



"HOUSE OF WELDING WIRES,
MACHINES & CONSUMABLES"

SHIVSHAKTI METAL

THE BEGINNING IS THE MOST IMPORTANT PART OF THE WORK

FUSION WIRESTM

www.shivshaktimetal.com



COMPANY PROFILE

Shivshakti Metal is a 'one-stop shop' for providing wide variety of Stainless Steel wires, MS wires, Welding Machines, Consumables, Equipments and Service solutions for welding application. We provide stainless steel wires of customized chemistry and grade for a wide range of applications to all over World. We have earned a name as reputed and trusted Manufacturer and Supplier catering to special & specific needs of the WELDING INDUSTRY, founded by Mr. Virendra Tripathi, since 2007 based in Ahmedabad, Gujarat. We successfully accomplished 12 Years to serving Clients. Managed by a group of high technically and commercially qualified personnel. We have FUSION WIRES TM brand filler wire. Consistently ensure highest level Client satisfaction. We look forward for an opportunity to serve you.

ABOUT US

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, equipments and service solutions. The clientele spectrum includes practically all major Chemical, Petrochemical and Mechanical Engineering related industries such as Fabricators, Project Contractors, and Retailers.

Mission of Company

- 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 Strengths

- 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, and offer
- 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. For 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 single piece is attached 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 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 toplevel quality standards.

"The beginning Is the most Important part of the work."

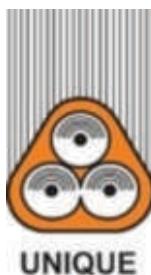
DISTRIBUTORSHIP & DEALERSHIP



THE WELDING EXPERTS®



**WELDFAST
ELECTRODES PVT. LTD.**



PRODUCTS



PRODUCT LIST

• WELDING WIRES

TIG WIRE
MIG WIRE
STELLITE WIRE
NICKEL ALLOYS WIRES
TITANIUM ALLOYS WIRES
MONEL ALLOYS WIRES
SILVER WIRE
COPPER WIRE
BRASS WIRE
DUPLEX FILLER WIRE
SUPER DUPLEX WIRE
MILD STEEL LOW ALLOY STEEL WIRES
ALLUMINIUM WIRES
SS WIRES
BRAZING WIRES (COPPER, SILVER & ALLUMINIUM)
MS WIRES
SUBMERGED ARC WIRE
INCONEL ALLOY

• WELDING MATERIAL

FLUX
TUNGASTEN RODS
STELLITE
CI MACHINEABLE

• TIG / Fillerwire : FUSION WIRE

SS	MS
304L	ER310 ER70S2 & 70S2
ER308L	ER312 ER70SG & 70SG
ER316L & 316L & ER316	ER321 80SB2 & 80SB6 & 80SB8
ER317L & ER318L	ER347 90SB3 & 90SB9
ER309L	ER410 70S6
201	ER430 ER2209
ER385 / 904L	430 L
410L & ER410	

• ELECTRODE

E6013
7018
308L
316L
309L
410
2209
2594
MONAL ALLOY
INCONEL ALLOY

• MIG WIRE / Spool LOW ALLOY STEEL WIRES

70S-6

FLUX CORED WIRE

71T-1
308 LT-1
309 LT-1
410 T-1
316 LT-1

• MIG / Spool : FUSION WIRES

ALLUMINUM ALLOYS

ER4043
ER5356

STAINLESS STEEL

304L
ER308L
ER316L & 316L & ER316
ER317L & ER318L
ER309L
201
ER385 / 904L
410L & ER410

• WELDING MACHINES

ARC WELDING MACHINES
TIG WELDING MACHINES
MIG WELDING MACHINES
GAS WELDING EQUIPMENTS
PLASMA CUTTING MACHINES

• SPRAY

PENETRANT SPRAY
DEVELOPER SPRAY
CLEANER SPRAY
ANTI SPATTER SPRAY
NOZZLE DIP GEL (for Prevent Spatter Adhesion In Nozzle Tip)

ACCESSORIES

• REGULATOR

ARGON REGULATOR

CO2 HEATER REGULATOR

LPG REGULATOR

BACK FIRE ARRESTOR CUTTER / REGULATOR

• HELMET

AUTO DARKING WELDING HELMET

WELDING HELMET

WELDING HELMET (HEAD SCREEN)

• NOZZLE

GAS CUTTING NOZZLE

CUTTING NOZZLE B TYPE (TWO SHEET)

