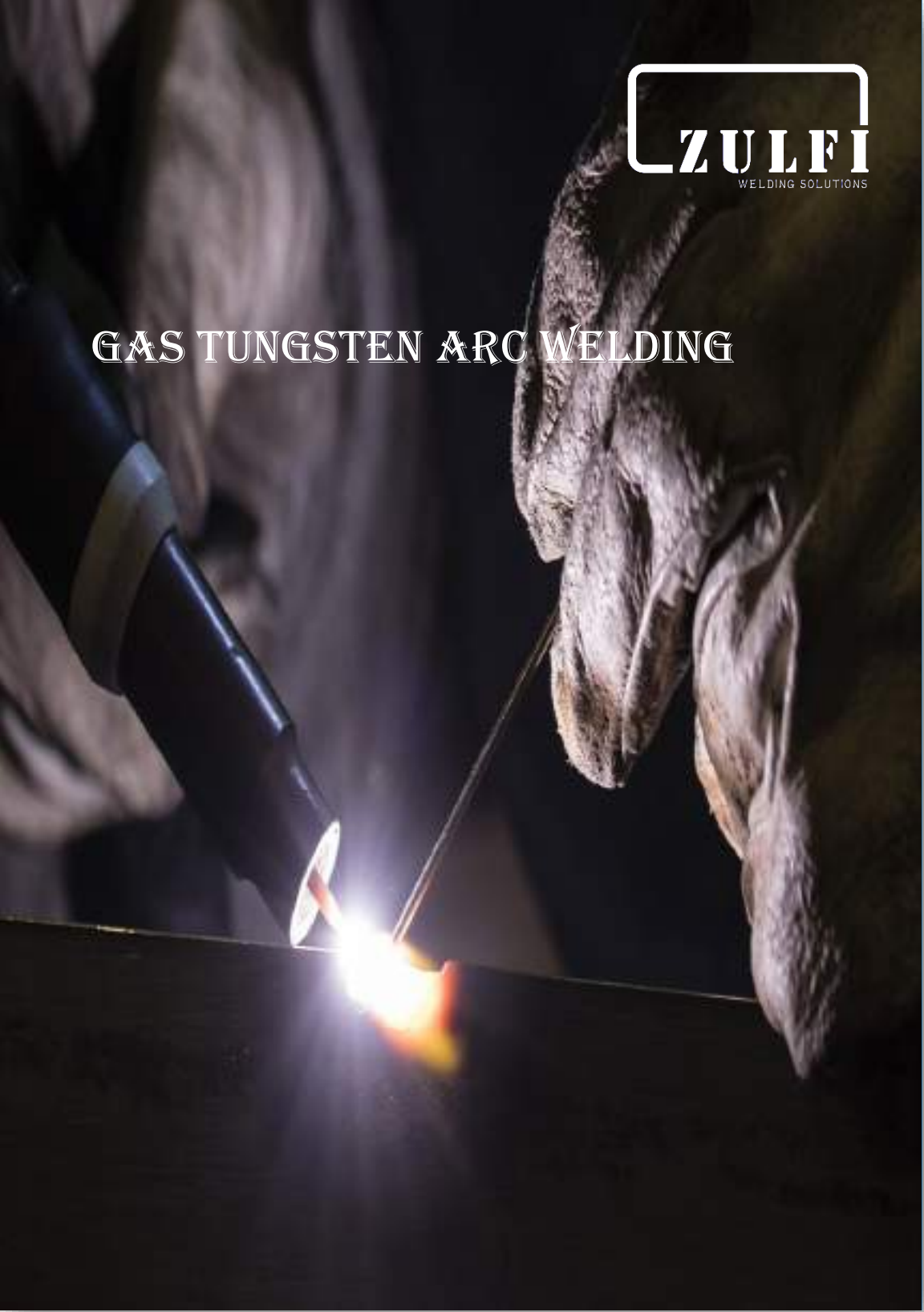


GAS TUNGSTEN ARC WELDING



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Description & Applications

ZULFI SR ER70S-2 is produced radiography quality welding metal, and it is a triple deoxidized welding wire designed for welding over rust and mill scale. The less fluid weld puddle of ER70S-2 makes it easier to control when used in out of position. This wire is preferred for all position welding of small diameter pipes.

