GOLDEN BRIDGE
WELDING MATERIALS

TIANJIN GOLDEN BRIDGE WELDING MATERIALS GROUP CO.,LTD.

TIANJIN GOLDEN BRIDGE WELDING MATERIALS GROUP INTERNATIONAL TRADING CO., LTD.

TIANJIN YANQIAO WELDING MATERIALS CO.,LTD.

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GOLDEN BRIDGE WELDING MATERIALS

INTRODUCTION

As the biggest and most professional enterprise for manufacturer of welding materials, Tianjin Golden Bridge Welding Materials Group Co., Ltd. can be traced till 1950`s for its former brand LINK CIRCLE which was already favored by most welders that time. Our chairman, Mr. Hou Lizun has been worked on manufacturing industry of welding materials for more than 70 years. He innovated and improved many proprietary technologies of raw materials and electrode coating residue series, production equipment, manufacturing technique and many other fields which laid deep foundation for the progress of the technology. Because of all these achievements, Mr. Hou was awarded “China Welding Lifetime Achievement” by China Welding Association (CWA) in August of 2009, the only one in the manufacturing industry of welding materials in China.

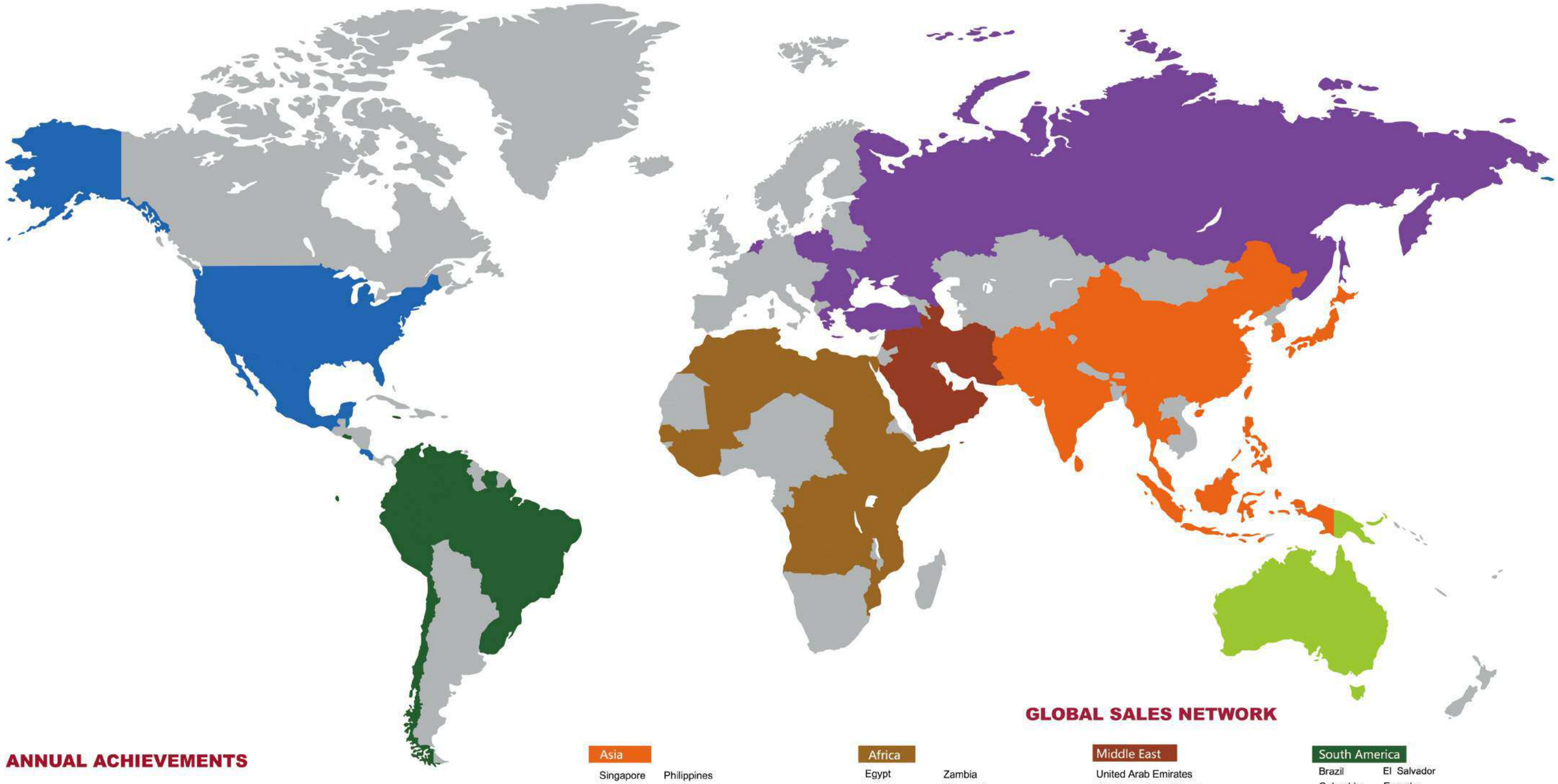
Our product range covers 7 series of welding electrode including carbon steel, low-alloy steel, heat-resistant steel, low temperature steel, stainless steel, surfacing and cast iron series. They have the characteristics of stable arc, high deposited efficiency and easy slag removal etc. What’s more, we have gas-shielded solid welding wire, flux cored welding wire, submerged arc welding wire, and argon arc welding wire, flux and self-shielded welding wire, total 6 series covering 400 kinds of welding materials. Our product has a complete specification and can undertake the special required productive task by the customer. We cooperate with the famous steel industry enterprises in China to develop new varieties of welding materials matched with the new steel products with the purpose of meet the requirements of all projects.

The company has an innovative technology research and development team targeting the technological frontier exporting and applying. The company has many detection equipments which can achieve the world advanced level. The main products in company have been gotten the shipping society's quality approval of eight countries including CCS, LR, BV, ABS, DNV, GL, NK, KR, as well as the certificate of TüV, CE, and DB. Our quality system have pass the ISO9001 quality certification and gotten the third parties quality certification from the nuclear power, boiler, and shipping field.

With an annual production up to one million tons, our product is widely used in ship, bridge, boiler pressure vessel, automobile manufacturing, petroleum, chemical, metallurgy, construction and other fields, as an engine that stimulating the national economic development.

For years, the company obtains a lot of honors and awards such as High-technology enterprises, Top 500 in Chinese manufacturing industry, Top 500 Chinese private enterprises, The national quality advanced unit, tax hundred strong private economy in Tianjin, 3A grade credit enterprise, Tianjin technology center.

Our principles: pursuing high-quality products continuously and serving customers thoughtfully and flawlessly



ANNUAL ACHIEVEMENTS

Total Sales Volume: 1.4 Million tons

Staff: 7000 Employees

Turnover: 6 Billion RMB

GLOBAL SALES NETWORK

Asia

Singapore, South Korea, Japan, Malaysia, Indonesia, India, Sri Lanka, Philippines, Thailand, Pakistan, Bangladesh, Brunei, Myanmar, Hong Kong(China)

Oceania

Australia, Papua New Guinea, Fiji

Africa

Egypt, Libya, Cote d'ivoire, Kenya, Liberia, Burkina Faso, Congo, Mauritius, Angola, Mali, Rwanda, Sudan, Ethiopia, Tunisia, Zambia, Mozambique, Senegal, Sierra Leone, Djibouti, Burundi, Uganda, Somalia, Guinea, Tanzania, Morocco, Algeria, Gambia, Eritrea

Middle East

United Arab Emirates, Kingdom of Saudi Arabia, Iraq, Syria, Yemen, Qatar, Oman, Afghanistan, Kuwait, Iran, Bahrain, Lebanon

Europe

United Kingdom, Russia, Ukraine, Bosnia and Herzegovina, Turkey, Netherlands, Greece, Bulgaria, Romania, Poland

South America

Brazil, Colombia, Chile, Suriname, Peru, Venezuela, El Salvador, Ecuador, Uruguay

North America

United States, Jamaica, Mexico

SERVING THE DIFFERENT INDUSTRIES

Transport
- Naval construction and repair
- Automobile assembly and repair
- Transportation equipment, railway, trailers, containers

Construction
- Infrastructure, welded construction of buildings
- Machines and equipment

Energy
- Pressure vessels

Boiler Making
- Petrochemicals and gas, pipe line

Power Industry
- Nuclear power
- Thermoelectricity

SUCCESSFUL CASE

LABORATORY &WORKSHOP

WELDING ELECTRODES

The company produces all kinds of welding electrode including carbon steel, low-alloy steel, heat-resistant steel, low temperature steel, stainless steel, surface and cast iron series. They have the characteristics of stable arc, high deposited efficiency and easy slag detachability.