GAS CUTTING NOZZLE (THREE PIPE)

P 80 PLASMA NOZZLE SET HEAVY QUALITY

CERAMIC NOZZLE

• TORCH

TIG TORCH

MIG TORCH

CUTTING TORCH (TWO PIPE)

GAS CUTTING TORCH

WELDING TORCH (MINI)

P 80 PLASMA TORCH 5 MT LONG

• TORCH ACCESSORIES

CONTACT TIP - ALL SIZE

CONICAL NOZZLE

TIP CLEANER

MIG SWITCH

TIP HOLDER BRASS, COPPER COATED

DIFFUSER

LINER

EURO ADAPTOR FOR WIRE FEEDER (MOTOR)

COLLETS TIG

TIG TORCH HEAD

SHORT CAP

LONG CAP

ARGON HEAD

HANDEL

LUG

NUT NIPPLE FRONT / BACK

NIPPLE

SHORT COLLETTE

SWAN NECK

MIG LINER

ELECTRODE HOLDER

EARTHING CLAMP

DRYING OVEN

CO2 GAS PRE-HEATER

BLACK GLASS FOR WELDING HELMED

HEAVY BLACK GLASS FOR WELDING HELMED

WELDING WHITE GLASS (FOR HELMET)

PUG CUTTING MACHINE HEAVY

SAFETY HAND GLOVES (LEATHER / NON LEATHER)

HAND-SLEEVE

LEG-GUARD

SAFETY GLASS / EYEWEAR (WHITE)

SAFETY GLASS / EYEWEAR (BLACK)

SILVER BRAZING FLUX

NOZZLE DIP GEL

(FOR PREVENT SPATTER ADHESION IN NOZZLE TIP)

STAINLESS STEEL WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE
304L AWS A5.9 ER308	304L is used for TIG, MIG and submerged arc welding of unstabilized 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 applications where corrosion conditions are moderate.	Carbon 0.035 Chromium 18.00 Manganese 1.63 Phosphorus 0.043 Silicon 0.40 Nickel 9.0 Sulfur 0.005
ER308 AWS A5.9 ER308	ER308 is used for TIG, MIG and submerged arc welding of unstabilized Stainless Steels such as Types 301, 304, 305, 308. This filler metal is the most popular grade among stainless steels, used for general purpose applications where corrosion conditions are moderate.	Carbon 0.035 Sulfur 0.005 Manganese 1.65 Phosphorus 0.016 Silicon 0.46 Nitrogen 0.04 Chromium 20.45 WRC FN 8 Nickel 9.85
ER308H AWS A5.9 ER308H	ER308H is used for TIG, MIG and submerged arc welding of unstabilized Stainless Steels such as Types 301, 302, 304, 305, 308, with carbon content on the higher side. Popular for high temperature applications.	Carbon 0.06 Sulfur 0.005 Manganese 1.65 Phosphorus 0.016 Silicon 0.46 Nitrogen 0.04 Chromium 20.45 WRC FN 8 Nickel 9.85
ER308L 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 steel. This is a suitable wire for application at cryogenic temperatures.	Carbon 0.019 Sulfur 0.003 Manganese 1.73 Phosphorus 0.013 Silicon 0.46 Nitrogen 0.050 Chromium 20.8 WRC FN 8 Nickel 10.1
ER309L AWS A5.9 ER309L	ER309L is of similar Composition as 309L, 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 mild steel to stainless steel.	Carbon 0.021 Sulfur 0.006 Manganese 1.75 Phosphorus 0.014 Silicon 0.51 Nitrogen 0.05 Chromium 23.40 WRC FN 12 Nickel 12.70
ER309LMo 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 oxidation resistance at high temperature can be obtained suitable of welding of dissimilar metals.	Carbon 0.025 Copper 0.4 Manganese 1.7 Chromium 24.0 Silicon 0.5 Molybdenum 2.5 Sulfur 0.01 Nickel 13.0 Phosphorus 0.02
ER310 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.	Carbon 0.11 Sulfur 0.003 Manganese 1.90 Phosphorus 0.012 Silicon 0.40 Nitrogen 0.04 Chromium 27.10 WRC FN 0.0 Nickel 20.95
ER312 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.	Carbon 0.11 Molybdenum 0.08 Manganese 1.64 Phosphorus 0.017 Silicon 0.44 Nitrogen 0.05 Chromium 29.6 WRC FN 30min Nickel 8.9 Sulphur 0.012
ER316 AWS A5.9 ER316	ER316 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.	Carbon 0.05 Molybdenum 2.30 Manganese 1.75 Sulfur 0.003 Silicon 0.48 Phosphorus 0.012 Chromium 19.4 Nitrogen 0.04 Nickel 12.2 WRC FN 5