Welding of Pressure vessel, Boilers involving unalloyed and micro-alloyed structural steels with specified UTS up to 520 MPa, high quality pipe welding of mild and medium tensile steels, best suited for single side, melt through welding, repairs on a variety of mild and low alloy steel, small diameter pipe and tubing, sheet metal applications, root pass pipe welding.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.18	ER70S-2
EN ISO 636-A	W 42 3 2Ti

Typical wire composition, %

C	Si	Mn	Ti
0.06	0.45	1.10	0.08

All weld metal typical mechanical properties,

Yield strength, MPa	≥420
Tensile strength, MPa	500-650
Elongation, %	≥22

Charpy V

Test temperature, °C	-40
Impact values, J	80

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER70S-6 is a copper coated solid wire having highest combination of manganese and silicone deoxidizers. Higher levels of deoxidizers make it suitable for applications where dirt, rust or mill-scale is present. Welded metal having toughness down to -40°C. all position welding of small diameter pipes.

Welding of Pressure vessel, Boilers involving unalloyed and micro-alloyed structural steels with specified UTS up to 520 MPa, high quality pipe welding of mild and medium tensile steels, best suited for single side, melt through welding, repairs on a variety of mild and low alloy steel, small diameter pipe and tubing, sheet metal applications, root pass pipe welding.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.18	ER70S-6
EN ISO 636-A	W 42 4 W3Si1

Typical wire composition, %

C	Si	Mn
0.06	0.90	1.60

All weld metal typical mechanical properties,

Yield strength, MPa	≥420
Tensile strength, MPa	500-650
Elongation, %	≥22

Charpy V

Test temperature, °C	-40
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER80S-B2 is a copper coated solid TIG welding rod depositing a C-0.8Mn-1.25Cr-0.50Mo weld metal. These steels are used for creep resisting application up to 550°C.

Typical applications in power generation plants include steam piping, turbines and boilers, the alloy also finds applications in the chemical and Petro-chemical industries.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER80S-B2
EN ISO 21952-B	W 55 M 1 CM

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.40	0.75	1.40	0.02	0.52

All weld metal typical mechanical properties,

Yield strength, MPa	≥480
Tensile strength, MPa	550-680
Elongation, %	≥22

Charpy V

Test temperature, °C	0
Impact values, J	100

Approvals
Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER80S-B6 is a copper coated solid TIG welding rod depositing a C-0.6Mn-5.60Cr-0.50Mo weld metal. Designed for high strength and improved corrosion resistance with hot hydrogen gas, super-heated steam, and Sulphur crude oil.

Typical applications in power generation plants include steam piping, turbines and boilers, the alloy also finds applications in the chemical and Petro-chemical industries. Also, suitable where some resistance to hydrogen attack by sulfur bearing crude oil is required.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER80S-B6
EN ISO 21952-B	W CrMo5 Si

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.40	0.65	6.50	0.02	0.50

All weld metal typical mechanical properties,

Yield strength, MPa	≥500
Tensile strength, MPa	560-650
Elongation, %	≥20

Charpy V

Test temperature, °C	0
Impact values, J	100

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER80S-B8 is a copper coated solid TIG welding rod depositing a C-0.6Mn-9.0Cr-1.0Mo weld metal.

