



# SHIVSHAKTI METAL

THE BEGINNING IS THE MOST IMPORTANT PART OF THE WORK

An ISO 9001:2015 Certified Company

**STRENGTH IN EVERY WELD**





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### MESSAGE FROM

# THE FOUNDER & CEO

“At Shivshakti Metal, our journey started with a simple belief – quality is not just a promise, it is a responsibility.”

For over 18 years, we have worked every day to deliver welding solutions that make our customers more productive, reliable, and successful. From manufacturing premium Fusion Wire™ filler metals to supplying world – class welding machines, consumables, and abrasives – our commitment has always been the same:

Consistency. Transparency. Long-term relationships.

Today, with a strong presence across India, an expanding distribution network, global sourcing, and a growing portfolio, Shivshakti Metal continues to move forward with the same passion, discipline, and dedication that shaped our beginning.

Thank you for trusting us.

**– UIRENDRA TRIPATHI**



# ABOUT OUR **BUSINESS**

We have earned a name as reputed and trusted supplier catering to special & specific needs of the welding industry. Managed by a group of highly technically qualified personnel we are committed to serve customers to full satisfaction. We supply against stocks and enquiry. The company boasts of a wide portfolio of welding consumables, equipment and service solutions. The clientele spectrum includes major Chemical, Petrochemical and Mechanical Engineering industries such as Fabricators, Project Contractors, and Retailers.



## OUR **MISSION**

- Provide industry widest portfolio of solutions for the welding industry through global sourcing
- Keep responsibilities and obligations towards customers as absolutely central to the principles by which to conduct the business
- To be a forerunner in supporting service to the welding community
- Offer benefits of having a Single, Reliable and Reputed Supplier with Genuine Guarantees

## CORE **STRENGTH**

- Strong product knowledge and experience to guarantee/offer right product
- Value addition through technical support
- Access to global sources
- With help of business associates maintain adequate stocks of the products; Import at short notice, if necessary
- Treat each customer, order and need on an individual basis with personalized attention and offer strong technical support

# ***OUR EFFORTS*** **ARE BACKED BY**

- Professional Management
- Persistent Commitment to Customer's satisfaction
- Uncompromising attitude to quality

## ***ACTIVITIES***

Marketing & Supply Welding Consumables, Equipments and Accessories related to Welding Industry. We stock most special items as per the specific needs of the customers from our principals & partners round the globe.

## ***QUALITY***

Quality is our prime concern. We are able to maintain high quality standards through our committed personnel and sound infrastructure. We ensure that finest quality material is used for our products. To ensure the quality of each material, we are providing Materials Test Certificate along with supply. Our team of experts maintains a vigil on the quality of the products. Every product is supplied with test certificates and reports. We are continually improving our quality to serve our clients better.

## ***OUR FACILITIES***

We have a sound infrastructure. Our spacious manufacturing facility and warehouse has the capacity to store large quantities of products. We possess a team of experts who are sourcing products of international standard to keep abreast with the global markets. Our quality professionals have served as a beacon not only for us but also for the entire industry in establishing top level quality standards.



# FUSION STAINLESS STEEL TIG/MIG WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE		
<b>304L</b> AWS A5.9	304L is used for TIG, MIG and submerged arc welding of un-stabilized Stainless Steels such as Types 301, 302, 304, 305, 308. This filler metal is the most popular grade among stainless steels, used for general purpose application where corrosion conditions are moderate.	C	0.030 Su	0.005
		Mn	1.63 Ph	0.043
		Si	0.40	
		Cr	18.00	
		Ni	9.0	
<b>ER308</b> AWS A5.9 ER 308	ER 308 is more prone to cracking than its counterpart, making it better suited for application with heavy loads or high temperatures where cracking may occur if not joined properly. 308 welding Wire are primarily used for welding austenitic stainless-steel types, such as 301, 302, 304, 308, 316, and 347. 308L welding rods contain low carbon, making them ideal for welding 304L and 304 stainless steels.	C	0.035 Su	0.005
		Mn	1.65 Ph	0.016
		Si	0.46 WRC FN	8
		Cr	18.00	
		Ni	9.20	
<b>ER308H</b> AWS A5.9 ER308H	ER308H is used for TIG, MIG and submerged arc welding of un stabilized Stainless Steels such as Types 301, 302, 304, 305, 308, with carbon content on the higher side. Popular for high temperature application.	C	0.06 Su	0.005
		Mn	1.65 Ph	0.016
		Si	0.46 WRC FN	8
		Cr	19.50	
		Ni	9.2	
<b>ER308L</b> AWS A5.9 ER308L	ER308L has the same analysis as type 308 except the carbon content has been held to a maximum of 0.03% to reduce the possibility of intergranular carbide precipitation. Ideal for welding Types 304L, 321 and 347 stainless steels. This is a suitable wire for application at cryogenic temperatures.	C	0.019 Su	0.003
		Mn	1.73 Ph	0.013
		Si	0.46 WRC FN	8
		Cr	20.8	
		Ni	10.1	
<b>ER309L</b> AWS A5.9 ER309L	ER309L is of similar Composition as 309. except for the Carbon Content being lower than 0.03% the lower Carbon Content reduces the possibility of intergranular Corrosion. The weld metal contains high Ni and Cr. Suitable for the welding of dissimilar Metals such as carbon steel to stainless steel.	C	0.021 Su	0.006
		Mn	1.75 Ph	0.014
		Si	0.51 N	0.12
		Cr	23.40	
		Ni	12.70	
<b>ER309LMO</b> AWS A5.9 ER309LMO	ER309LMO is excellent wire for overlays and for joining 316, 316L to carbon steels and for different joints. The weld metal is low carbon 25Cr-12Ni-2.5Mo Stainless steel Excellent oxidization resistance at high temperature can be obtained suitable of welding of dissimilar metals.	C	0.025 Su	0.01
		Mn	1.7 Ph	0.02
		Si	0.5 Cu	0.4
		Cr	24.0 Mo	2.5
		Ni	13.0	
<b>ER310</b> AWS A5.9 ER310	ER310 is used for the welding of stainless steels of similar composition in wrought or cast form. The Weld deposit is fully austenitic and calls for low heat during welding. This filler metal can also be used for dissimilar welding.	C	0.11 Su	0.003
		Mn	1.90 Ph	0.012
		Si	0.40 N	0.04
		Cr	27.10 WRC FN	0.0
		Ni	20.95	
<b>ER312</b> AWS A5.9 ER312	ER312 is used to weld cast alloys of similar composition and is used to weld dissimilar metals and weld overlays. During the welding of similar cast-alloys, limit the welding to two or three layers only.	C	0.11 Su	0.012
		Mn	1.64 Ph	0.017
		Si	0.44 N	0.05
		Cr	29.6 Mo	0.08
		Ni	8.9	
<b>ER316</b> AWS A5.9 ER316	ER 316 is used to weld wrought and cast forms of similar composition. The presence of Molybdenum increases its creep resistance at elevated temperatures. The Lower ferrite level of this nominal composition reduces the rate of corrosion in certain media and is suitable for use at cryogenic temperatures.	C	0.05 Su	0.003
		Mn	1.75 Ph	0.012
		Si	0.48 N	0.04
		Cr	19.4 Mo	2.30
		Ni	12.2	