STAINLESS STEEL WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE			
ER316L 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 austentic alloys. This low carbon alloy is not as strong at elevated temperature as ER316H	Carbon Manganese Silicon Chromium Nickel Molybdenum	016 1.87 0.48 19.32 13.2 2.25	Sulfur Phosphorus Nitrogen Iron WRC FN Balance	0.01 0.019 0.05 Balance 6
ER317L 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.	Carbon Manganese Silicon Chromium Nickel	0.017 1.66 0.44 19.4 13.85	Molybdenum Sulfur Phosphorus Nitrogen WRC FN	3.25 0.006 0.012 0.04 6
ER318 AWS A5.9 ER318	A Columbium stabilised stainless steel with excellent corrosion resistance. Used to weld 318 or 316 type Stainless Steel.	Carbon Manganese Silicon Chromium Sulfur	0.06 1.7 0.4 19.0 0.01	Phosphorus Molybdenum Copper Columbium Nickel	0.01 2.5 0.2 0.7 12.5
ER321 AWS A5.9 ER321	A Titanium stabilised stainless steel used for welding of 321 or 308 type steels.	Carbon Manganese Silicon Sulfur Phosphorus	0.05 1.6 0.4 0.01 0.01	Copper Chromium Titanium Nickel	0.2 19.5 0.6 10.00
ER347 AWS A5.9 ER347	ER347 is a columbium stabilised stainless steel welding wire used to weld Types 321 and 347. Addition of columbium reduces the possibliti of chromium carbide precipitation and consequent intergranular corrosion.	Carbon Manganese Silicon Chromium Nickel	0.04 1.65 0.52 19.9 9.75	Sulfur Phosphorus Nitrogen Columbium WRC FN	0.005 0.014 0.04 0.72 10
ER410 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.	Carbon Manganese Silicon	11 0.45 39	Chromium Sulfur Phosphorus	12.5 0.01 0.014
ER430 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.	Carbon Manganese Silicon	0.07 44 0.36	Chromium Sulfur Phosphorus	16.5 0.01 0.014
ER385/904L 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 applications for piping type 31 7L material where improved corrosion resistance is specific media is needed.	Carbon Manganese Silicon Chromium Sulfur	0.02 1.7 0.4 21.0 0.01	Phosphorus Copper Molybdenum Nickel	0.01 1.5 4.5 25.0
ER2209 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.	Carbon Manganese Silicon Chromium Nickel	0.016 1.4 0.45 22.4 8.5	Molybdenum Sulfur WRC FN Balance	3.2 0.17 40min