ZULFI SR ER80S-B8 is used to weld 9% Chromium - 1% Molybdenum steels (ASTM Section IX, P No 5B, Group 1) such as ASTM A335 Grade P9 or ASTM A213 Grade T9. It is used for working at elevated temperatures up to 6000°C where creep resistance and strength are required for in service applications including high temperature steam, hot hydrogen, and high sulfur crude oil.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER80S-B8
EN ISO 21952-B	W CrMo9

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.40	0.65	9.50	0.02	1.00

All weld metal typical mechanical properties,

Yield strength, MPa	≥470
Tensile strength, MPa	560-650
Elongation, %	≥20

Charpy V

Test temperature, °C	0
Impact values, J	50

Approvals**Welding parameters**

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER80S-Ni1 is a copper coated solid TIG welding rod depositing a C-0.8Mn-1.0Ni weld metal. Weld metal with 1.0%Ni makes this electrode suitable for lower temperature application down to -60°C.

Used for 1%Ni steels and fine grain steels, when application toughness properties down to -60°C. ASTM A588 weathering steel requiring good atmospheric corrosion resistance, NACE applications.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER80S-Ni1
EN ISO 636-A	W 46 6 M G3Ni1

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.60	1.10	0.03	1.00	0.02

All weld metal typical mechanical properties,

Yield strength, MPa	≥480
Tensile strength, MPa	550-680
Elongation, %	≥22

Charpy V

Test temperature, °C	-60
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER80S-Ni2 is a copper coated solid TIG welding rod depositing a C-0.8Mn-1.0Ni weld metal. Weld metal with 2.25%Ni makes this electrode suitable for lower temperature application down to -90°C.

Used for 2.25%Ni steels and fine grain steels, when application toughness properties down to -90°C. ASTM A588 weathering steel requiring good atmospheric corrosion resistance, NACE applications.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER80S-Ni2
EN ISO 636-A	W 46 9 M W2Ni2

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.60	1.10	0.03	2.30	0.02

All weld metal typical mechanical properties,

Yield strength, MPa	≥500
Tensile strength, MPa	580-680
Elongation, %	≥22

Charpy V

Test temperature, °C	-90
Impact values, J	50

Approvals**Welding parameters**

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER90S-B3 is a copper coated solid TIG welding rod depositing a C-0.8Mn-2.25Cr-1.0Mo weld metal. These steels are used for creep resisting application up to 600°C. The mechanical properties stated here are after one hour of heat treatment at 700°C.

Typical applications in power generation plant include steam piping, turbines and boilers, the alloy also finds applications in the chemical and Petro-chemical industries. Also, suitable where some resistance to hydrogen attack by sulfur bearing crude oil is required.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER90S-B3
EN ISO 21952-B	W 62 M 2C1M

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.08	0.40	0.75	2.40	0.02	1.00

All weld metal typical mechanical properties,

Yield strength, MPa	≥550
Tensile strength, MPa	620-680
Elongation, %	≥18

Charpy V

Test temperature, °C	0
Impact values, J	100

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER90S-B9 is a copper coated solid TIG welding rod depositing a C-0.6Mn-9.0Cr-1.0Mo V Nb N weld metal. Suitable for use with Argon shielding gas. The mechanical properties stated here are after two hours of heat treatment at 750°C.

ZULFI SR ER90S-B9 is designed for improved long term creep properties in heavy wall components such as headers, main steam piping and turbine rotors in fossil fueled power-generating plants. Can be used for A213-T91 tubes, A335-P91 pipe, and A387 Grade 91 plates and A182 F91 forgings.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.28	ER90S-B9
EN ISO 21952-A	W CrMo91

All weld metal typical composition, %

C	Si	Mn	Cr	V	Mo	N
0.10	0.40	0.65	9.50	0.20	1.00	0.045

All weld metal typical mechanical properties,

Yield strength, MPa	≥ 560
Tensile strength, MPa	650-750
Elongation, %	≥18

Charpy V

Test temperature, °C	0
Impact values, J	50

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	7-13	50-120	10-15	5
2.0	8-15	80-160	10-15	5
2.4	10-17	120-200	10-15	5
3.2	12-20	150-230	10-15	5

Description & Applications

ZULFI SR ER308L is a solid TIG welding rod depositing a C-19 Cr-9.0Ni weld metal. Weld metal with less Nitrogen makes this electrode suitable for lower temperature application down to -196°C. Weld metal with low carbon reduces the risk of intergranular carbide precipitation, which increases the resistance to intergranular corrosion without the use of stabilizers.