# FUSION STAINLESS STEEL TIG/MIG WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE		
<b>ER316L</b> AWS A5.9 ER316L	ER316L has the same analysis as ER316. Except that the carbon content is limited to a maximum of 0.03% in order to reduce the possibility of formation of intergranular carbide precipitation. This filler metal is primarily used for welding low carbon molybdenum-bearing austenitic alloys. This low carbon alloy is not as strong at elevated temperature as ER 316H	C	0.016 Su	0.005
		Mn	1.87 Ph	0.043
		Si	0.48 Mo	2.25
		Cr	19.32	
		Ni	13.2	
<b>ER317L</b> AWS A5.9 ER317L	ER317L is used for welding stainless steels with similar composition. Due to its highly Molybdenum content, this alloy offers high resistance to pitting and crevice corrosion. Lower carbon makes the weld metal less susceptible to intergranular corrosion.	C	0.017 Su	0.006
		Mn	1.66 Ph	0.012
		Si	0.44 N	0.04
		Cr	19.4 Mo	3.25
		Ni	13.85	
<b>ER318</b> AWS A5.9 ER318	A Columbium stabilised stainless steel with excellent corrosion resistance. Used to weld 318 or 316 type Stainless Steel.	C	0.06 Su	0.01
		Mn	1.7 Ph	0.01
		Si	0.4 Cu	0.2
		Cr	19.0 Mo	2.5
		Ni	12.5 Cl	0.7
<b>ER321</b> AWS A5.9 ER321	A Titanium stabilised stainless steel used for welding of 321 or 308 type steels.	C	0.05 Su	0.01
		Mn	1.6 Ph	0.01
		Si	0.4 Cu	0.2
		Cr	19.5 Ti	0.6
		Ni	10.00	
<b>ER347</b> AWS A5.9 ER347	ER 347 is a columbium stabilised stainless steel welding wire used to weld Types 321 and 347. Addition of columbium reduces the possibility of chromium carbide precipitation and consequent intergranular corrosion.	C	0.04 Su	0.005
		Mn	1.65 Ph	0.014
		Si	0.52 N	0.04
		Cr	19.9 Cl	0.72
		Ni	9.75	
<b>ER410</b> AWS A5.9 ER410	ER410 is used to weld Type 403, 405, 410 and 416. It is also used for welding overlay on carbon steels to resist corrosion, erosion or abrasion. This material being an air hardening type, calls for preheating of the joint to 350°F before welding.	C	11 Cr	12.5
		Mn	0.45 Su	0.01
		Si	39 Ph	0.014
<b>ER430</b> AWS A5.9 ER430	ER430 is a ferritic stainless steel which offers good ductility in heat treated condition in addition to the application of welding similar alloys, it is also used for overlays and thermal spraying.	C	0.07 Cr	16.5
		Mn	0.44 Su	0.01
		Si	0.36 Ph	0.014
<b>ER385/904L</b> AWS A5.9 ER385 (ER904L)	ER385/904L is used for welding materials of similar chemical composition which are used for fabrication of equipment and vessels for handling of sulfuric acid & many chloride containing media. This filler metal may also find application for pining type 31.7L material where improved corrosion resistance is specific media is needed.	C	0.02 Su	0.01
		Mn	1.7 Ph	0.01
		Si	0.4 Cu	1.5
		Cr	21.0 Mo	4.5
		Ni	25.0	
<b>ER307SI</b> AWS A 5.9 ER 307	307Si Tig is for buffer layers before hard facing, dissimilar welding between steel and stainless steel, exhaust systems (type 409, 304), high Manganese austenitic steel, heterogeneous welding, difficult to weld steels etc. The deposit work hardens from 200 HV to 450 HV.	C	0.12	
		Si	0.9	
		Mn	6	
		Cr	18.5	
		Ni	8.5	