NICKEL & HIGH NICKEL ALLOY WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE			
Ni-1 AWS AS.14 ERNi-1	Ni-1 is used for TIG, MIG and SAW welding of Nickel 200 or 2010. 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.	Carbon Manganese Silicon Iron Sulfur	0.06 30 40 0.10 0.003	Phosphorus Copper Aluminium Titanium Nickel	0.008 0.02 0.5 3.0 95.5
CuNi AWS A5.7 ERCuNi	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 applications include joining Copper-Nickel alloys to Nickel 200 or Nickel-Copper alloys.	Nickel Manganese Silicon Phosphorous	31.0 0.75 0.10 006	Iron Titanium Copper	0.55 0.35 Balance
NiCu-7 AWS A5.14 ERNiCu-7	Nicu-7 is used for TIG or MIG welding of Nickel Copper alloys (ASTM B127, B163, B164 and B165 UNS Number No. 4400). This filler metal can be used for MIG overlay on steel after a first layer with Nickel 208. Dissimilar welding applications include joining Nickel-Copper alloys to Nickel 200 and Copper-Nickel alloys.	Carbon Manganese Silicon Iron Aluminium	05 3.45 77 0.4 0.1	Titanium Nickel Sulfur Phosphorus Copper	2.25 65.2 0.002 0.009 Balance
NiCr-3 AWS A5.14 ERNiCr-3	Nicr-3 is used for TIG, MIG and SAW welding of base materials such as (ASTM B166, B168-alloys which have UNS Number No. 6600). It is one of the most used Nickel alloys whose applications range from cryogenic to high temperatures. This filler metal can also be used for dissimilar welding application between various Nickel alloys and Stainless or Carbon Steels, as well as for overlaying.	Carbon Manganese Silicon Iron Chromium	0.03 2.85 0.22 1.1 20.4	Columbium + Tantalum Nickel Sulfur Phosphorus	2.5 72.9 0.001 0.003
NiCrCoMo-1 AWS A5.14 ERNCrCoMo-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 1500F (815C) upto 2100F (1150C).	Carbon Manganese Silicon Iron Chromium Cobalt	0.06 0.20 0.11 0.75 21.8 12.45	Molybdenum Aluminium Titanium Nickel Sulfur Phosphorus	9.05 1.25 0.25 Balance 0.001 0.005
NiCrMo-3 AWS A5.14 ERNiCrCoMo-3	NiCrMo-3 is used for TIG, MIG and SAW welding of Nickel-Chrome-Molybdenum alloys. This filler metal is very versatile in its applications. It can be used for welding of dissimilar joints between Nickel-Chrome-Molybdenum alloys and Stainless or Carbon or Low alloys steels. It can also be used for cladding as well as for spraying application. Shivshakti Metal NiCrMo-3 with low iron (less than 0.8%) is preferred in various applications where dilution of iron must be controlled to the minimum. The high alloy content of Shivshakti Metal NiCrMo-3 enables it to withstand highly corrosive environments. The combination of Nickel and Chromium provides the resistance to oxidizing conditions and the combinations of Nickel and Molybdenum provides resistance to reducing conditions. Due to its Molybdenum content, this alloy offers resistance to stress corrosion cracking, pitting and crevice corrosion.	Carbon Manganese Silicon Chromium Molybdenum Columbium Tantalum	0.009 0.05 12 21.9 8.65 + 3.7	Titanium Aluminium Sulfur Phosphorus Nickel Iron Iron	0.19 0.17 0.002 0.006 Balance 0.60 5.5
NiCrMo-4 AWS A5.14 ERNiCrCoMo-4	NiCrMo-4 is used for welding of materials of similar chemical composition (UNS Number N10276), as well as dissimilar materials of nickel base alloys, steels and stainless steels. This wire also can be used for cladding steel with Nickel-chromium-molybdenum weld metal. This alloy, due to its high molybdenum content, offers excellent resistance to stress corrosion cracking, pitting, and crevice corrosion	Carbon Manganese Silicon Chromium Molybdenum Tungsten	0.01 0.55 0.04 15.55 16.1 3.65	Sulfur Phosphorus Vanadium Nickel Iron Tungsten	0.002 0.009 0.15 Balance 5.5

LOW ALLOY STEEL WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE				
70S-G 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 ₂ mixtures.	Carbon	0.08	R/Nmm ²	560/660	
		Silicon	0.90	S/Nmm ²	450/530	
		Manganese	1.75	A%-5d	24/30	
		Ti + Zr	<0.15	KV J mm	-20°C 90	
		Aluminium	<0.02			
70S-6 AWS A5.18 ER70S-6	70S-6, all position wire for a Gas Metal Arc Welding of Carbon Steels with Co ₂ gas or Argon + Co, mixtures. A slightly higher silicon and manganese increases better yield and tensile strength of weld metal that is smooth & sound.	Carbon	0.08	R/Nmm ²	520/620	
		Silicon	0.85	S/Nmm ²	430/510	
		Manganese	1.45	A%-5d	24/30	
		Ti + Zr	<0.15	KV J mm	-20CC 90	
		Aluminium	<0.02			
70S-2 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.	Carbon	0.05	Aluminium	0.10	
		Silicon	0.55	R/Nmm ²	500/580	
		Manganese	1.10	S/Nmm ²	420/500	
		Ti	0.10	A%-5d	24/32	
		Zr	0.08	KV J min	-20CC 90	
80S-D2 AWS A5.28 ER80S-D2	80S-D280S-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.	Carbon	0.09	R/Nmm1	>600/680	
		Silicon	0.60	S/Nmm?	>500/580	
		Manganese	1.90	A%-5d	20/26	
		Mo.	0.05	KV J mm	+20°C 90	
		Cu	<0.25			
		Chromium	1.10			
80S-B2 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.	Carbon	0.09	Molybdenum	0.55	
		Manganese	0.55	Phosphorus	012	
		Silicon	0.48	Sulfur	0.006	
		Chromium	1.35	Copper	15	
90S-B3 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 applications. A preheat and interpass temperatures of not less than 350°F should be maintained during welding.	Carbon	0.08	Molybdenum	1.08	
		Manganese	0.60	Sulfur	0.009	
		Silicon	0.48	Phosphorus	0.006	
		Chromium	2.55	Copper	0.12	
80S-B6 AWS A5.28 ER80S-B6	80S-B6 (502) is low alloyed 5Cr. 0.5Mo Filler Rod designed to weld materials of similar chemical composition, for high temperature service applications. This is an air hardening material and as such calls for preheat and interpass temperatures of 350°F minimum during the process of welding.	Carbon	0.05	Molybdenum	0.55	
		Manganese	0.44	Sulfur	0.006	
		Silicon	0.36	Phosphorus	0.009	
		Chromium	5.60			
80S-B8 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.	Carbon	0.08	Molybdenum	1.05	
		Manganese	0.45	Sulfur	0.005	
		Silicon	0.34	Phosphorus	0.009	
		Chromium	9.15			
90S-B9 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	Carbon	0.09	Sulfur	0.004	
		Manganese	0.60	Phosphorus	0.003	
		Silicon	19	Vanadium	0.18	
		Chromium	9.0	Columbium	0.07	
		Nickel	5	Iron	Balance	
		Molybdenum	0.95			