ZULFI SR ER308L is ideal for welding Types 304L, 321, and 347 stainless steels. This is a suitable wire for applications at cryogenic temperatures. It is well suited for welding chemicals, food processing, cryogenic tanks, and pharmaceutical equipment's.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER308L
EN ISO 14343-A	W 19 9 L

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.025	0.50	2.00	20.00	10.00	0.08

All weld metal typical mechanical properties,

Yield strength, MPa	≥350
Tensile strength, MPa	520-620
Elongation, %	≥35

Charpy V

Test temperature, °C	-196
Impact values, J	40

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER309L is a solid TIG welding rod depositing a C-23 Cr-12.0Ni weld metal. It gives radiographic quality weld deposit. The weld metal has excellent mechanical properties and possesses good oxidation and scaling resistance at elevated temperatures.

ZULFI SR ER309L is ideally suited for welding stainless steels, wrought, and cast materials of similar composition, welding of 18/8 type stainless steels to carbon steels for buffer layers, for welding clad side of 18/8 clad stainless steels, etc.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER309L
EN ISO 14343-A	W 23 12 L

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.022	0.50	2.00	23.00	13.00	0.10

All weld metal typical mechanical properties,

Yield strength, MPa	≥350
Tensile strength, MPa	520-620
Elongation, %	≥35

Charpy V

Test temperature, °C	+20
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER310 is a solid TIG welding rod depositing a C-25 Cr-20.0Ni weld metal. ZULFI TIG 310 has high temperature ductility and excellent resistance to oxidation at a working temperature of 1000°C.

ZULFI SR ER310 is used for the welding of 310 austenitic stainless-steel pipes, plates and fittings used in the fabrication of furnaces and similar applications working at elevated temperature. It is mainly for heat exchanges and hot water boilers.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER310
EN ISO 14343-A	W 25 20

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.022	0.50	2.00	26.00	21.00	0.08

All weld metal typical mechanical properties,

Yield strength, MPa	≥350
Tensile strength, MPa	550-650
Elongation, %	≥30

Charpy V

Test temperature, °C	+20
Impact values, J	70

Approvals**Welding parameters**

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER316L is a solid TIG welding rod depositing a C-18 Cr-12.0Ni-2.50Mo weld metal. Weld metal with less Nitrogen makes this electrode suitable for lower temperature application down to -196°C.

ZULFI SR ER316L has a good general corrosion resistance, particularly against corrosion in acid and chlorinated environments. The alloy has a low carbon content which makes it particularly recommended where there is a risk of intergranular corrosion. The alloy is widely used in the chemical and food processing industries as well as in ship building and various types of architectural structures.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER316L
EN ISO 14343-A	W 19 12 3L

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo
0.025	0.50	2.00	19.00	12.50	2.30

All weld metal typical mechanical properties,

Yield strength, MPa	≥350
Tensile strength, MPa	520-620
Elongation, %	≥35

Charpy V

Test temperature, °C	-196
Impact values, J	40

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER347 is a solid TIG welding rod depositing a C-19 Cr-9.0Ni-Nb weld metal. ZULFI SR ER347 is a filler metal that allows for a reduced likelihood of intergranular carbide precipitation with the use of stabilizers, niobium, and tantalum. ZULFI SR ER347 was created for welding where maximum resistance is needed, and the metal will be subjected to higher temperatures. This alloy is used to weld base metals of similar chromium-nickel stainless steel composition. This alloy is most often used in chemical and food processing industries where higher temperatures are required.