SUBMERGED-ARC WELDING WIRES AND FLUXES

The submerged-arc welding wires have good characteristics of high efficiency, high welding quality, easy operation . They are widely applied to petrochemical equipment, bridges, vessels and vehicles etc.

There are fluoride-based flux, silicon-calcium flux, manganese silicate flux, aluminum titanium flux and alkali flux, which go with submerged-arc welding wires to improve the stability of the welding arc and to improve the mechanical and chemical properties of the deposited metal.

STAINLESS STEEL FLUX-CORED WELDING WIRES

The deposited metal has a good mechanical property and strong ability of resistance to intergranular corrosion. They are widely applied to all position welding. With CO_2 gas Shield, welding arc is smooth and stable and the slag peels easily.

SELF-SHIELDED FLUX-CORED WELDING WIRES

The prominent advantage is the high impact toughness in low temperatures. They are suitable for welding of oil-gas pipelines and other outdoor applications, and designed for no shielding gas required. They have good characteristics of stable arc, low spatter, easy slag removal, crack-resistance and all position welding. And they are widely applied to pipe lines, tanks, machines, offshore platforms and pressure vessels.

GAS-SHIELDED WELDING WIRES

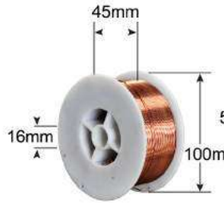
There are two kinds of gas-shielded welding wires: solid welding wire and flux cored welding wire. They have the characteristics of high efficiency, energy saving, cost effective, high quality etc. The solid welding wires are copper coated in diameters of 0.8mm, 1.0mm, 1.2mm, 1.6mm, packed in spool or drum. They are designed for applied with 100% CO_2 shielding gas and widely applied to the fields of vehicle, bridge, shipbuilding and petrochemical industry etc. The flux cored welding wires, with deep penetration and high deposition rate, are applied to shipbuilding.

TIG ARGON-ARC WELDING WIRES

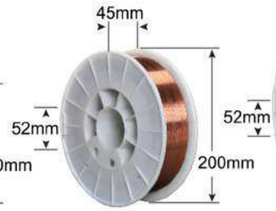
The argon-arc welding wires are 1-meter long, can be widely applied for stainless steel, carbon steel and some low-alloy steel. It has excellent plasticity, toughness and crack-resistance, especially in higher low temperature impact toughness is higher.

PRODUCT SPECIFICATION

Gas-Shielded Solid Welding Wire



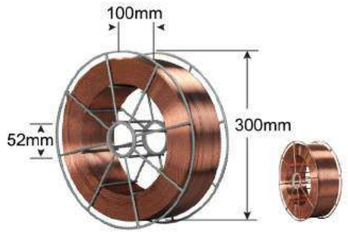
Φ（0.8/1.0）*1kg



Φ（0.8/0.9/1.0/1.14 /1.2/1.4）*5kgs

Φ(0.8/0.9/1.0/1.14/1.2 /1.4/1.6/2.0）*15kgs

Φ（1.0/1.2/1.4/1.6）*15kgs



Φ(0.9/1.0/1.14/1.2 /1.4/1.6/2.0）*20kgs

Φ(0.8/0.9/1.0/1.14/1.2/1.4/1.6/2.0）*15kgs

Φ(0.9/1.0/1.14/1.2/1.4/1.6/2.0）*20kgs

Φ(0.8/.09/1.0/1.14/1.2/ 1.4/1.6/2.0）*250kgs

Φ（1.0/1.2/1.4/1.6）*250kgs

Φ(0.8/.09/1.0/1.14/1.2/ 1.4/1.6/2.0）*350kgs

Self-Shielded Flux-Cored Welding Wire Carbon Steel

Φ（1.6/2.0）*6kgs

5 spools, 30kgs

Gas-Shielded Flux-Cored Welding Wire Stainless Steel

Φ（1.2/1.6）*12.5kgs

TIG Argon-Arc Welding Wire

5kgs

JQ.MG50-6 »

GB ER50-6
AWS ER70S-6
JIS YGW12

Introduction: JQ.MG50-6 is a kind of carbon steel shielded welding wire. The melting speed of welding wire is fast when welding. It has stable arc, low spatters and beautiful appearance. Good corrosion-resistant on surface of base material. Decrease the probability of blowhole formation. All position welding has good performance CO2 or Ar+CO2 can be used as shielded gas.

Uses: 1. Used for welding all kinds of 500MPa structural steel parts.
2. Used for welding all kinds of 500MPa plates and pipse.

Mechanical Properties of Deposited Metal

Test Item	R_m(MPa)	R_{eL}Or $R_{p0.2}$(Mpa)	A(%)	KV_2(J)
Guarantee Value	≥500	≥420	≥22	≥47(-40℃)
General result	555	450	29	77\95\83

Refetence Current (DC+)

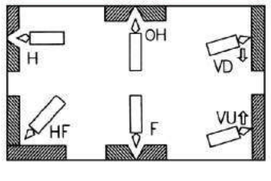
Wire Size(mm)	Welding Current（A）	CO_2 Flow Rate (L/min)
φ0.8	50～100	15
φ1.0	50～220	15～20
φ1.2	80～350	15～25
φ1.6	170～550	20～25

Chemical Composition of welding Wire(%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	0.06~0.15	1.40~1.85	0.80~1.15	≤0.025	≤0.025	≤0.15	≤0.15
General Result	0.077	1.45	0.87	0.013	0.012	0.017	0.031

Mo	V	Cu
≤0.15	≤0.03	≤0.50
0.002	0.004	0.125

Welding Positions:



J421(J38.12) »

GB/T 5117 E4313
AWS A5.1 E6013

Introduction: J421 is rutile-based carbon steel electrode. It has very good welding usability that enables it to perform all-position welding, operates on AC/DC, removal of slag is easy, has stable arc and also has very good bead appearance. It is easy to operate, which makes re-striking the arc easy.

Uses: It is suitable for welding structures made of low carbon steel, performs very well in welding thin and small size steel plates and also has very good performance in the situation that requires nice and clean bead appearance.

Mechanical Properties of Deposited Metal

Test Item	R_m(MPa)	R_{eL}(Mpa)	A(%)	KV_2(J) 0℃
Guarantee Value	≥430	≥330	≥16	≥47
General Result	485	380	28.5	86

Reference Current (AC, DC)

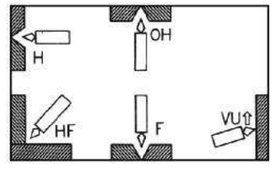
Electrode Diameter(mm)	φ2.0	φ2.5	φ3.2	φ4.0	φ5.0
Welding Current (A)	40~70	50~90	90~130	130~210	170~230

Chemical Composition of Deposited Metal (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20
General Result	0.079	0.38	0.21	0.018	0.024	0.020	0.032

Mo	V
≤0.30	≤0.08
0.005	0.010

Welding Positions:



JC-29Ni1 »

GB/T 17493-2008 E491T8-Ni1-J
AWS A 5.29 E71T8-Ni1-J

Introduction: JC-29 is a low-alloy steel self-shielded flux-cored welding wire, which needs no shielding gas. The weld has excellent low temperature toughness. It has high deposition efficiency. The arc has strong penetration power with spurting appearance. It has easy operation, beautiful appearance of weld and good slag detachability. DCSP (Direct Current Straight Polarity). Suitable for all-position welding. Due to the fast concreting speed of slags, it is especially suitable for vertical downward welding.

Uses: JC-29 is especially suitable for site welding on API X52 to X65 oil and gas pipelines highly requiring low temperature toughness.

Mechanical Properties of Deposited Metal

Test Item	Rm(N/mm$_2$)	$R_{el}/R_{po.2}$(N/mm$_2$)	A (%)	KV_2(J)	
				-30°C	-40°C
Guarantee Value	490~620	≥400	≥20	≥27	≥27
General Result	515	420	27	175, 180, 178	135, 145, 150

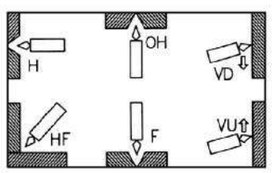
Reference Current (DC+)

Wire Diameter(mm)	Welding Current(A)	Welding Voltage(V)	Wire Feed Rate(in/min)
φ1.6	120～150	16～21	60～100
φ2.0	150～230	17～22	60～110

Chemical Composition of Deposited Metal (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Al
Guarantee Value	≤0.12	≤1.50	≤0.80	≤0.030	≤0.030	0.80~1.10	1.80
General Result	0.038	1.15	0.20	0.003	0.006	0.99	0.81

Welding Positions:



Note:

Size of the supply material: Φ1.6 Φ2.0
Package of the supply material:
1.Vacuum plastic reel packing: 6kg/reel
2.Drum packing: 5 vacuum reels/ drum, 30kg/drum
3.We also have verity of packing modes.

