>HASTELLOY® G-35® alloy</b> N06035	58Ni-33.2Cr-8.1Mo-2Fe*-0.6Si*-0.3Cu*-0.05C* An improvement to G-30® alloy in handling phosphoric acid with excellent resistance to corrosion in highly oxidizing media and acidic chloride environments.
<b>HASTELLOY® HYBRID-BC1® alloy</b> N10362	62Ni-22Mo-15Cr-2Fe*-.25Mn-0.085i*-0.5Al*-0.01C* Bridges the gap between B and C family of alloys with better reducing acid resistance than C family alloys and a resistance to oxidizing impurities.
<b>HASTELLOY® N alloy</b> N10003	71Ni-16Mo-7Cr-5Fe*-1Si*-0.8Mn*-0.5W*-0.5(Al+Ti)*-0.35Cu*-0.2Co*-0.08C* Good resistance to aging and embrittlement plus good fabricability. Excellent resistance to hot fluoride salts in the temperature range of 1300-1600°F (705-870°C).
<b>ULTIMET® alloy</b> R31233	54Co-26Cr-9Ni-5Mo-3Fe-2W-0.8Mn-0.3Si-0.08N-0.06C High yield strength alloy with excellent resistance to pitting corrosion and general corrosion, especially in oxidizing acids, coupled with exceptional wear resistance (cavitation erosion, galling and abrasion).

## Applicable Specifications of Corrosion-resistant Alloys

Alloy	Sheet, Plate & Strip	Billet Rod/ Bar	Coated Electrodes	Bare Welding Rods	Seamless Pipe & Tube	Welded Pipe & Tube	Fittings	Forgings
<b>HASTELLOY® B-3® alloy</b> N10675 (W80675)	SB 333/B 333	SB 335/B 335 B 472	SFA 5.11 (ENiMo-10) A 5.11 (ENiMo-10) DIN 2.4696 (EL-NiMo28Cr)	SFA 5.14 (ERNiMo-10) A 5.14 (ERNiMo-10) DIN 2.4695 (SG-NiMo30Cr)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462 SB 564/B 564	SB 564/B 564 SB 462/B 462
<b>HASTELLOY® C-4 alloy</b> N06455 (W86455)	SB 575/B 575	SB 574/B 574	SFA 5.11 (ENiCrMo-7) A 5.11 (ENiCrMo-7) DIN 2.4612 (EL-NiMo15Cr15Ti)	SFA 5.14 (ERNiCrMo-7) A 5.14 (ENiCrMo-7) DIN 2.4611 (SG-NiMo16Cr16Ti)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	
<b>HASTELLOY® C-22® alloy</b> N06022 (W86022)	SB 575/B 575	SB 574/B 574 B 472	SFA 5.11 (ENiCrMo-10) A 5.11 (ENiCrMo-10) DIN 2.4638 (EL-NiCr21Mo14W)	SFA 5.14 (ERNiCrMo-10) A 5.14 (ERNiCrMo-10) DIN 2.4635 (SG-NiCr21Mo14W)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462 SB 564/B 564	SB 564/B 564 SB 462/B 462
<b>HASTELLOY® C-22HS® alloy</b> N07022		B 637			B 983			B 637
<b>HASTELLOY® C-86 alloy</b> N06686		B-574		SFA 5.14 (ERNiCrMo-14) A 5.14 (ERNiCrMo-14)				
<b>HASTELLOY® C-276 alloy</b> N10276 (W10276)	SB 575/B 575	SB 574/B 574 B 472	SFA 5.11 (ENiCrMo-4) A 5.11 (ENiCrMo-4) DIN 2.4887 (EL-NiMo15Cr15W)	SFA 5.14 (ERNiCrMo-4) A 5.14 (ERNiCrMo-4) DIN 2.4886 (SG-NiMo16Cr16W)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462 SB 564/B 564	SB 564/B 564 SB 462/B 462
<b>HASTELLOY® C-2000® alloy</b> N06200 (W86200)	SB 575/B 575	SB 574/B 574 B 472	SFA 5.11 (ENiCrMo-17) A 5.11 (ENiCrMo-17) DIN 2.4699 (EL-NiCr23Mo16Cu)	SFA 5.14 (ERNiCrMo-17) A 5.14 (ERNiCrMo-17) DIN 2.4698 (SG-NiCr23Mo16Cu)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462 SB 564/B 564	SB 564/B 564 SB 462/B 462
<b>HASTELLOY® G-30® alloy</b> N06030 (W86030)	SB 582/B 582	SB 581/B 581 B 472	SFA 5.11 (ENiCrMo-11) A 5.11 (ENiCrMo-11)	SFA 5.14 (ERNiCrMo-11) A 5.14 (ERNiCrMo-11)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462	SB 462/ B 462
<b>HASTELLOY® G-35® alloy</b> N06035 (W86035)	SB 575/B 575	SB 574/B 574 B 472	SFA 5.11 (ENiCrMo-22) A 5.11 (ENiCrMo-22)	SFA 5.14 (ERNiCrMo-22) A 5.14 (ERNiCrMo-22)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366 SB 462/B 462	SB 462/B 462 SB 564/B 564
<b>HASTELLOY® HYBRID-BC1® alloy</b> N10362	SB 575/B 575	SB 574/B 574 B 472		A 5.14 (ERNiMoCr-1)	SB 622/B 622	SB 619/B 619 SB 626/B 626	SB 366/B 366	SB 462/B 462 SB 564/B 564
<b>HASTELLOY® N alloy</b> N10003	AMS 5607 SB 434/B 434	AMS 5771 SB 573/B 573		SFA 5.14 (ERNiMo-2) A 5.14 (ERNiMo-2)			SB 366/B 366	AMS 5771
<b>ULTIMET® alloy</b> R31233	SB 818/B 818	SB 815/B 815						