# FUSION DUPLEX & SUPER DUPLEX TIG/MIG WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE																								
<b>ER2594</b> AWS A 5.9 ER 2594	2507 is a super duplex stainless steel with extremely high strength and excellent resistance to chloride-induced stress corrosion cracking. It is used where 316L and duplex 2205 are not sufficient. Ideal for offshore oil & gas, chemical processing, petrochemical plants, seawater systems, and high-pressure piping.	<table border="1"> <tr> <td>C</td> <td>0.015</td> <td>Mo</td> <td>3.70</td> </tr> <tr> <td>Mn</td> <td>0.75</td> <td>N</td> <td>0.23</td> </tr> <tr> <td>Si</td> <td>0.45</td> <td>W</td> <td>0.35</td> </tr> <tr> <td>Cr</td> <td>25.10</td> <td>Fe</td> <td>Balance</td> </tr> <tr> <td>Ni</td> <td>9.50</td> <td></td> <td></td> </tr> <tr> <td>S</td> <td>0.005</td> <td></td> <td></td> </tr> </table>	C	0.015	Mo	3.70	Mn	0.75	N	0.23	Si	0.45	W	0.35	Cr	25.10	Fe	Balance	Ni	9.50			S	0.005		
C	0.015	Mo	3.70																							
Mn	0.75	N	0.23																							
Si	0.45	W	0.35																							
Cr	25.10	Fe	Balance																							
Ni	9.50																									
S	0.005																									
<b>ER2307</b> AWS A 5.9 ER 2307 (LEAN DUPLEX)	A continuous, solid, corrosion-resistant duplex wire for welding austenitic-ferritic stainless alloys of the 21% Cr-1% Ni or 23% Cr-4% Ni type. 2307 is over alloyed in Ni to ensure a correct Ferrite balance in the weld metal. Lean duplex types are used for civil engineering, storage tanks, containers, etc. These steels have in general medium corrosion resistance and good strength properties. The welding should be done as for ordinary austenitic steels, but high amperages should be avoided.	<table border="1"> <tr> <td>C</td> <td>0.028</td> <td>Mn</td> <td>1.8</td> </tr> <tr> <td>Cu</td> <td>0.44</td> <td>Mo</td> <td>0.60</td> </tr> <tr> <td>S</td> <td>0.02</td> <td>Ni</td> <td>7.00</td> </tr> <tr> <td>P</td> <td>0.019</td> <td>Cr</td> <td>23.5</td> </tr> <tr> <td>Si</td> <td>0.47</td> <td>N</td> <td>0.2</td> </tr> </table>	C	0.028	Mn	1.8	Cu	0.44	Mo	0.60	S	0.02	Ni	7.00	P	0.019	Cr	23.5	Si	0.47	N	0.2				
C	0.028	Mn	1.8																							
Cu	0.44	Mo	0.60																							
S	0.02	Ni	7.00																							
P	0.019	Cr	23.5																							
Si	0.47	N	0.2																							
<b>ER2209</b> AWS A5.9 ER2209	ER2209 is filler material designed to weld duplex stainless steels such as UNS number N31803. The welds are characterized by high tensile strength and improved resistance to stress corrosion cracking and pitting. The wire is lower in ferrite compared to that of base metal in order to obtain improved weldability.	<table border="1"> <tr> <td>C</td> <td>0.016</td> <td>Su</td> <td>0.007</td> </tr> <tr> <td>Mn</td> <td>1.4</td> <td>Mo</td> <td>2.9</td> </tr> <tr> <td>Si</td> <td>0.40</td> <td></td> <td></td> </tr> <tr> <td>Ch</td> <td>22.4</td> <td></td> <td></td> </tr> <tr> <td>Ni</td> <td>8.5</td> <td></td> <td></td> </tr> </table>	C	0.016	Su	0.007	Mn	1.4	Mo	2.9	Si	0.40			Ch	22.4			Ni	8.5						
C	0.016	Su	0.007																							
Mn	1.4	Mo	2.9																							
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# FUSION HASTELLOY TIG/MIG WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE																
<b>HASTELLOY C-276</b> AWS A5.14 ERNiCrMo-4	Used for severe corrosion environments: sulfuric, hydrochloric, formic, acetic acids, chlorides, and solvents. Ideal for stack liners, ducting, dampers, scrubbers, heaters, transfer piping, and corrosive chemical processing equipment. Excellent resistance to pitting and stress-corrosion cracking.	<table border="1"> <tr> <td>C</td> <td>0.01</td> <td>Mo</td> <td>16</td> </tr> <tr> <td>Cr</td> <td>15.5</td> <td>V</td> <td>0.32</td> </tr> <tr> <td>Co</td> <td>2.50</td> <td>W</td> <td>4</td> </tr> <tr> <td>Ni</td> <td>balance (≈58)</td> <td></td> <td></td> </tr> </table>	C	0.01	Mo	16	Cr	15.5	V	0.32	Co	2.50	W	4	Ni	balance (≈58)		
C	0.01	Mo	16															
Cr	15.5	V	0.32															
Co	2.50	W	4															
Ni	balance (≈58)																	
<b>HASTELLOY C-22</b> AWS A5.14 ERNiCrMo-10	Used in oxidation and non-oxidation chemical environments requiring extreme corrosion resistance. Suitable for reactors, heat exchanger, columns, and CPI application. Excellent resistance to pitting, crevice corrosion, and stress-corrosion cracking-better than C-276 in oxidation media.	<table border="1"> <tr> <td>Cr</td> <td>22</td> <td>Fe</td> <td>3</td> </tr> <tr> <td>Ni</td> <td>56</td> <td>V</td> <td>0.42</td> </tr> <tr> <td>Mo</td> <td>13</td> <td>Cu</td> <td>0.3</td> </tr> <tr> <td>W</td> <td>3</td> <td>Co</td> <td>2.0</td> </tr> </table>	Cr	22	Fe	3	Ni	56	V	0.42	Mo	13	Cu	0.3	W	3	Co	2.0
Cr	22	Fe	3															
Ni	56	V	0.42															
Mo	13	Cu	0.3															
W	3	Co	2.0															