JQ.YJ501-1 »

GB/T 10045-2001 E501T-1
AWS A5.20 E71T-1C

Introduction: A titanium type Co_2 gas-shielded flux-cored welding wire for low carbon steel and 490MPa high strength steel. It has excellent welding performance, soft and stable arc, lower spatters, good slag detachability and beautiful appearance of weld; suitable for all-position welding. It has high welding efficiency. The weld metal has been given toughening treatment by microelements, so it has excellent low temperature toughness, good crack-resistance, stable and reliable inherent quality.

Uses: Used for welding structures made of carbon steel and low-alloy structural steel with tensile strength higher than or equal to 490MPa. Most widely used for welding some key structures like shipbuilding, mechanical manufacture, pressure vessels, boilers, petroleum machinery, chemical machinery, hoisting machinery etc.

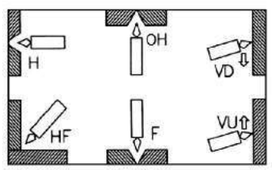
Chemical Composition of Deposited Metal (%) (CO_2 Shielding Gas)

Test Item	C	Mn	Si	S	P
Guarantee Value	≤0.18	≤1.75	≤0.90	≤0.030	≤0.030
General Result	0.05	1.36	0.41	0.008	0.012

Mechanical Properties of Deposited Metal (CO2 Shielding Gas)

Test Item	Rm(N/mm$_2$)	$R_{el}/R_{po.2}$(N/mm$_2$)	A (%)	KV2(J)-20℃
Guarantee Value	≥480	≥400	≥22	≥27
General Result	560	480	28	129

Welding Positions:



JQ.YJ501-1 »

GB/T 10045-2001 E501T-1
AWS A5.20 E71T-1C

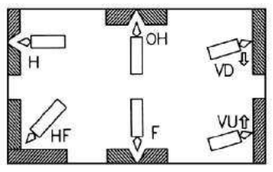
Diffusion hydrogen content of the deposited metal (Mercury Method) ≤10ml/100g
X-Ray Radiographic Test Requirements II Grade
Reference Current (DC+)

Diameter (mm)		Φ1.2	Φ1.4	Φ1.6
Current Range (A)	Flat Position	120~300	150~400	180~450
	Vertical Upward welding and Overhead position	120~260	150~270	180~280
	Vertical Downward welding and Overhead position	200~300	220~300	250~300
	Horizontal Welding	120~280	150~320	180~350

Note:

1. Adopt degreasing and rust cleaning process before operate.
2. Shielding gas flow: 20-25L/min when welding
3. Extension: 15-25mm
4. The humidity of welding wire storage should be less than 60%
5. Storage period: Vacuum packaging less than 1 Year, other packaging less than half year.

Welding Positions:



Flux Cored Wires

JQ-308L »

GB/T17853 E308LT1-1
AWS A5.22 E308LT1-1

Introduction: JQ-308L is a kind of gas shielded stainless steel flux cored wire, soft and stable arc, lower spatter, beautiful appearance, easy to slag removal, it has good welding performance and all position welding. The deposited metal has excellent mechanical properties and intercrystalline corrosion-resistance.

Uses: Used for welding corrosion-resistant 06Cr19Ni10, 07Cr19Ni11Ti stainless steel structures and the working temperature should be below 300℃. It used for welding 301,302,304,304L, 308,308L and other stainless steel materials.

Shielding Gas is Co_2
Chemical Composition of Deposited Metal (%) (CO_2 Shielding Gas)

Test Item	C	Mn	Si	Ni	Cr	S	P
Guarantee Value	≤0.04	0.50~2.50	≤1.00	9.0~11.0	18.0~21.0	≤0.030	≤0.040
General Result	0.029	1.40	0.36	10.3	19.33	0.003	0.023

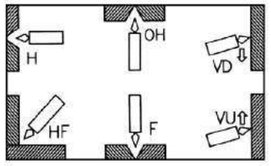
Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm₂)	A (%)
Guarantee Value	≥520	≥35
General Result	550	43.5

Note:

Available size: Φ1.2mm Φ1.4mm Φ1.6mm

Welding Positions:



JQ-309L »

GB/T17853 E309LT1-1
AWS A5.22 E309LT1-1

Introduction: JQ-309L is a kind of Co^2 gas shielded stainless steel flux cored wire, soft and stable arc, lower spatter, beautiful appearance, easy to slag removal, it has good welding performance and all position welding. The deposited metal has excellent crack resistance.

Uses: JQ309L can be used for welding petrochemical and other manufacturing equipment, chemical composition of the same type of stainless steel structure and composite steel, steel and other components. Can also be used for wall welding of nuclear reactor, pressure vessel, transition layer surfacing and internals of oil refining equipmentJQ309L can be used for welding petrochemical and other manufacturing equipment, chemical composition of the same type of stainless steel structure and composite steel, steel and other components. Can also be used for wall welding of nuclear reactor, pressure vessel, transition layer surfacing and internals of oil refining equipment.

Shielding Gas is Co2
Chemical Composition of Deposited Metal (%) (CO_2 Shielding Gas)

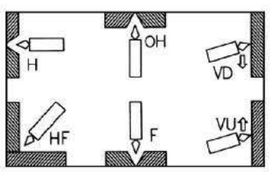
Test Item	C	Mn	Si	Ni	Cr	S	P
Guarantee Value	≤0.04	0.50~2.50	≤1.00	12.0~14.0	22.0~25.0	≤0.030	≤0.040
General Result	0.035	1.25	0.58	12.40	24.15	0.004	0.023

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm^2)	A (%)
Guarantee Value	≥520	≥25
General Result	560	41.5

Note:
Available size: Φ1.2mm Φ1.4mm Φ1.6mm

Welding Positions:



JQ-316L »

GB/T17853 E316LT1-1
AWS A5.22 E316LT1-1

Introduction: JQ-316L is a kind of Co^2 gas shielded stainless steel flux cored wire. It has good welding performance and all position welding. The deposited metal has excellent heat resistance, corrosion resistance and crack resistance.

Uses: Used for welding ultra low carbon stainless steel such as 022Cr17Ni12Mo^2, the stainless steel that cannot take the heat treatment after welding and welding Composite steel and dissimilar steel.

Shielding Gas is Co_2
Chemical Composition of Deposited Metal (%) (CO_2 Shielding Gas)

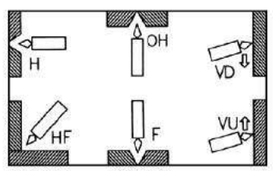
Test Item	C	Mn	Si	Ni	Cr	Mo	S	P
Guarantee Value	≤0.04	0.50~2.50	≤1.00	11.0~14.0	17.0~20.0	2.00~3.00	≤0.030	≤0.040
General Result	0.031	1.30	0.35	12	18.65	2.42	0.005	0.023

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm^2)	A (%)
Guarantee Value	≥485	≥30
General Result	540	42.5

Note:
Available size: Φ1.2mm Φ1.4mm Φ1.6mm

Welding Positions:



Gas-shielded Solid Welding Wire

JQ.MG49-1 »»

GB ER49-1

Introduction: JQ.MG49-1 welding wire has excellent welding performance. While welding, it has stable arc, low spatters and excellent blowhole-resistance.

Uses: Used for welding low-carbon steel and some low-alloy steel structures.

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni	Cu
Guarantee Value	≤0.11	1.80~2.10	0.65~0.95	≤0.030	≤0.030	≤0.20	≤0.30	≤0.50
General Result	0.068	1.87	0.81	0.013	0.016	0.024	0.008	0.120

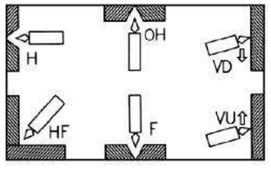
Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥490	≥372	≥20	≥47
General Result	550	450	28.5	78、82、81

Reference Current (DC+)

Size(mm)	Current range (Amps)	Gas flow rate(L/min)
Φ0.8	50~100	15
Φ1.0	50~220	15~20
Φ1.2	80~350	15~25
Φ1.6	170~550	20~25

Welding Positions:



JQ.MG50-3 »»

GB ER50-3
AWS ER70S-3
JIS YGW16

Introduction: JQ.MG50-3 is a kind of CO_2 gas-shielded welding wire. It has excellent welding performance, smooth and beautiful bead and low spatters.

Uses: 1. Used for welding low-carbon steel & thin plates.
2. Used for welding low-carbon steel parts with thorough surface treatment.