FLUX CORED WIRE

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE			
71T-1 AWS A5.20 E71T-1	E71T-1 is an all position flux cored wire designed to be used with Co ₂ or Ar/Co ₂ 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	0.04	Y.P.N/mm ²	480
		Mn	1.32	T.S N/mm ²	560
		Si	0.42	EL %	29
		P	0.020	IV-20°C J	100
		S	0.010		
71T-5 AWS A5.20 E71T-5	E71T-5 is an all-position flux cored wire designed to be used with Co ₂ or Ar/Co ₂ gas mixture. Its low temperature impact toughness is better than E71T-1(AWS A5.20). The typical applications of Shivshakti Metal E71T-5 are constructional steel, machinery and shipbuilding.	C	0.05	Y.P.N/mm ²	510
		Mn	1.35	T.S N/mm ²	570
		Si	0.50	EL %	29
		P	0.011	IV-20°C J	100
		S	0.012		
308 LT-1 AWS A5.22 E308LT-1	E308 LT-1 is special for 100% Co ₂ gas and all position welding. The weld bead has very excellent slag detachability. An austentic stainless steel deposited that can be used for joining common austentic steels such as Types 304, 304L, 321, CF-8, and CF-3. It provides good resistance to inter-granular corrosion. It can also be used as an intermediate layer for hard facing.	C	0.029	Ni	9.65
		Mn	1.53	Cr	19.21
		Si	0.50	T.S N/MM ²	565
		P	0.022	EL %	44
		S	0.007	IV - 196° C J	33
309 LT-1 AWS A5.22 E309LT-1	E309 LT-1 is special for 100% Co ₂ gas and all position welding. The weld bead has an excellent0. 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	0.027	Ni	12.75
		Mn	1.51	Cr	23.90
		Si	0.49	T.S N/MM ²	577
		P	0.024	EL %	41
		S	0.003	IV - 196° C J	34
309 LMoT1-1 AWS A5.22 E309LMoT1-1	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	0.033	Ni	13.53
		Mn	1.72	Cr	23.24
		Si	0.57	Mo	2.37
		P	0.029	T.S N/mm ²	580
		S	0.005	EL %	38
316LT-1 AWS A5.22 E316LT-1	316LT-1 is special for 100% Co ₂ gas and all position welding. The weld bead have very excellent slag. An austentic stainless steel deposited that can be used for joining Types 316, 316L, CF-8M, and CF-3M stainless steels. It provides high resistance to mteganular corrosion due to the low carbon content.	C	0.027	Ni	12.75
		Mn	1.51	Cr	19.09
		Si	0.40	Mo	2.33
		P	0.026	T.S N/mm ²	577
		S	0.003	EL %	45
				IV - 196° C J	32
347 LT-1 AWS A5.22 E347LT-1	347LT-1 An austentic 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 austentic stainless steels such as Types 301, 302, 304. and CF-8. It also Performs well at high tempearture.	C	0.03	Ni	10.43
		Mn	1.66	Cr	19.10
		Si	0.58	Mo	0.05
		P	0.026	Nb	0.70
		S	0.003	T. S N/mm ²	600
				EL %	39
				IV - 0° C J	50
317 LT-1 AWS A5.22 E317LT-1	317LT-1 an austentic stainless steel deposit with low carbon content is used for joining types 317, 31 7L, 316, 31 6L, CF-8M and CF-3M stainless steels, Creep resistance and strength are better than 316 grades.	C	0.030	Mo	3.19
		Mn	1.34	Nb	0.33
		Si	0.65	T. S N/mm ²	580
		P	0.020	EL %	41
		S	0.005	IV - 0° C J	59
		Ni	12.68		
		Cr	18.26		