**HASTELLOY C-4**AWS A5.14  
ERNiCrMo-7

Excellent corrosion resistance at high temperatures and under reducing/oxidation conditions. Designed for waste-incineration plants, flue-gas desulfurization systems, agitators, heat exchangers, vessels, dampers, absorbers, and chemical processing equipment.

Cr	16	Fe	2
Ni	70	Ti	0.60
Mo	16	Co	2.0

**HASTELLOY C-2000**AWS A5.14  
ERNiCrMo-17

Highly versatile alloy with superior resistance to pitting, crevice corrosion, and stress-corrosion cracking due to Cu addition. Used in chemical plants, piping, acid service, reactors, and storage vessels handling oxidation + non-oxidation chemicals and chlorides.

Cr	23	Cu	1.6
Ni	59	C	0.1
Mo	16	Si	0.08

**HASTELLOY B-3**AWS A5.14  
ERNiMo-10

Ideal for welding in chloride-bearing reducing environments where stress-corrosion cracking is severe. Used in chemical processing, reactors, heat exchangers, evaporators, transfer piping, and equipment exposed to halides. Excellent resistance to pitting, crevice attack, and SCC.

Ni	65
Mo	30
Fe	2
Co	2

**HASTELLOY X**AWS A5.14  
ERNiCrMo-2

Used for high-temperature service due to outstanding oxidation resistance and mechanical strength. Widely used in gas turbines, petrochemical heaters, aerospace combustion chambers, furnace components, and high-temperature reactors. Proven SCC resistance up to 870°C.

Cr	22
Ni	47
Mo	9
Co	2
Fe	18

## ***FUSION NICKEL & HIGH-NICKEL ALLOY TIG/MIG WELDING WIRES***

**PRODUCT****USES****TYPICAL CHEMICAL  
COMPOSITION OF THE WIRE****ERNiCr-3**AWS A 5.14  
INCONEL  
600/601/800

ERNiCr-3 has a nominal composition (wt.-%) of 72 Ni, 20 Cr, 3 Mn, 2.5 Nb + Ta. Filler metal of this classification is used for welding nickel-chromium-iron alloys. to itself and for the clad side of joints in steel clad with nickel-chromium-iron alloy. It can also be used for surfacing steel with nickel chromium-iron weld metal, for dissimilar welding of nickel-base alloys, and for joining steel to stainless steel or nickel-base alloys. ERNiCr-3 is also well suited for welding in a variety of temperatures – from cryogenic to elevated – in such applications as piping, furnace equipment, and petrochemical and power generation plants.