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-20℃
Guarantee Value	≥500	≥420	≥22	≥27
General Result	525	430	28	103、97、100

Reference Current (DC+)

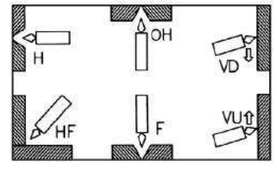
Size(mm)	Current range (Amps)	Gas flow rate(L/min)
Φ0.8	50~100	15
Φ1.0	50~220	15~20
Φ1.2	80~350	15~25
Φ1.6	170~550	20~25

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Guarantee Value	0.06~0.15	0.90~1.40	0.45~0.75	≤0.025	≤0.025	≤0.15	≤0.15	≤0.15	≤0.5
General Result	0.074	1.15	0.63	0.021	0.020	0.023	0.021	0.023	0.12

V
≤0.03
0.004

Welding Positions:



JQ.MG50-4 »»

GB ER50-4
AWS ER70S-4
JIS YGW12

Introduction: JQ.MG50-4 welding wire has CO_2 or Ar+CO25%-20% as shielding gas. It has excellent welding performance. It has good one-time shaping performance. When used in argon-rich mixed gas arc welding, the bead is delicate and beautiful.

Uses: Used for welding low-carbon steel and some low-alloy steel structures.

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥500	≥420	≥22	Not Required
General Result	540	450	30	93、87、95

Reference Current (DC+)

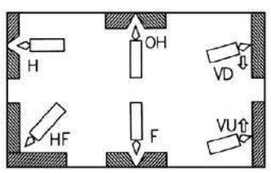
Size(mm)	Current range (Amps)	GAS flow rate(L/min)
Φ0.8	50~100	15
Φ1.0	50~220	15~20
Φ1.2	80~350	15~25
Φ1.6	170~550	20~25

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Guarantee Value	0.06~0.15	1.00~1.50	0.65~0.85	≤0.025	≤0.025	≤0.15	≤0.15	≤0.15	≤0.5
General Result	0.085	1.05	0.718	0.014	0.014	0.005	0.018	0.006	0.106

Chemical Composition	V
Guarantee Value	0.03
General Result	0.003

Welding Positions:



JQ.MG50-Ti »»

GB ER50-G
AWS ER70S-G
JIS YGW11

Introduction: The welding current has been strengthened to a great extent and the welding efficiency has been improved. Because the grains of the deposited metal have been refined, both the tensile strength and the yield strength are 50kg close to the upper limit of the welding materials of shipping society approve.

Uses: 1. Used for welding all kinds of 500MPa structural steel parts, thick plates and thick pipelines.
2. Used for high speed welding on 500MPa base metals.

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ti+Zr	Cu
Guarantee Value	≤0.15	1.40~1.90	0.55~1.10	≤0.030	≤0.030	≦0.30	≤0.50
General Result	0.058	1.44	0.73	0.012	0.009	0.17	0.124

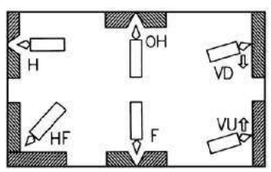
Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥500	≥420	≥22	≥27
General Result	550	455	29	114、131、127

Reference Current (DC+)

Size(mm)	Current range (Amps)	GAS flow rate(L/min)
Φ0.8	50~100	15
Φ1.0	50~220	15~20
Φ1.2	80~350	15~25
Φ1.6	170~550	20~25

Welding Positions:



JQ.H08MnSiCuCrNiⅡ »»

TB/T2374-2008
ER44-G

Introduction: It has excellent welding performance and beautiful bead. The deposited metal has excellent atmospheric corrosion-resistance, crack-resistance, plasticity and toughness.

Uses: Used for welding atmospheric corrosion-resistant steel structures with corresponding strength, such as locomotive vehicles, offshore engineering, bridges, etc.

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥440	≥340	≥22	≥60
General Result	535	450	26	139、143、135

Reference Current (DC+)

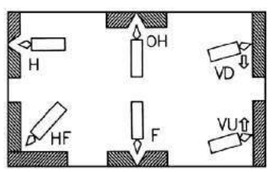
Size(mm)	Current range (Amps)	GAS flow rate(L/min)
Φ0.8	50~100	15
Φ1.0	50~220	15~20
Φ1.2	80~350	15~25
Φ1.6	170~550	20~25

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cu
Guarantee Value	≤0.10	0.90~1.30	0.35~0.65	≤0.025	≤0.025	0.20~0.50	0.20~0.50
General Result	0.057	1.21	0.56	0.008	0.016	0.32	0.31

Cr
0.20~0.50
0.31

Welding Positions:



JQ.MG60-G »»

GB ER60-G
AWS ER90S-G

Introduction: JQ.MG60-G is a kind of 620MPa high toughness low-alloy steel gas-shielded welding wire. It has excellent all-position welding performance.

Uses: Suitable for welding 620MPa high strength steel structures, such as construction machinery, pipelines, ships, pressure vessels, etc.

Mechanical Properties of Deposited Metal

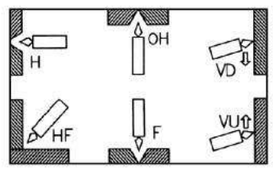
Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥620	≥490	≥19	≥47
General Result	660	545	25	103、111、121

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Mo	Ti
Guarantee Value	≤0.10	1.40~1.90	0.50~0.95	≤0.025	≤0.025	0.20~0.60	≤0.12

Cu
≤0.50

Welding Positions:



JQ.MG70-G »

GB ER70-G
AWS ER100S-G

Introduction: JQ.MG70-G is a kind of NiMoCr type 690MPa high toughness low-alloy steel gas-shielded welding wire. It has excellent all-position welding performance, stable arc and low spatters.

Uses: Suitable for welding 690MPa high strength steel structures, such as construction machinery, hoisting machinery, bridges, pipelines, ships, pressure vessels, etc.

Mechanical Properties of Deposited Metal

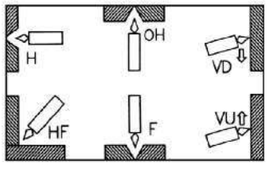
Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥690	≥610	≥16	≥27
General Result	740	645	23	121、128、126

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Mo	Ti
Guarantee Value	≤0.11	1.40~1.90	≤0.80	≤0.025	≤0.025	0.20~0.60	≤0.16

Cu	Ni	Cr
≤0.50	0.50~1.55	≤0.30

Welding Positions:



JQ.MG80-G »

GB ER80-G
AWS ER110S-G

Introduction: JQ.MG80-G is a kind of high strength gas-shielded welding wire. The mixed gas Ar+20% CO₂ can be used as shielding gas. It has soft arc, stable burning and low spatters. The bead has higher impact toughness.

Uses: Suitable for welding high strength structures with tensile strength of 790MPa. It can be used for welding some key structures, such as pressure vessels, construction machinery, and hoisting machinery.

Mechanical Properties of Deposited Metal

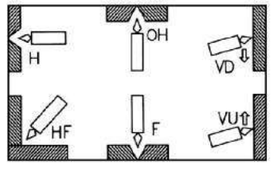
Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥790	≥690	≥17	≥27
General Result	840	730	24.5	85、93、75

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Mo	Cu
Guarantee Value	≤0.10	1.40~1.85	0.40~0.70	≤0.025	≤0.025	0.20~0.60	≤0.50

Cr	Ni
0.30~0.60	1.60~2.40

Welding Positions:



Note:

1. Shield gas: Must ensure not to operate with impurity shield Gas.
2. Operation flow rate of shield gas: 20-25L/min.
3. Electrode extension: 15-25mm

JQ.H0Cr21Ni10 »»

YB/T 5092 HO8Cr21Ni10Si
AWS A5.9 ER308

Introduction: The main component of JQ.H0Cr21Ni10 is 18Cr-8Ni, which is TIG welding wire for stainless steel. No spatter, welding is smooth. The wire also provides excellent weld appeal on back where it is not easily accessible while recoating can achieve beautiful bead on the front.. The crack resistance of the weld metal is good, and the corrosion resistance is good.

Uses: Used for 12Cr18Ni9 (SUS 302), 06Cr19Ni10 (SUS 304) austenitic kind of stainless steel and welding similar raw materials, used for welding thin plates as well.