ALUMINIUM ALLOYS WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE
ER1100	NG-1B is used for Welding of pure Aluminium and Aluminium constructions. It is relatively soft alloy that is very formable and it is used Extensively in thin-gauge and foil products and has good welding characteristics.	Si 0.25max Mn 0.05max Fe 0.4max Zn 0.10max Cu 0.05-0.20 Al 99min
ER4043	NG-210. is used for welding of Aluminium-Silicon alloys with Si upto 6% It is used for welding Al Mg Si types and Al Si alloys with upto 6% silicon. Not recommended for anodising. Non heat treatable.	Si 4.5-6 Mg 0.05 max Fe 0.8 max Zn 0.10 max Cu 0.30 max Al Rest Mn 0.05 max Fe 0.60 max Ti 0.010 max
ER4047	NG-12, is used for welding of Aluminium-Silicon alloys with Si upto 12% Aluminium wires and rods for welding and brazing good mechanical characteristic. Their excellent corrosion resistance and low melting point ensures a very low number of deformations in the origin metal.	Si 11-13 Mg 0.10 max Fe 0.8 max Zn 0.20 max Cu 0.30 max Al Rest Mn 0.15 max
ER5356	NG-6. is used for Welding of high strength. Aluminium-Magnesium alloys with Mg upto 6% Widely, used in Automobile and Marine Industry. High Corrosion resistance. Applications in the Construction of Ships storage tanks, railway and in the automobile industries.	Si 0.25 max Mg 4.50-5.50 Fe 0.4 max Cr 0.05-0.20 Cu 0.10 max Zn 0.10 max Mn 0.05-0.20 Al Rest

PACKING DETAILS

Description	Packing	Length (mm)	Size (mm)	Weight
TIG RODS	-	1000.500	4.0, 3.15, 2.5, 2.0, 1.6	10 Kgs, 5 Kgs
MIG WIRE	Plastic Spools	-	1.6, 1.2, 0.8	S.S.-12.5 Kgs. approx, Aluminium - 6 Kgs approx
SAW WIRE	Metal	-	4.0, 3.15, 2.5	25 Kgs.

EQUIPMENTS

The thrust of our activity is marketing of:

Welding Machines covering SMAW, GMAW and/or GTAW processes

Air Plasma Manual Cutting Systems Plasma cutting system is supplied from the best in the world.

Advanced Welding Machines - capable for multi-purpose use and compatible with automation.

Specific models that can be directly hooked on to computer for data monitoring using the patented software or to any Robot for automatic welding applications.

ACCESSORIES & SPARE PARTS:

- Spares of MIG/MAG/TIG Welding Machines
- Consumables for Hypertherm Cutting Machine
- Auto-darkening Helmet
- MIG/TIG Torches and their spares
- Remote Control Units
- Air Plasma Cutting Systems Spares
- Other Safety Products

STELLITE / HARD FACING WIRES / COBALT ALLOY WELDING WIRES

PRODUCT	USES	TYPICAL CHEMICAL COMPOSITION OF THE WIRE
COBALT ALLOY-1	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 characteristics occurring in the temperature range of 1300 deg F to 2100 deg F. Hardness 53 Rockwell "C"	Composition: Co: Ni: Fe: Al: B: C: Cr: Bal. max. 3 max. 2.5 2.45 31 Mn: Mo: P: S: Si: Ti: W: 1 1 13
COBALT ALLOY-6	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"	Composition: Co: Ni: Fe: Al: B: C: Cr: Bal. max. 3 max. 3 1.2 28 Mn: Mo: P: S: Si: Ti: W: 1 1 1.1 4.5
COBALT ALLOY-12	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"	Composition: Co: Ni: Fe: Al: B: C: Cr: Bal. max. 3 max.2.5 1.4-1.85 29.5 Mn: Mo: P: S: Si: Ti: W: 1 1.5 8.5
COBALT ALLOY-21	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 characteristics occurring in the temperature range of 1300 deg F to 2100 deg F. Hardness : 36 Rockwell "C"	Composition: Co: Ni: Fe: Al: B: C: Cr: Bal. max. 3 max. 3 0.25 27 Mn: Mo: P: S: Si: Ti: W: 1 5.5 1.1