Cr	20	Mn	3
Ni	70	Nb+Ta	2.5
Fe	3		

# FUSION NICKEL & HIGH-NICKEL ALLOY TIG/MIG WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE																				
<b>ERNiCrMo-3</b> AWS A 5.14 ERNiCrMo-3 INCONEL 625	INCONEL 625 Filler metal is used for welding nickel-chromium-molybdenum alloy to itself, to steel, to other nickel-based alloys, for cladding steel with nickel-chromium-molybdenum weld metal, and for welding the clad side of joints in steel with nickel-chromium-molybdenum alloy. This filler metal is recommended for applications where the operating temperature ranges from cryogenic to 1000°F. This wire is well suited for welding piping systems and reactor components in the power generation industry and for high temperature service in a wide variety of other engineering application including furnace equipment and petrochemical plants and in marine and offshore environments	<table border="1"> <tr> <td>Cr</td> <td>21.5</td> <td>Ta</td> <td>0.4</td> </tr> <tr> <td>Ni</td> <td>60</td> <td>Ai</td> <td>0.4</td> </tr> <tr> <td>Mo</td> <td>9</td> <td>Fe</td> <td>5</td> </tr> </table>	Cr	21.5	Ta	0.4	Ni	60	Ai	0.4	Mo	9	Fe	5								
Cr	21.5	Ta	0.4																			
Ni	60	Ai	0.4																			
Mo	9	Fe	5																			
<b>ERNiCrFe-7</b> AWS A 5.14 ERNiCrFe-7	ERNiCrFe-7 filler metal is used for welding nickel-chromium-iron (Inconel 690) alloys to themselves, and for dissimilar welding between nickel-chromium-iron alloys and steels or stainless steels. The application include surfacing as well as clad-side welding. Interpass temperature of 150°C should be respected, Excellent resistance against oxidizing media combined with high mechanical strength at room temperature but also at extreme high temperatures combined with high ductility due to the high chromium content. Alloy 690 was developed to offer greater resistance to stress corrosion in the nuclear industry, pure water environment.	<table border="1"> <tr> <td>Cr</td> <td>29.5</td> <td>Mn</td> <td>0.8</td> </tr> <tr> <td>Ni</td> <td>60</td> <td>Fe</td> <td>9</td> </tr> <tr> <td>Nb</td> <td>0.02</td> <td>C</td> <td>0.03</td> </tr> <tr> <td>Ti</td> <td>0.5</td> <td>Si</td> <td>0.4</td> </tr> <tr> <td>Mo</td> <td>0.4</td> <td></td> <td></td> </tr> </table>	Cr	29.5	Mn	0.8	Ni	60	Fe	9	Nb	0.02	C	0.03	Ti	0.5	Si	0.4	Mo	0.4		
Cr	29.5	Mn	0.8																			
Ni	60	Fe	9																			
Nb	0.02	C	0.03																			
Ti	0.5	Si	0.4																			
Mo	0.4																					
<b>ERNiCrMo-17</b> AWS A 5.14 INCONEL 686	ERNiCrMo-17 is unique among the versatile nickel-chromium-molybdenum materials in having a deliberate copper addition. ERNiCrMo-17 is Like other nickel alloys, it is ductile, easy to form and weld, and possesses exceptional resistance to stress corrosion cracking in chloride-bearing solutions (a form of degradation to which the austenitic stainless steels are prone).It is able to withstand a wide range of oxidation and non-oxidation chemicals, and exhibits outstanding resistance to pitting and crevice attack in the presence of chlorides and other halides.	<table border="1"> <tr> <td>Cr</td> <td>23</td> <td>Cu</td> <td>1.6</td> </tr> <tr> <td>Ni</td> <td>60</td> <td>Fe</td> <td>1.5</td> </tr> <tr> <td>Mo</td> <td>16</td> <td></td> <td></td> </tr> </table>	Cr	23	Cu	1.6	Ni	60	Fe	1.5	Mo	16										
Cr	23	Cu	1.6																			
Ni	60	Fe	1.5																			
Mo	16																					
<b>ERNiCrFe-11</b> AWS A 5.14 ERNiCrFe-11	ERNiCrFe-11 is a Nickel-Chromium-Iron alloy bare wire used for the Alloy 601. is used for application for high temperature (over 2,100°F) nickel-based alloys and has excellent weldability. ERNiCrFe-11 can be used to weld all forms of UNS N06601 (ASTM B-166,167, and 168). ERNiCrFe-11 can also be used for application in oxidation, hydrogen sulphide, and sulphur dioxide.	<table border="1"> <tr> <td>Cr</td> <td>23</td> <td>C</td> <td>0.075</td> </tr> <tr> <td>Ni+Co</td> <td>61%</td> <td>Mn</td> <td>0.82</td> </tr> <tr> <td>Ai</td> <td>1.4</td> <td>Fe</td> <td>Balance</td> </tr> </table>	Cr	23	C	0.075	Ni+Co	61%	Mn	0.82	Ai	1.4	Fe	Balance								
Cr	23	C	0.075																			
Ni+Co	61%	Mn	0.82																			
Ai	1.4	Fe	Balance																			
<b>ERNiCu-7</b> AWS A5.14 ER NiCu-7	ERNiCu-7 has a nominal composition. Filler metal of this classification is used for welding nickel-copper alloy (ASTM B 127, B 163, B 164, and B 165 having UNS Number N04400) to itself using the GTAW, GMAW, SAW, and PAW processes. The filler metal contains sufficient titanium to control porosity with these welding processes. The wire's strength and corrosion-resistance make ERNiCu-7 an excellent choice for welding in salt, seawater, and reducing acid environments.	<table border="1"> <tr> <td>Ni</td> <td>63</td> <td>Fe</td> <td>2</td> </tr> <tr> <td>Cu</td> <td>30</td> <td>Mn</td> <td>4</td> </tr> </table>	Ni	63	Fe	2	Cu	30	Mn	4												
Ni	63	Fe	2																			
Cu	30	Mn	4																			