Reference Current (DC+)

Diameter	Φ0.8	Φ1.0	Φ1.2
Welding Current	70~150	100~200	140~220

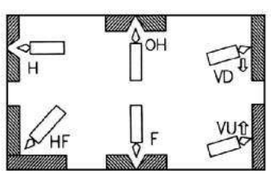
Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	Mo	P
Guarantee Value	≤0.08	1.00~2.50	0.30~0.65	19.50~22.00	9.00~11.00	≤0.75	≤0.030
General Result	0.040	1.80	0.31	20.15	9.52	0.43	0.013

S	Cu
≤0.030	≤0.75
0.008	0.34

Note:
1. Shield gas: Must ensure not to operate with impurity shield Gas.
Recommendation Rate of mixed gas: Ar+1-3%O2.
2. Operation flow rate of shield gas: 20-25L/min.
3. Electrode extension: 15-25mm
4. The welding should be operated in clean surface without rust, moist, oil contamination and dust.
5. Prevent affected of wind when wind speed reach 1.5m/s to avoid bubbles generated.

Welding Positions:



The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

JQ.H00Cr21Ni10 »»

YB/T 5092 HO3Cr21Ni10Si
AWS A5.9 ER308L

Introduction: The main component of JQ.H00Cr21Ni10is ultra-low C-18Cr-8Ni, it is MIG wires that are widely used in welding austenitic stainless steel and it is all position welding. The weld-ability is good. Feeding wire smoothly will enable stable arc, excellent welding performance and spatter is very low. Ferrite in the deposited metal enables excellent corrosion-resistance and crack-resistance.

Uses: It is widely used in petrochemical, pressure vessel, food processing machinery, medical equipment, chemical fertilizer equipment, textile machinery, nuclear reactor such as 022Cr19Ni10 (SUS 304L) and other materials of welding.

Reference Current (DC+)

Diameter	Φ0.8	Φ1.0	Φ1.2
Welding Current	70~150	100~200	140~220

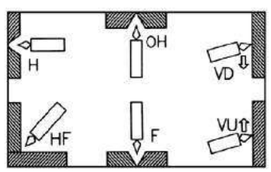
Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	Mo	P
Guarantee Value	≤0.030	1.00~2.50	0.30~0.65	19.50~22.00	9.00~11.00	≤0.75	≤0.030
General Result	0.023	1.63	0.40	20.12	10.35	0.37	0.013

S	Cu
≤0.030	≤0.75
0.009	0.16

Note:
1. Shield gas: Must ensure not to operate with impurity shield Gas.
Recommendation Rate of mixed gas: Ar+1-3%O2.
2. Operation flow rate of shield gas: 20-25L/min.
3. Electrode extension: 15-25mm
4. The welding should be operated in clean surface without rust, moist, oil contamination and dust.
5. Prevent wind influence (Wind speed reach 1.5m/s) to avoid bubbles generated.

Welding Positions:



The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

JQ.H0Cr19Ni12Mo2 »»

YB/T5092 HO8Cr19Ni12Mo2Si
AWS A5.9 ER316

Introduction: The main component of JQ.H0Cr19Ni12Mo2 is ultra-low carbon 18Cr-12Ni-2Mo; it is Stainless steel MIG welding wire. It is all position welding. The weld-ability is good. Feeding wire smoothly will enable stable arc, excellent welding performance and spatter is very low. It has good resistance for acetic acid, sulfuric acid, phosphoric acid and salt corrosion because it contains Molybdenum.

Uses: It is widely used in petrochemical, chemical fertilizer equipment such as 06Cr17Ni12Mo2 (SUS 316L) and other materials of welding.

Reference Current (DC+)

Diameter	Φ0.8	Φ1.0	Φ1.2
Welding Current	70~150	100~200	140~220

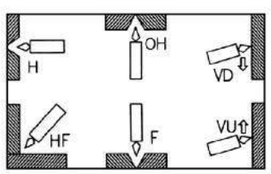
Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	Mo
Guarantee Value	≤0.08	1.00~2.50	0.30~0.65	18..00~20.00	11.00~14.00	2.00~3.00
General Result	0.048	1.75	0.45	19.63	12.52	2.50

S	Cu	P
≤0.030	≤0.75	≤0.030
0.010	0.26	0.011

Note:
1. Shield gas: Must ensure operate with high purity Gas.
   Recommendation Rate of mixed gas: Ar+1-3%O2.
2. Operation flow rate of shield gas: 20-25L/min.
3. Electrode extension: 15-25mm
4. The welding should be operated in clean surface without rust, moist, oil contamination and dust.
5. Prevent wind influence (Wind speed reach 1.5m/s) to avoid bubbles generated.

Welding Positions:



The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

JQ.H00Cr19Ni12Mo2 »»

YB/T 5092 HO3Cr19Ni12Mo2Si
AWS A5.9 ER316L

Introduction: The main component of JQ.H0Cr19Ni12Mo2 is 18Cr-12Ni-2Mo; it is Stainless steel MIG welding wire. It is all position welding. The weld-ability is good. Feeding wire smoothly will enable stable arc, excellent welding performance and spatter is very low. It has good resistance for acetic acid, sulfuric acid, phosphoric acid and salt corrosion because it contains Molybdenum.

Uses: It is widely used in petrochemical, chemical fertilizer equipment such as 022Cr17Ni12Mo2 (SUS 316L) and other materials of welding.

Reference Current (DC+)

Diameter	Φ0.8	Φ1.0	Φ1.2
Welding Current	70~150	100~200	140~220

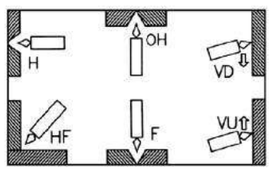
Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	Mo
Guarantee Value	≤0.030	1.00~2.50	0.30~0.65	18..00~20.00	11.00~14.00	2.00~3.00
General Result	0.023	1.90	0.42	19.12	12.59	2.59

S	Cu	P
≤0.030	≤0.75	≤0.030
0.008	0.28	0.009

Note:
1. Shield gas: Must ensure not to operate with impurity shield Gas.
   Recommendation Rate of mixed gas: Ar+1-3%O_2.
2. Operation flow rate of shield gas: 20-25L/min.
3. Electrode extension: 15-25mm
4. The welding should be operated in clean surface without rust, moist, oil contamination and dust.
5. Prevent wind influence (Wind speed reach 1.5m/s) to avoid bubbles generated.

Welding Positions:



The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

ARGON-ARC WELDING WIRE

JQ.TG50 »»

GB ER50-6
AWS ER70S-6

Introduction: JQ.TG50 is a kind of carbon steel argon-arc welding wire. It has excellent plasticity, roughness and crack-resistance; especially in low temperature impact toughness is higher.

Uses: Used for all-position manual tungsten argon arc backing weld and arc welding on pipelines, and both can produce satisfactory welded joints. It can be used for welding carbon steel and some low-alloy steel.

Size

Diameter (mm)	Φ1.0	Φ1.2	Φ1.6	Φ2.0	Φ2.5	Φ3.0

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
Guarantee Value	≥490	≥420	≥22	≥27
General Result	546	467	27	116

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr	Mo
Guarantee Value	0.06~0.15	1.40~1.85	0.80~1.15	≤0.025	≤0.025	≤0.15	≤0.15	≤0.15
General Result	0.08	1.49	0.84	0.018	0.018	0.019	0.032	0.004

V	Cu
≤0.03	≤0.50
0.007	0.15

JQ.H0Cr21Ni10 »»

YB/T 5092 H08Cr21Ni10Si
AWS A5.9 ER308

Introduction: The main component of JQ.H0Cr21Ni10 is 18Cr-8Ni; it is Stainless steel TIG welding wire. No welding spatter, welds smoothly, bead is smooth. The wire also provides excellent weld appeal on back where it is not easily accessible, while recoating can achieve beautiful bead on the front. It has excellent corrosion-resistance and crack-resistance.

Uses: Used for 12Cr18Ni9 (SUS 302), 06Cr19Ni10 (SUS 304) austenitic kind of stainless steel and welding similar raw materials, used for welding thin plates as well.

Reference Current (DC+)

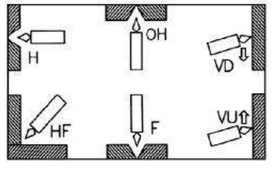
Diameter	Φ1.6	Φ2.0	Φ2.5	Φ3.2
Welding Current	50~100	100~200	200~300	300~400

Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	Mo
Guarantee Value	≤0.080	1.00~2.50	0.30~0.65	19.50~22.00	9.00~11.00	≤0.75
General Result	0.050	1.79	0.48	19.72	9.40	0.005

S	Cu	P
≤0.030	≤0.75	≤0.030
0.013	0.06	0.022

Welding Positions:



Note:
1. Shielding gas: Adopt pure Argon gas. Recommendation flow rate: 9-14L/min (AMP 100-200A), 14-18L/min (AMP 200-300A).
2. Tungsten extension: 3-5mm, Arc length: 1-3mm.
3. Wind speed limited: ≤1.0m/s. Argon gas shielding on back side of welding part will get better welding result.
4. Mechanic property and metal anti-cracking ability of the welded metal relative by energy pass value on the wire.
5. The welding should be operated in clean surface without rust, moist, oil contamination and dust.