TYPICAL CHEMICAL COMPOSITION OF NICKEL BASED WIRES

SPECIFICATION AWS A5.14	C	Mn	Si	Fe	Cr	Mo	Ni	Cb+ Ta	W	S	P	Al	Ti	Cu
ERNi	0.05	0.22	0.05	-	-	-	99.6	-	-	-	-	-	-	-
ERNi-1	0.06	0.3	0.4	0.1	-	-	95.5	-	-	0.003	0.008	0.5	3	0.02
ERNiCrMo-4	0.01	0.55	0.04	5.5	15.55	16.1	BAL	-	3.65	0.002	0.009	-	-	-
ERCuNi (AWS5.7)		0.75	0.1	0.55	-	-	31	-	-	-	0.006	-	0.35	BAL
ERNiCu-7	0.05	3.45	0.77	0.4	-	-	65.2	-	-	0.002	0.009	0.1	2.25	BAL
ERNiCr-3	0.03	2.85	0.22	1.1	20.4	-	72.9	2.5	-	0.001	0.003	1.25	-	-
ERNiCrCoMo-1	0.06	0.20	0.11	0.75	21.8	9.05	BAL	-	-	0.001	0.005	1.25	0.025	12.45Co
ERNiCrMo-3	0.009	0.05	0.12	0.62	21.9	8.65	64.5	3.7	-	0.002	0.006	0.17	0.19	-
ERNiFeCr-1	0.01	0.45	0.25	29	21.5	3.1	42.6	-	-	0.001	0.015	0.1	1	2

TYPICAL CHEMICAL COMPOSITION OF STAINLESS STEEL WIRES

PRODUCT	SPECIFICATION	C	Mn	Si	Fe	Cr	Mo	Ni	Cb+Ta	N	S	P	Cu	FN
FW 308	AWS A5.9 ER308	0.035	1.65	0.46	BAL	20.45	-	9.85	-	0.04	0.005	0.016	-	8
FW 308H	AWS A5.9 ER308H	0.05	1.65	0.46	BAL	20.45	-	9.85	-	0.04	0.005	0.016	-	8
FW 308L	AWS A5.9 ER308L	0.019	1.72	0.46	BAL	20.8	-	10.1	-	0.05	0.003	0.013	-	8
FW309	AWS A5.9 ER309	0.05	1.95	0.52	BAL	23.75	-	13.1	-	0.04	0.003	0.012	-	10
FW 309L	AWS A5.9 ER309L	0.021	1.75	0.51	BAL	23.4	-	12.7	-	0.05	0.006	0.014	-	12
FW 309LMO	AWS A5.9 ER 309LMO	0.01	1.6	0.5	BAL	23	3.2	9	-	0.16	0.015	0.020	-	
FW310	AWS A5.9 ER310	0.11	1.9	0.4	BAL	27.1	-	20.95	-	0.04	0.003	0.012	-	0
FW312	AWS A5.9 ER312	0.11	1.64	0.44	BAL	29.6	-	8.9	-	0.05	0.012	0.017	-	30min
FW 31 6/31 6H	AWS A5.9 ER316H	0.05	1.75	0.48	BAL	19.4	2.3	12.2	-	0.04	0.003	0.012	-	5
FW 31 6L	AWS A5.9 ER316L	0.016	1.87	0.48	BAL	19.32	2.25	13.2	-	0.05	0.01	0.019	-	6
FW 31 7L	AWS A5.9 ER 31 7L	0.017	1.66	0.44	BAL	19.4	3.25	13.85	-	0.04	0.006	0.012	-	6
FW 318	AWS A5.9 ER318	0.04	1.5	0.4	BAL	18.5	2.6	11.5	0.75	-	0.015	0.025	-	-
FW320	AWS A5.9 ER320	0.04	2.05	0.35	BAL	20.25	2.3	33.5	0.55	0.05	0.005	0.011	3.4	0
FW330	AWS A5.9 ER330	0.23	1.95	0.42	BAL	15.95	-	35.2	-	0.05	0.005	0.014	-	0
FW347	AWS A5.9 ER347	0.04	1.65	0.52	BAL	19.9	-	9.75	0.72	0.04	0.005	0.014	-	10
FW385	AWS A5.9 ER385	0.019	2.05	0.35	BAL	20.5	4.6	25.1	-	0.04	0.015	0.014	1.6	0
FW410	AWS A5.9 ER410	0.11	0.45	0.39	BAL	12.5	-	-	-	0.01	0.014	-	-	
FW 410NiMo	AWS A5.9 ER410NiMo	0.02	0.45	0.4	BAL	11.8	0.55	4.5	-	0.03	0.009	0.012	-	-
FW420	AWS A5.9 ER420	0.29	0.45	0.35	BAL	13.2	-	-	-	0.008	0.014	-	-	
FW430	AWS A5.9 ER430	0.07	0.44	0.36	BAL	16.5	-	-	-	0.01	0.014	-	-	
FW 2209	AWS A5.9 ER2209	0.016	1.4	0.45	BAL	22.4	3.2	8.5	-	0.18	0.017	0.014	-	40min
FW 308LT-I	AWS A5.22 FCA E308LT-1 / E308LT-4	0.03	1.3	0.6	BAL	20	-	10	-	-	0.003	0.021	-	8
FW 309LT-1	AWS A5.22 FCA E309LT-1 / E309LT-4	0.03	1.2	0.7	BAL	23.5	-	12.6	-	-	0.003	0.021	-	11
FW 316LT-1	AWS A5.22 FCA E316LT-1 / E316U-4	0.03	1.1	0.7	BAL	18.6	2.6	12.2	-	-	0.003	0.021	-	10
FW 71T-1	AWS A5.20 E 71T-1	0.04	1.32	0.42	AL	-	-	-	-	-	0.010	0.020	-	-