ZULFI SR ER347 is ideal for welding Types 304L, 321, and 347 stainless steels. Some applications may include uses in the chemical industry, particularly at high temperatures, food processing, dairy, and textile industries.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER347
EN ISO 14343-A	W 19 9 Nb

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Nb
0.04	0.50	2.00	20.00	10.00	0.50

All weld metal typical mechanical properties,

Yield strength, MPa	≥350
Tensile strength, MPa	520-620
Elongation, %	≥35

Charpy V

Test temperature, °C	+20
Impact values, J	50

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER2209 is a solid TIG welding rod depositing a C-22 Cr-9.0 Ni-3Mo-N weld metal. This material possesses good general corrosion resistance in a wide range of environments, but also has high resistance to pitting attack in chloride environments, such as sea water.

Typical applications are offshore, Oil and gas, chemical, petrochemical, used to weld duplex stainless steels.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER2209
EN ISO 14343-A	W 22 9 3 N L

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo	N
0.020	0.50	1.80	23.00	9.30	3.10	0.13

All weld metal typical mechanical properties,

Yield strength, MPa	≥450
Tensile strength, MPa	≥680
Elongation, %	≥22

Charpy V

Test temperature, °C	+20
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ER2594 is a solid TIG welding rod depositing a C-24 Cr-9.0 Ni-4.0Mo-N weld metal. This filler metal facilitates high tensile/yield strength and superior resistance to SCC and pitting corrosion. Weld metal should have very good resistance to stress corrosion cracking and pitting with an austenite & 45-55 % ferrite matrix.

ZULFI SR ER2594 is utilized for the welding of wrought, forged, or cast super duplex stainless steels, which typically are in the as welded condition when put into service.

ZULFI SR ER2594 is utilized to weld super duplex stainless such as SAF 2507 (UNS 32750) and other 25% Chromium duplex stainless steels (i.e. UNS 32760, UNS 32550, and UNS 31260).

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.9	ER2594
EN ISO 14343-A	W 25 9 4 N L

All weld metal typical composition, %

C	Si	Mn	Cr	Ni	Mo	N
0.020	0.50	1.80	25.00	9.10	4.10	0.23

All weld metal typical mechanical properties,

Yield strength, MPa	≥550
Tensile strength, MPa	≥800
Elongation, %	≥25

Charpy V

Test temperature, °C	+20
Impact values, J	60

Approvals**Welding parameters**

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

Description & Applications

ZULFI SR ERNi-1 is a solid TIG welding rod depositing a pure nickel weld metal. The weld metal has good corrosion resistance, particularly in alkalis. Suitable for use with Argon shielding gas.

ZULFI SR ERNi-1 is intended for welding wrought and cast forms of commercially pure nickel. It is well suited for dissimilar welding, including the joining of Nickel 200 and 201 to stainless steel. It can also be used for joining carbon steels to copper-nickel alloys.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.14	ERNi-1
EN ISO 18274	S Ni 2061

All weld metal typical composition, %

C	Si	Mn	Ti	Ni	Cu
0.025	0.30	0.60	2.50	96.0	0.08

All weld metal typical mechanical properties,

Yield strength, MPa	≥275
Tensile strength, MPa	500-600
Elongation, %	≥30

Charpy V

Test temperature, °C	0
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

- Available in plastic tube.

Description & Applications

ZULFI SR ERNiCr-3 has a nominal composition (wt. %) of Ni-20Cr3Mn2.5Nb. The thermal expansion coefficient is between austenitic and ferritic steels, therefore, this wire is suited for joining ferritic to austenitic steels with operating temperature higher than 300°C. Also used for cladding steels. It retains weld metal toughness down to -196°C.