The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

JQ.H0Cr19Ni12Mo2 »

YB/T 5092 H08Cr19Ni12Mo2Si
AWS A5.9 ER316

Introduction: The main component of JQ. JQ.H0Cr19Ni12Mo2 is 18Cr-12Ni-2Mo; it is Stainless steel TIG welding wire. The metal of weld bead has excellent corrosion resistance, heat resistance and excellent crack resistance it has good resistance for acetic acid, sulfuric acid, phosphoric acid and salt corrosion because it contains Molybdenum.

Uses: It is widely used in petrochemical, chemical fertilizer equipment such as 06Cr17Ni12Mo2 (SUS 316) and other materials of welding. It can be used for welding without heat treatment of high Cr steel and various steel welding as well.

Reference CURRENT (AC OR DC)

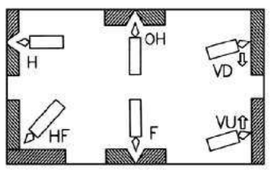
Diameter	Φ1.6	Φ2.0	Φ2.5	Φ3.2
Welding Current	50~100	100~200	200~300	300~400

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cu
Guarantee Value	≤0.080	1.00~2.50	0.30~0.65	≤0.030	≤0.030	11.00~14.00	≤0.75
General Result	0.040	1.71	0.45	0.009	0.018	11.50	0.08

Cr	Mo
18.00~20.00	2.00~3.00
18.54	2.18

Welding Positions:



Submerged-Arc Welding Wire

JQ.H08MnA »

GB H08MnA
AWS EM12

Introduction: It is a kind of medium-manganese and medium-silicon type welding wire. It matches with medium-manganese and medium-silicon type welding flux. It is not sensitive to the rust on the base metal. It has excellent bead molding and slag detachability. The wire can be applied single or dual feeding with AC/DC.

Uses: Using with sintered flux JQ.SJ101, it can be applied both for high-speed welding steel plate of tensile strength 420N/mm2 and filling welding.

Mechanical Properties of Deposited Metal

Test Item / Flux	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
SJ101	415~550	≥330	≥22	≥27

Size

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0

Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	Ni	P
Guarantee Value	≤0.10	0.80~1.10	≤0.07	≤0.20	≤0.30	≤0.030
General Result	0.066	0.96	0.038	0.027	0.011	0.010

S	Cu
≤0.030	≤0.35
0.007	0.110

JQ.H10Mn2 »

GB H10Mn2
AWS EH14

Introduction: It is a kind of high-manganese type welding wire. It matches with low-manganese and low-silicon type welding flux. It is not sensitive to the rust on the base metal. It has excellent bead molding and slag detachability. The wire can be applied single or dual feeding with AC/DC.

Uses: using with sintered flux JQ.SJ101, it can be applied both for high-speed welding steel plate of tensile strength 490N/mm2 and filling welding。Mechanical properties of deposited metal is very stable.

Mechanical Properties of Deposited Metal

Test Item / Flux	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J) -20℃	KV_2(J) -40℃
SJ101	490~650	≧400	≧22	——	≧27

Size

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cu
Guarantee Value	≤0.12	1.50~1.90	≤0.070	≤0.035	≤0.035	≦0.30	≤0.35
General Result	0.066	1.62	0.011	0.011	0.011	0.007	0.12

Cr
≦0.20
0.013

JQ.H10MnSi »

GB H10MnSi
AWS EM13K

Introduction: It is a kind of welding wire with appropriate manganese and silicon content. It matches with low-manganese and low-silicon type welding flux. It is not sensitive to the rust on the base metal. It has excellent bead molding, excellent slag detachability. The wire can be applied single or dual feeding with AC/DC.

Uses: using with sintered flux JQ.SJ101, it can be applied both for high-speed welding steel plate of tensile strength 420N/mm2 and filling welding. It is widely used for welding boiler, pressure vessel, bridge, ship etc.

Mechanical Properties of Deposited Metal

Test Item / Flux	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-20℃
SJ101	415~550	≧330	≧22	≧27

Size

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cu
Guarantee Value	≤0.14	0.80~1.10	0.60~0.90	≤0.035	≤0.035	≤0.30	≤0.35
General Result	0.089	0.98	0.67	0.023	0.032	0.034	0.11

Cr
≤0.20
0.015

JQ.TH550-NQ-Ⅲ »

TB/T 2374-2008
TH550-NQ-III

Introduction: JQ.TH550-NQ-Ⅲ is the copper wire of temperature-resistant steel for railway vehicles.

Uses: using with sintered flux JQ.SJ101, it can be applied for temperature-resistant steel of tensile strength 550N/mm2.

Mechanical Properties of Deposited Metal

Test Item / Flux	R_m(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
SJ101NQ	≧550	≧450	≧22	≧60

Size

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cu
Guarantee Value	≤0.12	1.00~2.00	≤0.35	≤0.020	≤0.025	0.20~0.80	0.20~0.50
General Result	0.065	1.26	0.33	0.006	0.013	0.32	0.31

Cr
0.30~0.90
0.41

JQ.MH0Cr21Ni10 »

GB/T 17854 F308-H0Cr21Ni10
AWS A5.9 ER308

Introduction: The main component of JQ.MH0Cr21Ni10 is 18Cr-8Ni, using with Stainless steel alkaline flux JQ.SJ601. Deposited metal has good mechanical properties and intergranular corrosion resistance. Good cracking resistance.

Uses: It is widely used in petrochemical and other industries such as 12Cr18Ni9 (SUS 302), 06Cr19Ni10 (SUS 304) and other materials of welding.

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm²)	A (%)	Flux
Guarantee Value	≥520	≥30	JQ.SJ601
General Result	590	42	JQ.SJ601

Reference Current (AC or DC+)

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Welding Current (Amps)	400~500	450~550	500~600	550~650

Chemical Composition (%)

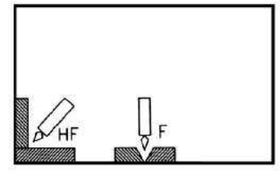
Chemical Composition	C	Mn	Si	Cr	P	Ni	S
Guarantee Value	≤0.080	1.00~2.50	≤0.60	19.50~22.00	≤0.30	9.0~11.0	≤0.030
General Result	0.056	1.43	0.30	19.81	0.021	9.45	0.006

Deposited Metal (Flux JQ.SJ601) Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	P	Ni	S
Guarantee Value	≦0.08	0.50~2.50	≦1.00	18.0~21.0	9.0~11.0	≦0.040	≦0.030
General Result	0.030	1.23	0.47	19.20	9.42	0.025	0.013

Note:
1. Recommendation temperature on welding bead around 150℃.
2. Operator should strictly follow with operation specification. Amps and speed of welding should be maintained in order to avoid metal deformation by overheating.
3. 2 hour drying process is required (300-350℃) before use.
The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

Welding Positions:



JQ.MH00Cr21Ni10 »

GB/T 17854 F308L-H00Cr21Ni10
AWS A5.9 ER308L

Introduction: The main component of JQ.MH0Cr21Ni10 is ultra-low carbon 18Cr-8Ni. Using with Stainless steel alkaline fluxJQ.SJ601, the deposited metal has good mechanical properties. Good intergranular corrosion resistance, anti cracking performance. Corrosion resistance is more excellent because it contains low carbon.

Uses: It is widely used in petrochemical and other industries. Like 022Cr19Ni10 (SUS 304L) and other materials of welding.

Mechanical Properties of Deposited Metal

Test Item	R_m(N/mm^2)	A (%)	Flux
Guarantee Value	≥480	≥25	JQ.SJ601
General Result	568	35	JQ.SJ601

Reference Current (AC or DC+)

Diameter (mm)	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Welding Current (Amps)	400~500	450~550	500~600	550~650

Chemical Composition (%)

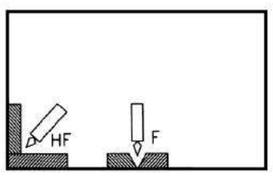
Chemical Composition	C	Mn	Si	Cr	P	Ni	S
Guarantee Value	≤0.03	1.00~2.50	≤0.60	19.50~22.00	≤0.030	9.00~11.00	≤0.020
General Result	0.027	1.75	0.57	20.27	0.023	9.56	0.010

Deposited Metal (Flux JQ.SJ601) Chemical Composition (%)

Chemical Composition	C	Mn	Si	Cr	P	Ni	S
Guarantee Value	≤0.04	0.50~2.50	≤1.00	18.00~21.00	≤0.040	9.00~11.00	≤0.030
General Result	0.031	1.62	0.57	19.69	0.016	10.32	0.009

Note:
1. Recommendation temperature on welding bead around 150 ℃.
2. Operator should strictly follow with operation specification. Amps and speed of welding should be maintained in order to avoid metal deformation by overheating.
3. 2 hour drying process is required (300-350℃) before use.
The above suggestions are for reference purpose. Evaluate and determine the situation of the scene before starting the wielding process.