# The Premier Choice in Innovative Solutions for Demanding Applications.



Haynes International, Inc. is an established leader in the development, manufacture and distribution of high-temperature and corrosion-resistant high-performance alloys. Our products exceed the most rigorous specifications and are trusted worldwide to provide exacting service requirements.

Our high-temperature family of alloys is generally distinguished by the **HAYNES®** brand, and our corrosion-resistant alloys by the **HASTELLOY®** brand. Industries often specify alloys by a UNS designation, unaware that such alloy specifications only address issues of chemical composition, not corrosion or heat resistance. We protect the alloys' quality and assure their performance by focusing on precise control of chemical composition and thermo-mechanical processing, in addition to systematic testing.

## Full-Service Capabilities

- Alloy Consultation and Technical Support
- Testing Samples
- Failure Analysis
- Laser QC® Mapping
- Quality Control Inspection
- Kitting
- Worldwide Stocking Service Centers

We offer service centers and sales offices worldwide. Our service centers' capabilities extend from specialized cutting to supplying parts cut to specific drawings and specifications, which reduce your labor time and material waste. We can be a partner in your entire material management system. We are continuously expanding our capabilities to increase your operation's efficiency and shorten your cycle time. Our highly trained staff and technicians are dedicated to providing solutions that exceed your expectations.

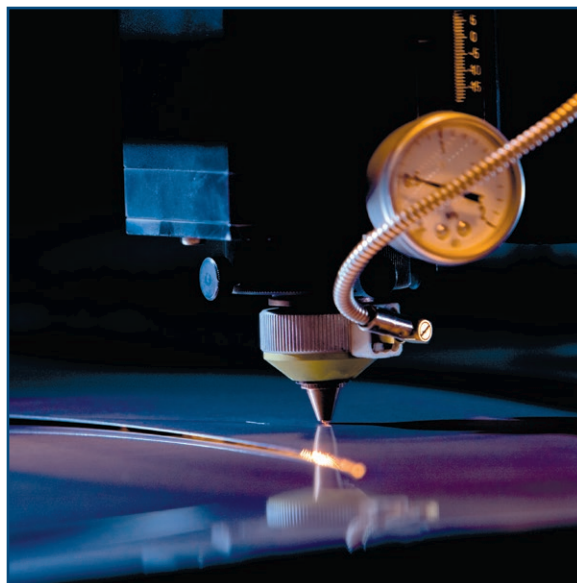
Whether you need on-demand delivery of finished goods, end-use technical support or a partner with a global presence, Haynes International provides value far beyond the alloys themselves.