ZULFI SR ERNiCr-3 can be used for welding nickel-chromium-iron alloys to themselves. It also for dissimilar welding between nickel-chromium-iron alloys to mild steel or stainless steel.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.14	ERNiCr-3
EN ISO 18274	S Ni 6082

All weld metal typical composition, %

C	Si	Mn	Ti	Ni	Fe	Cr	Nb
0.030	0.30	3.0	0.30	70.0	2.00	20.0	2.50

All weld metal typical mechanical properties,

Yield strength, MPa	≥400
Tensile strength, MPa	620-700
Elongation, %	≥35

Charpy V

Test temperature, °C	-196
Impact values, J	50

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

- Available in plastic tube.

Description & Applications

ZULFI SR ERNiCrMo-3 has a nominal composition (wt.-%) of Ni-22Cr9Mo3.5Nb. It is very resistant to stress corrosion cracking and pitting corrosion in a range of media including phosphoric acid, organic acids, sea water and polluting environments. Even at high temperature only limited carbon diffusion in weld metal avoiding crack susceptibility.

ZULFI SR ERNiCrMo-3 is used for welding nickel-chromium-molybdenum alloy (ASTM B 443, B 444, and B 446 having UNS Number N06625) 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 using the GTAW.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.14	ERNiCrMo-3
EN ISO 18274	S Ni 6625

All weld metal typical composition, %

C	Si	Mn	Ti	Ni	Fe	Cr	Nb
0.030	0.30	0.50	0.30	68.0	2.00	21.0	3.50

All weld metal typical mechanical properties,

Yield strength, MPa	≥450
Tensile strength, MPa	720-800
Elongation, %	≥35

Charpy V

Test temperature, °C	-196
Impact values, J	50

Approvals**Welding parameters**

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

- Available in plastic.

Description & Applications

ZULFI SR ERNiCu-7 has a nominal composition (wt.-%) of 65 Ni, 30 Cu, 3 Mn, and 2 Ti. The filler metal contains sufficient titanium to control porosity with these welding processes.

ZULFI SR ERNiCu-7 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. The wire's strength and corrosion-resistance make ZULFI SR ERNiCu-7 an excellent choice for welding in salt, seawater, and reducing acid environments.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.14	ERNiCu-7
EN ISO 18274	S Ni 4060

All weld metal typical composition, %

C	Si	Mn	Ni	Ti	Cu
0.025	0.30	3.00	67.0	1.50	30.0

All weld metal typical mechanical properties,

Yield strength, MPa	≥300
Tensile strength, MPa	520-600
Elongation, %	≥30

Charpy V

Test temperature, °C	0
Impact values, J	60

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

- Available in plastic tube.

Description & Applications

ZULFI SR ERNiCu has a nominal composition (wt.-%) of 30 Ni, 68 Cu weld metal. This filler metal can be used for TIG overlay on steel after a first layer with ZULFI SR ERNi-1.

ZULFI SR ERcNi is used for joining base materials such as UNS number C71500. This includes ASTM grades such as B111, B122, B151, B171, B359, B395, B432, B466, B467, B543, and B552. This alloy can be used for dissimilar welding applications welding various copper-nickel alloys to nickel alloys and various other copper-nickel alloys.

Shielding Gas

Ar

Welding current

DC-

Classifications

SFA/AWS A5.7 ERcNi

All weld metal typical composition, %

C	Si	Mn	Ni	Ti	Cu
0.020	0.20	0.50	30.00	0.30	68.00

All weld metal typical mechanical properties,

Yield strength, MPa	≥200
Tensile strength, MPa	≥350
Elongation, %	≥20

Approvals

Welding parameters

Diameter, mm	Voltage, V	Current, A	Gas flow rate, LPM	Package Weight, kg
1.6	6-12	35-80	10-15	5
2.0	6-13	45-100	10-15	5
2.4	7-14	55-120	10-15	5
3.2	8-15	65-150	10-15	5

- Available in plastic tube.

شركة مصنع الزلفي لاسلاك اللحام المحدودة
Zulfi Welding Electrodes Factory Co. Ltd.



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