# FUSION NICKEL & HIGH-NICKEL ALLOY TIG/MIG WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE			
<b>ERNiFeCr-2</b> AWS A 5.14 ER NiCr-2	ERNiFeCr-2 filler metal is used by gas tungsten arc welding process for Cr-Ni-Nb-Mo alloys. Use of high heat impart process such as TIG/MIG often results in micro-fissuring. ERNiFeCr-2 is used for welding alloys 718, 706, and X-750. It is mainly used for welding high strength aircraft components and liquid rocket components involving cryogenic temperatures. High heat input processes, such as MIG welding, often result in micro fissuring. This alloy can be age hardened to higher strengths.	Cr	18	Ti	1
		Ni	51.5	Fe	20
		Mo	2.8	Nb+Ta	5.3
<b>ERNi-1</b> AWS A5.14 ER Ni-1	Ni-1 is used for TIG, MIG and SAW welding of Nickel 200 or 201. This filler metal is also employed for overlaying on steel as well as repairing cast iron castings. It can also be used for dissimilar joints between Nickel Alloys to Stainless or Ferritic Steels.	C	0.06	Ph	0.008
		Mn	30	Cu	0.02
		Si	40	Fe	0.10
		Ni	95.5	Ti	3.0
		Su	0.005	Al	0.5
<b>ERCuNi</b> AWS A5.7 ER CuNi	It is used for TIG, MIG and Oxy-fuel welding of 70/30, 80/20 and 90/10 Copper-Nickel alloys. This filler metal can be used for MIG overlay on steel after a first layer with Nickel 208. Dissimilar-welding application include joining Copper-Nickel alloys to Nickel 200 or Nickel-Copper alloys.	Mn	0.75	Fe	0.55
		Ni	31.0	Ti	0.35
		Cu	Balance		
<b>ERNiCrCoMo-1</b> AWS A5.14 ER NiCrCoMo-1	NiCrCoMo-1 is used for TIG, MIG and SAW welding of Nickel-Chrome-Cobalt-Molybdenum alloys, as well as between themselves and dissimilar metals, such as Stainless. Carbon or Low alloys Steels This filler wire also can be used to overlay welding where similar chemical composition is desired. The weld metal provides optimum strength and oxidation resistance from upto 21000F (11500C)	C	0.06	Ph	0.005
		Mn	0.15	Fe	3
		Si	0.5	Nb+Ta	0.75
		Cr	23	Co	12.45
		Ni	Balance	Mo	9.05
		Su	0.005		

# FUSION LOW ALLOY STEEL WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE		
<b>70S-G</b> AWS A5.18 ER70S-G	70S-G, a general purpose wire for both Gas Metal Arc Welding and TIG Welding of Carbon Steels, Excellent for Gas Metal Arc Welding with Argon + Co, mixtures.	C Mn Si	0.08 Ti + Zr 1.75 Al 0.90	<0.15 <0.02
<b>70S-6</b> AWS A5.18 ER70S-6	70S-6, all position wire for a Gas Metal Arc Welding of Carbon Steels with Co, gas or Argon Co, mixtures. A slightly higher silicon and manganese increases better yield and tensile strength of weld metal that is smooth & sound.	C Mn Si	0.08 Ti + Zr 1.45 Al 0.85	<0.15 <0.02
<b>70S-2</b> AWS A5.18 ER70S-2	70S-2, a triple de-oxidised wire for giving radiographic quality TIG welds. Can also be used for Gas Metal Arc Welding Shivshakti Metal 70S-2 are copper coated Rod. specially suitable for welding of light gauge mild steel in all position, including root for pipes & tubes etc.	C Mn Si	0.05 Al 1.10 Ti 0.55 Zr	0.10 0.10 0.08
<b>80S-D2</b> AWS A5.28 ER80S-D2	80S-D2805-D2 Suitable for welding pipes & tubes of 1/2 Mo-1.15 Cr steels. It deposited much free welds with excellent mechanical properties as well as high creep resistance and toughness the weld deposited is of radiographic quality.	C Mn Si	0.09 Cr 1.90 Mo. 0.60 Cu	1.10 0.05 <0.25
<b>80S-B2</b> AWS A5.28 ER80S-B2	80S-B2 is designed for the Gas Metal Arc Welding or TIG Welding of 1-1/4 Cr / 1/2 Mo steels. Which are used for high temperature service. Preheating and interpass temperatures of not less than 300°F must be maintained during the welding process.	Ca Mn Si Cr	0.09 Su 0.55 Ph 0.48 Mo 1.35 Cu	0.006 0.12 0.55 15
<b>90S-B3</b> AWS A5.28 ER90S-B3	90S-B3 is designed for the Gas Metal Arc Welding or TIG Welding of 2-1/4 Cr/1 Mo steels, which are used for high temperature application. A preheat and interpass temperatures of not less than 350°F should be maintained during welding.	C Mn Si Cr	0.08 Su 0.60 Ph 0.48 Mo 2.55 Cu	0.009 0.006 1.08 0.12
<b>80S-B6</b> AWS A5.28 ER80S-B6	80S-86 (502) is low alloyed 5Cr. 0.5Mo Filler Rod designed to weld materials of similar chemical composition, for high temperature service application. This is an air hardening material and as such calls for preheat and interpass temperatures of 350°F minimum during the process of welding.	C Mn Si Cr	0.05 Su 0.44 Ph 0.36 Mo 5.60	0.006 0.009 0.55
<b>80S-B8</b> AWS A5.28 ER80S-B8	80S-B8 (505) is 9Cr-1 Mo alloyed designed for welding materials of similar composition. This alloy, being an air-hardening type, calls for preheat and interpass temperatures of not less than 350°F during welding.	C Mn Si Cr	0.08 Su 0.45 Ph 0.34 Mo 9.15	0.005 0.009 1.05
<b>90S-B9</b> AWS A5.28 ER90S-B9	90S-B9 For welding 9Cr-Mo P91 grade steels. Requires controlled preheat. interpass and post weld heat treatment. GTAW of high Temperature steels & steels for not hydrogen service, especially in oil refineries. AWS has changed the classification for, this products. The previous classification was A5.9ER-505	C Mn Si Cr Ni	0.09 Su 0.60 Ph 19 Mo 9.0 V 5 Cl Fe	0.004 0.003 0.95 0.18 0.07 Balance