Welding Positions:



SINTERED FLUX

JQ.SJ101G »

GB F5A4-H08MnNiTiB
AWS F6A4-EM12

Introduction: JQ.SJ101G is a special sintered flux for the purpose of the spiral welded pipe with fluorine alkali type. The alkalinity is 1.8. It is a light grey color circular particles and the size is 2 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties; it has high welding speed, stable arc, easy slag removal, beautiful weld appearance. Applying special process welding metallurgical reaction is extremely good, deposited metal is pure, and in low temperature toughness impact is higher. AC / DC both can be applied. Connect the wire to positive end while using DC.

Uses: working with the proper welding wires such as, H08MnMoTiB, H08MnNiTiB, it can be used for welding oil pipelines, transmission gas pipeline and spiral welded pipes. H08MnMoTiB welding wire is especially suitable for welding×65, ×70 glass spiral welded pipe and the welding speed can be over 70km/h

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	19	32.2	24.1	24.5	0.025	0.028

Mechanical Properties of Deposited Metal
(In accordance with GB/T 5293 -1999 F5A4-H08MnNiTiB)

Test Item	Rm(N/mm^2)	R_{el}/$R_{po.2}$(N/mm^2)	A (%)	KV_2(J)-40℃
Guarantee Value	480~650	≧400	≧22	≧27

Note:
1.The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2.The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ101C »

GB F5A2-H10Mn2

Introduction: JQ.SJ101C is a fluoride alkali type sintered flux that is used for marine. The alkalinity is about 1.8, it is a Grey color circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, stable arc, easy slag removal, beautiful weld appearance, in low temperature toughness impact is higher. AC / DC both can be applied. Connect the wire to positive while using DC.

Uses: working with the proper welding wires such as, H08MnA, H10Mn2 etc, it can be used to weld the hull structure, pressure vessel, pipe and other important structures.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≤0.060	≤0.080
General Result	18.8	32.5	25.1	23.4	0.026	0.021

Mechanical Properties of Deposited Metal (In accordance with GB/T 5293 -1999 F5A4-H08MnNiTiB)

Welding Wire \ Test Item		Rm(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV2(J)-20℃
H08MnA	Guarantee Value	490~660	≥375	≥22	≥34
	General Result	510	395	33	126
H10Mn2	Guarantee Value	490~650	≥375	≥22	≥34
	General Result	560	430	32	118

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ101NQ »

TB/T 2374-2008

Introduction: JQ.SJ101NQ is a fluoride alkali type sintered flux. The alkalinity is about 2.1, it is a Grey color circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). It is the sintered flux which is special for the 550~600N/mm2 railway grade vehicles with high strength atmospheric corrosion resistant steel. It provides stable arc, easy slag detachability, beautiful welds appearance and its low temperature impact toughness is higher. AC / DC both can be applied. Connect the wire to positive end while using DC.

Uses: working with the JQ.TH550-N1-Ⅲ welding wire, it can be used for containers, railway vehicles and other corrosion resistance welding.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≤0.060	≤0.080
General Result	17.6	35.5	23.2	23.5	0.028	0.027

Mechanical Properties of Deposited Metal (In accordance with TB/T2374-2008)

Welding Wire \ Test Item		Rm(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV2(J)-20℃
TH550-NQ-Ⅲ	Guarantee Value	≥550	≥450	≥22	≥60
	General Result	575	460	29.5	142

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ101Q »

GB F5A4-H08Mn2E

Introduction: JQ.SJ101Q is a fluoride alkali type highly sintered flux. The alkalinity is about 3.2, it is a circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, easy slag detachability in the groove, beautiful appearance, in low temperature toughness impact is higher. It is suitable for DC welding. Connect the wire to positive end while using DC.

Uses: This flux is special used for welding bridge. Working with proper welding wires (such as H08MnE, H08Mn2E, H08Mn2R, CJQ-1, and H60Q) it can be used for welding variety of low-alloy bridge, pressure vessel etc.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	15.8	43.4	18.5	22	0.030	0.030

Mechanical Properties of Deposited Metal

Welding Wire \ Test Item		Rm(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV2(J)-20℃
H08MnE	Guarantee Value	415~550	≥330	≥22	≥34(-20℃)
	General Result	470	380	37	190(-20℃)
H08Mn2E	Guarantee Value	480~650	≥400	≥22	≥34(-40℃)
	General Result	560	450	28.5	174(-40℃)
H08Mn2R	Guarantee Value	480~650	≥400	≥22	≥34(-40℃)
	General Result	580	470	32.5	117(-40℃)
CJQ-1	Guarantee Value	480~650	≥400	≥22	≥34(-40℃)
	General Result	600	529	29	138(-40℃)
H60-Q	Guarantee Value	≥590	≥490	≥17	≥47(-40℃)
	General Result	685	580	25.5	96(-40℃)

JQ.SJ101D »

GB F4A2-H08MnA
AWS F6A0-EM12

Introduction: JQ.SJ101D is a fluoride alkali type sintered flux. The alkalinity is about 2.2, it is a Grey circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). Its properties are such as; Stable arc, easy slag removal, beautiful appearance; in low temperature toughness impact is higher. Connect the wire to positive end while using DC.

Uses: working with the proper welding wires (such as H08MnA, H10Mn2, H08MnMoA, H08Mn2MoA) it can be used for welding variety of low-alloy structure steel, such as hull, boiler pressure vessel, pipelines etc. In particular it is suitable for welding in narrow gap and backing weld with excellent slag remove performance.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	19.1	43.5	20.3	22.0	0.018	0.023

Mechanical Properties of Deposited Metal
(In accordance with GB/T5293-1999)

Welding Wire \ Test Item		Rm(N/mm²)	$R_{el}/R_{po.2}$(N/mm²)	A (%)	KV_2(J)	
					-20℃	-40℃
H08MnA	Guarantee Value	415~550	≥330	≥22	≥27	—
	General Result	485	360	33	115	—
H10Mn2	Guarantee Value	480~650	≥400	≥22	—	≥27
	General Result	525	425	33	—	115

Note:
1. The welding electrodes should be baked 2 hour at 300~350℃ before welding.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ102Ni »

GB F5A6-H10Mn2
AWS F7A8-EH14

Introduction: JQ.SJ102Ni is a fluoride alkali type highly sintered flux. The alkalinity is about 3.5, it is a light grey color circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, beautiful appearance, in low temperature impact toughness is higher. It is suitable for DC. Connect the wire to positive end while using DC.

Uses: Working with proper welding wires (such as H10Mn2, H08MnMoA, and H08Mn2MoA) it can be used for welding variety of low-alloy steel, higher strength hull structural steel and low temperature pressure vessel.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	16.2	43	17.5	23	0.025	0.023

Mechanical Properties of Deposited Metal

Welding Wire \ Test Item		Rm(N/mm²)	R_{eI}/$R_{po.2}$(N/mm²)	A (%)	KV_2(J)-60℃
H10Mn2	Guarantee Value	480~650	≥400	≥22	≥27
	General Result	580	480	29	76
H08MnMoA	Guarantee Value	550~700	≥470	≥20	≥27

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2 The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ102 »

GB F5A4-H10Mn2
AWS F7A4-EH14

Introduction: JQ.SJ102 is a fluoride alkali type highly sintered flux. The alkalinity is about 3.5, it is a circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, easy slag removal performance is good in groove, beautiful appearance; its low temperature toughness impact is higher. it is suitable for DC. Connect the wire to positive end while using DC.

Uses: Working with proper welding wires (such as H08MnA, H10Mn2, and H08MnMoA) it can be used for welding variety of low-alloy structure steel, steel for pressure vessel. It is used for multi-pass welding, double-sided single pass welding, multi-wire welding as well as submerged welding on narrow gap

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	15.5	43.5	18.8	22	0.033	0.032

Mechanical Properties of Deposited Metal
(In accordance with GB/T5293-1999 GB/T12470-2003)

Welding Wire \ Test Item		Rm(N/mm²)	R_{eI}/$R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
H10Mn2	Guarantee Value	480~650	≥400	≥22	≥27
	General Result	550	450	30	136
H08MnMoA	Guarantee Value	620~760	≥540	≥17	≥27
	General Result	690	585	22	70
H08Mn2MoA	Guarantee Value	690~830	≥610	≥16	≥27
	General Result	790	675	21.5	55

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2 The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ201 »

GB F5A4-H10Mn2
AWS F7A4-EH14

Introduction: JQ.SJ201 is a kind of SJ201 aluminum type sintered flux. The alkalinity is about3.2, it is a dark grey color circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). DC+, Maximum current is 700A, stable arc, beautiful appearance, and excellent slag remove rate. Deposited metal has high impact toughness.