Why is Welding Safety Important?

Welding safety measures are designed to protect employees from welding hazards. Welding safety can be implemented by conducting proper training, inspecting welding equipment and ensuring workers are aware of safety precautions before performing welding activities to minimize the risk of health and safety injuries.

How to Avoid or Control Welding Safety Hazards and Tips

Exposure to Fumes and Gases

Overexposure to welding fumes and gases can cause severe health problems like respiratory illnesses, cancer and impaired speech and movement. Exposure to fumes and gases can be controlled by following these safety precautions:

- Provide adequate ventilation and local exhaust to keep fumes and gases from the breathing zone and the general area.
- Welding operators should always wear an approved gas-mask unless exposure assessments are below applicable exposure limits.
- Report concerns to a supervisor so your exposure to substances of the welding fumes can be checked.

1. Physical Hazards

Physical hazards that can cause burns, eye damage, cuts and crushed toes and fingers are ever-present when welding. With the appropriate Personal Protective Equipment (PPE), you can protect your workers against physical hazards.

- Wear appropriate PPE like welding helmet and goggles to protect workers' eyes and head from hot slag, sparks, intense light and chemical burns.
- Fire and electricity resistant clothing, hand shields, welding gloves, aprons and boots can be worn to protect workers from heat, fires, electrocution and burns. Take note that flame retardant treatments become less effective with repeated laundering. Pant legs must not have cuffs and must cover the tops of the boots. Cuffs can collect sparks.
- Earmuffs and earplugs can also protect workers against noise.

2. Electric Shock

Electrocution is the most immediate and serious risk for a welder. The sudden discharge of electricity to the human body can cause serious injury and even death. Electrocution risk from welding can be minimized by following these basic precautions:

- Inspect welding equipment and electrode holder before proceeding to work.
- Perform lockout and tag out procedures when performing repairs. Only qualified repair technicians should service or repair welding equipment.
- Do not touch the metal parts of the electrode holder with skin or wet clothing.

3. Fire and Explosion

Flammable materials around the working area are the number one cause of a fire. This can be prevented by maintaining a clean working area before proceeding to weld. It is also important to know the location of fire alarms, emergency exits and fire extinguishers in the event of a fire.

- Keep a suitable Class ABC fire extinguisher nearby while welding. Make sure the extinguisher gauge is full. If an extinguisher is not available, be sure to have access to fire hoses, sand buckets or other equipment that douses a fire.
- If welding within 35 feet of flammable materials, put a piece of sheet metal or fire-resistant blanket over the flammable material and have a fire watcher nearby to keep track of sparks.
- Remain in the work area for at least 30 minutes after finishing welding to ensure there are no flaming fires.

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