# FUSION FLUX CORED WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE		
<b>71T-1</b> AWS A5.20 E71T-1	E71T-1 is an all position flux cored wire designed to be used with Co <sub>2</sub> or Ar/Co <sub>2</sub> gas mixture. Shivshakti Metal E71T-1 can be used on all-position welds with both single and multiple pass welds on mild and low alloy steels. Typical applications include shipbuilding, storage vessels, structural fabrication machinery and piping etc.	C Mn Si	0.04 P 1.32 S 0.42	0.020 0.010
<b>71T-5</b> AWS A5.20 E71T-5	E71T-5 is an all-position flux cored wire designed to be used with Co <sub>2</sub> or Ar/Co <sub>2</sub> gas mixture. Its low temperature impact toughness is better than E71T-1(AWS A5.20). The typical application of Shivshakti Metal E71T-5 are constructional steel, machinery and shipbuilding.	C Mn Si	0.05 P 1.35 S 0.50	0.011 0.012
<b>308 LT-1</b> AWS A5.22 E308LT-1	E308 LT-1 is special for 100% Co <sub>2</sub> gas and all position welding. The weld bead has very excellent slag detachability. An austenitic stainless steel deposited that can be used for joining common austenitic steels such as Types 304, 304L, 321, CF-8, and CF-3. It provides good resistance to intergranular corrosion. It can also be used as an intermediate layer for hard facing.	C Mn Si P	0.029 Ni 1.53 Cr 0.50 S 0.022	9.65 19.21 0.007
<b>309 LT-1</b> AWS A5.22 E309LT-1	E309 LT-1 is special for 100% Co <sub>2</sub> gas and all position welding. The weld bead has an excellent. It is commonly used for welding similar alloys in wrought or cast forms, also used in welding dissimilar metals, such as joining Type 304 to mild steel.	C Mn Si P	0.027 Ni 1.51 Cr 0.49 S 0.024	12.75 23.90 0.003
<b>309 LMoT1-1</b> AWS A5.22 E309L MOT1-1	309LMoT1-1 is a modified type of Shivshakti Metal 309LT-1 with the addition of molybdenum. Used to join stainless steels to carbon and low alloy steels. The addition of molybdenum increases tensile strength and corrosion resistance. Also used to clad carbon steels.	C Mn Si P	0.033 Ni 1.72 Cr 0.57 Mo 0.029 S	13.53 23.24 2.37 0.005
<b>316LT-1</b> AWS A5.22 E316LT-1	316LT-1 is special for 100% Co <sub>2</sub> gas and all position welding. The weld bead have very excellent slag. An austenitic stainless steel deposited that can be used for joining Types 316. 316L. CF-8M, and CF-3M stainless steels. It provides high resistance to intergranular corrosion due to the low carbon content.	C Mn Si P	0.027 Ni 1.51 Cr 0.40 Mo 0.026 S	12.75 19.09 2.33 0.003
<b>347 LT-1</b> AWS A5.22 E347LT-1	347LT-1 An austenitic stainless steel deposit that is used for joining stabilized stainless steels such as Types 321 and 347. It can also be used for joining common austenitic stainless steels such as Types 301, 302, 304, and CF-8. It also Performs well at high teperature.	C Mn Si P S	0.03 Ni 1.66 Cr 0.58 Mo 0.026 Nb 0.003	10.43 19.10 0.05 0.70
<b>317 LT-1</b> AWS A5.22 E317LT-1	317LT-1 an austenitic stainless steel deposit with low carbon content is used for joining types 317. 31 7L, 316, 316L, CF-8M and CF-3M stainless steels, Creep resistance and strength are better than 316 grades.	C Mn Si P S	0.030 Mo 1.34 Nb 0.65 Ni 0.020 Cr 0.005	3.19 0.33 12.68 18.26