## Specialized Cutting

- Laser Cutting
- Plasma Cutting
- Waterjet Cutting
- Band and Bar Saw Cutting
- Abrasive Saw Cutting
- Precision Shearing
- Near-net Shaped Cut Parts

AS9100 Certified  
ISO 50001 Certified  
ISO 9001 Certified  
ISO 14001 Certified  
ISO 45001 Certified





**Haynes Tubular Products**, located in Arcadia, Louisiana, is devoted exclusively to the production of the highest quality nickel and titanium Ti-3Al-2.5V alloy pipe and tubing. We are a leading supplier of welded and seamless high-performance alloy tubulars and offer numerous third party certifications. Our facility houses a complete range of pilgering, welding and drawing equipment designed especially for the manufacture of diversified sizes of seamless and welded products in HAYNES® and HASTELLOY® alloys.

### Tubular Products HAYNES® and HASTELLOY® Alloys

- Welded: 1/2" to 8" Schedule 40
- Seamless Titanium: 1/4" to 1-1/2"
- Other Seamless: 1/2" to 4-1/2"



Alloy	Form	Plate	Sheet & Strip	Billet	Bar & Rod	Wire	Coated Electrodes	Tubing		Pipe		Fittings
								Welded	Seamless	Welded	Seamless	
HAYNES® 25 alloy		■	■	▲	■	■	■	●		●		
HAYNES® 75 alloy		●	■	▲	●							
HAYNES® 188 alloy		■	■	■	■	■		●		●		
HAYNES® 214® alloy		■	■	●	■	■			●		●	
HAYNES® 230® alloy		■	■	■	■	■	●	■	●	■	●	●
HAYNES® 233™ alloy		▲	▲		▲							
HAYNES® 242® and 244® alloys		●	●	■	■	■		●	●	●	●	●
HAYNES® 263 alloy		■	■	■	●	■						
HAYNES® 282® alloy		■	■	■	■	■			●		●	
HAYNES® 556® alloy		■	■	▲	■	■		●		●		●
HAYNES® 617 alloy		■	■	■	●	■	■		●		●	
HAYNES® 625 alloy		■	■	■	●	■	■	■	■	■	■	●
HAYNES® 625SQ® alloy		●	■	●	●			●	●	●	●	●
HAYNES® 718 alloy		■	■	■	●	■		●	■	●	■	
HAYNES® HR-120® alloy		■	■	■	■	●		■	■	■	■	●
HAYNES® HR-160® alloy		■	■	■	■	■		■	■	■	■	●
HAYNES® HR-224® alloy		▲	▲	▲	▲	▲						
HAYNES® HR-235® alloy		▲	▲	▲	▲	▲		●	●	●	●	
MULTIMET® alloy			■	▲	▲	■	■					
HAYNES® R-41 alloy			■	●	●							
HASTELLOY® S alloy		▲	■	▲	■	●						
HAYNES® Waspaloy alloy			■	●	●	■		★				
HASTELLOY® X alloy		■	■	■	■	■	■	■	●	■		●
HAYNES® X-750 alloy		■	■	▲	●	▲			■		■	
HASTELLOY® C-86 and N alloys		●	●	●	●	●						
HASTELLOY® B-3®, C-22®, C-276, C-2000®, and G-30® alloys		■	■	■	■	■	■	■	★	■	★	■
HASTELLOY® C-4, G-35® alloys		■	■	▲	■	■	■	■	■	■	■	●
HASTELLOY® C-22HS® alloy		■	■	●	■	■		●	●★	●	●★	
HASTELLOY® HYBRID-BC1® alloy		■	■	●	■	■	●	■	■	■	■	■
ULTIMET® alloy		■	■	●	■	■	■					
HAYNES® Ti-3Al-2.5V alloy								■				

- Available from stock in select sizes
- ▲ Standard production with minimum quantities
- Available with approval and minimum quantities
- ★ Oil country tubulars

Haynes Wire Products, located in Mountain Home, North Carolina, is a premier manufacturer and distributor of high-performance nickel- and cobalt-based alloy wire. Our RTW™ wire finish is a proprietary surface finish engineered to offer more weld time and less maintenance time. We produce various structural, thermal spray and stainless steel wires. We offer technical support for all of your wire needs.

### Standard Wire Products

- RTW™ Filler Wire
- Precision Layer Wound Spools
- Cut Length TIG Rods
- Coated Electrodes
- Structural Wire
- Rod Coil/Redraw Wire
- Loose Coil
- Thermal Spray Wire
- Medical Wire

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