# FUSION ALUMINIUM ALLOYS WELDING WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE
<b>ER1100</b> AWS A5.10	Used in Welding Pure Aluminum, Thin-gauge Aluminum Sheets & Foils, Heat Exchanger & HVAC Parts, Electrical Components, Food & Chemical Equipment, Decorative and Reflective Aluminum Products, Light Fabrication And Repair Of Pure Aluminum Parts	Si 0.25max Mn 0.05max Fe 0.4max Zn 0.10max Cu 0.05-0.02 Al 99min
<b>ER4043</b> AWS A5.10	Used in Welding Aluminium-silicon Alloys Up To 6% Si, Suitable for Al-Mg-Si Alloys up to 6% Si, Ideal for General Aluminium Fabrication, Not Recommended for Anodizing, Good Fluidity and Crack Resistance	Si 4.5-6 Mg 0.05max Fe 0.8max Zn 0.10max Cu 0.30max Al Rest Mn 0.05max Fe 0.60max Ti 0.010max
<b>ER4047</b> AWS A5.10	Used in Welding Aluminium-Silicon Alloys Up To 12% Si, Excellent for Brazing and Joining Aluminium Sheets, Provides Low Melting Point & Low Distortion, Good for Leak-tight Joints in Aluminium Components	Si 11-13 Mg 0.10max Fe 0.8max Zn 0.20max Cu 0.30max Al Rest Mn 0.15max
<b>ER5356</b> AWS A5.10	Used in welding High-Strength Al-Mg alloys (Mg up to 5-6%), Widely used in Automotive and Marine Application, Suitable for Shipbuilding, Storage Tanks, and Railway components, Provides High Corrosion Resistance and Strong Welds	Si 0.25max Mg 4.50-5.50 Fe 0.4max Cr 0.05-0.20 Cu 0.10max Zn 0.10max Mn 0.05-0.20 Al Rest

# FUSION STELLITE & COBALT ALLOY HARDFACING WELDING WIRE AND POWDER

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE
<b>COBALT ALLOY-1</b> AWS A5.21 ERCoCr-C	It is resistant to oxidizing and reducing atmospheres up to 2100 deg F It has excellent strength at elevated temperatures that is maintained through aging characteristic occurring in the temperature range of 1300°F to 2100°F. Hardness : 53 Rockwell "C"	Co Balance Mn 1 Ni max.3 Si 1 Fe max.2.5 W 13 C 2.45 Cr 31
<b>COBALT ALLOY-6</b> AWS A5.21 ERCoCr-A	It is the most generally useful cobalt alloy, having excellent resistance to many forms of mechanical and chemical degradation over a wide temperature range. Particular attributes are its outstanding self-mated anti-galling properties, which result in its wide use as a valve seat material, high temperature hardness, and a high resistance to cavitation erosion. The alloy is ideally suited to a variety of hard facing processes. Hardness: 40 Rockwell "C"	Co Balance Mn 1 Ni max.3 Si 1.1 Fe max.3 W 4.5 C 1.2 Cr 28
<b>COBALT ALLOY-12</b> AWS A5.21 ERCoCr-B	It is a cobalt-base alloy having high heat and corrosion resistance with excellent wear and abrasion resistance. It is a machinable hard facing alloy used for facing the cutting edges of long knives in the carpet, plastics, paper and chemical industries. Hardness : 0.47 Rockwell "C"	Co Balance Mn 1 Ni max.3 Si 1.5 Fe max.2.5 W 8.5 C 1.85 B 1.4 Cr 29.5
<b>COBALT ALLOY-21</b> AWS A5.21 ERCoCr-E	It is resistant to oxidizing and reducing atmospheres up to 2100 deg F. It has excellent strength at elevated temperatures that is maintained through aging characteristic occurring in the temperature range of 1300°F to 2100°F. Hardness: 36 Rockwell "C"	Co Balance Mn 1 Ni max.3 Si 1.1 Fe max.3 Mn 1 C 0.25 Cr 27

# FUSION TITANIUM TIG & MIG WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE		
<b>ERTi-1</b> AWS A5.16	Used in Aerospace Thin Titanium Sheets, Heat Exchanger, Chemical Processing Equipment, Marine Components, High Ductility Application	C	0.02% H	0.004%
		O	0.09% Fe	0.03%
		N	0.01% Ti	Balance
<b>ERTi-2</b> AWS A5.16	Used in Pressure Vessels, Automotive/Motorcycle Exhaust Systems, Marine Hardware, Heat-Resistant & Corrosion-resistant Parts, General Titanium Fabrication	C	0.02% H	0.007%
		O	0.10% Fe	0.10%
		N	0.01% Ti	Balance
<b>ERTi-5</b> AWS A5.16	Used in Aerospace Structural Parts, High-strength Components, Racing Components (Automobile & Bikes), Medical Implants, High-Temperature, High-Stress Application	C	0.04% H	0.014%
		O	0.15% Al	6.0%
		N	0.02% Fe	0.20%
			V	3.9%
			Ti	Balance

## PTA THERMAL SPRAY

PTAW, or Plasma Transferred Arc Welding, is a welding process that uses a constricted plasma arc to deposit wear-resistant and corrosion-resistant materials onto a base metal. It's a specialized form of arc welding that offers precise control over the weld deposit and minimizes dilution with the base material, making it ideal for applications requiring high-quality, durable overlays

## LASER CLADDING SPRAY

Laser cladding is a material deposition process that uses a laser to melt and fuse a powdered or wire feedstock material onto a substrate, creating a metallurgical bond. This process is used to enhance surface properties like wear resistance, corrosion resistance, and thermal resistance, or to repair damaged components.

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## **MFG. IMPORTERS & STOCKISTS**

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SAW Machines	Laser Machines
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Submerged Arc Wire & Flux	Thermal Spray Wire & Powder



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THE BEGINNING IS THE MOST IMPORTANT PART OF THE WORK

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