Uses: Working with Ho8MnA, H10Mn2, H08MnMoA, H08Mn2MoA and other welding wires it can be used for welding variety low-alloy steel, especially suitable for welding thin bevel narrow gap of heavy plate.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	15.5	6	42	36	0.033	0.031

Mechanical Properties of Deposited Metal
(In accordance with GB/T5293-1999)

Welding Wire \ Test Item		Rm(N/mm²)	R_{el}/$R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
H10Mn2	Guarantee Value	480~650	≥400	≥22	≥27

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2 The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ102GQ »

GB/T 12470-2003

Introduction: JQ.SJ102GQ is a fluoride alkali type highly sintered flux. The alkalinity is about 3.5, it is a light grey color circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, stable arc, beautiful appearance; high strength deposited metal and in low temperature impact toughness is higher. It is suitable for DC. Connect the wire to positive end while using DC.

Uses: Working with proper welding wires (such as H10Mn2, H08Mn2Mo2, and H08MnMo2) it can be used for welding variety of low-alloy structure steel, higher strength hull structural steel and low temperature pressure vessel.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
Guarantee Value	—	—	—	—	≦0.060	≦0.080
General Result	15.3	43.8	17.5	23	0.026	0.029

Mechanical Properties of Deposited Metal
(In accordance with GB/T12470-2003)

Welding Wire \ Test Item		Rm(N/mm²)	R_{el}/$R_{po.2}$(N/mm²)	A (%)	KV_2(J)-40℃
H08Mn2MoA	Guarantee Value	830~970	≥740	≥14	≥27
	General Result	865	750	15	48

Note:
1. The welding electrodes should be baked 2 hour at 300~350℃ before welding.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ303GS »

GB F4A2-H08A
AWS F6A0-EL8

Introduction: JQ.SJ303GS is a kind of Aluminum-silicon type acid sintered flux, the alkalinity is about1.0. It is a circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, stable arc, easy slag detachability, beautiful appearance; the flux has relatively strong anti-blowhole ability. It is insensitive of rust and high-temperature oxide film under small amount. AC and DC both are applied. Connect the wire to positive end while using DC. Welding speed can reach at 2m/min.

Uses: Welding with proper welding wires (such as H08A, H08MnA, and H08MnMoA) it can be used for welding low carbon steel and low-alloy steel structure such as ship, boiler, pressure vessel, especially suitable for high-speed welding thin plate.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	S	P
Guarantee Value	—	—	—	≦0.060	≦0.080
General Result	40	49	8.8	0.022	0.021

Mechanical Properties of Deposited Metal (In accordance with GB/T5293-1999)

Test Item / Welding Wire	Rm(N/mm²)	$R_{eL}/R_{p0.2}$(N/mm²)	A (%)	KV_2(J)-40℃
H08A	415~550	≥330	≥22	≥27
Example	450	355	29	100

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2 The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

JQ.SJ402 »

GB F5A0-H08A
AWS F7AZ-EL8

Introduction: JQ.SJ402 is a kind of Silicon manganese acid sintered flux, the alkalinity is about3.2, it is a circular particles and the size is 2.0 ~ 0.28mm (10 ~ 60 mesh). With excellent welding technological properties, stable arc, slag detachability, beautiful appearance; the flux is insensitive of rust, oil and oxide film on the work piece when welding. AC and DC both are applied. Connect the wire to positive end while using DC.

Uses: Working with H08MnA welding wires can be used for welding low carbon steel and some low alloy of thin steel plate and medium steel plate. It is used for welding metal structure of locomotive and mining machinery, especially suitable for high-speed welding on thin plate.

Chemical Composition of flux (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	S	P
Guarantee Value	—	—	—	≦0.060	≦0.080
General Result	30.5	10.5	58.5	0.045	0.023

Mechanical Properties of Deposited Metal (In accordance with GB/T12470-2003)

Welding Wire / Test Item		Rm(N/mm²)	$R_{eL}/R_{p0.2}$(N/mm²)	A (%)	KV_2(J)-40℃
H08A	Guarantee Value	480~650	≥400	≥22	≥27
	General Result	520	410	30	73

Note:
1. The welding electrodes should be preheated 2 hour at 300~350℃ before welding.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.

Carbon Steel Electrode

J422 (J40.50) »»

GB/T 5117 E4303

Introduction: J422 is calcium-titanium coated carbon steel electrode. It has very good welding usability that enables it to operate on AC/DC, performs all-position welding, has stable arc, removal of slag is easy and has good bead appearance. Its good mechanical properties give it very good low temperature toughness. During the application, its characteristic of easy maneuverability offers easy striking, easy re-striking and good control of welding speed, which enables the welders to have desired weld path and penetration of the arc.

Uses: It is applied in welding the structures made of low-carbon steel and low alloy structures such as Q235, 09MnV, 09Mn2 and etc.

Mechanical Properties of Deposited Metal

Test Item	R_m(MPa)	R_{eL}(Mpa)	A(%)	KV_2(J) 0℃	
				0°C	-20°C
Guarantee Value	≥430	≥330	≥20	≥27	≥47
General Result	475	390	29.5	97	73

Reference Current (AC/DC)

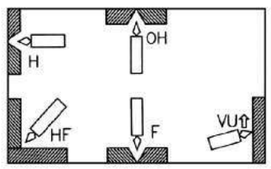
Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40 ~ 70	60 ~ 100	80 ~ 140	140 ~ 220	180 ~ 240

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20
General Result	0.078	0.39	0.18	0.018	0.023	0.020	0.032

Mo	V
≤0.30	≤0.08
0.008	0.005

Welding Positions:



J421X »»

GB/T 5117 E4313
AWS A5.1 E6013

Introduction: J421X is rutile-based carbon steel electrode that is specially designed for downward welding. It has good welding usability that enables it to operate on AC/DC and perform all-position welding, the slag removal is easy and to have a nice bead appearance. Its characteristic of easy operation gives it easy striking and re-striking.

Uses: It is suitable for welding zinc-coated steel plates and carbon steel plates that are used in shipbuilding. It is especially suitable for performing downward welding and intermittent welding on the thin plates. .

Mechanical Properties of Deposited Metal

Test Item	R_m(MPa)	R_{eL}(Mpa)	A(%)	KV_2(J) 0℃
Guarantee Value	≥430	≥330	≥16	—
General Result	485	390	27	76

Reference Current (AC/DC)

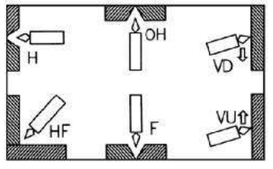
Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40 ~ 70	50 ~ 90	90 ~ 130	130 ~ 210	170 ~ 230

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20
General Result	0.078	0.39	0.18	0.018	0.023	0.020	0.032

Mo	V
≤0.30	≤0.08
0.008	0.007

Welding Positions:



J506Fe18 »»

GB/T E5117 E5028
AWS A5.1 E7028

Introduction: J506Fe18 is a low-hydrogen-potassium-iron-powder coated carbon steel electrode. The iron powder in the coating increases the deposited rate up to 180%. It has very good usability that enables it to have stable arc, low-spatter, removal of slag is easy and performs all-position welding. The deposited metal has good mechanical properties that offer very good low temperature toughness.

Uses: It is applied in flat and flat fillet welding in structures made of carbon steel and low alloy steel such as 16Mn, 09Mn2Si and A, B, D, E steels used in shipbuilding.

Mechanical Properties of Deposited Metal

Test Item	R_m(MPa)	R_{eL}(Mpa)	A(%)	KV_2(J)
				-30°C
Guarantee Value	≥490	≥400	≥20	≥27
General Result	560	450	32	189

Reference Current (AC/DC)

Diameter	Φ4.0	Φ5.0
Amperage	180 ~ 240	210 ~ 280

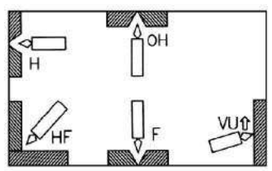
Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.15	≤1.60	≤0.90	≤0.035	≤0.035	≤0.30	≤0.20
General Result	0.087	1.12	0.58	0.012	0.021	0.011	0.028

Mo	V
≤0.30	≤0.08
0.007	0.016

Notes:
1. The electrode must be preheated at the temperature of 350°C for 1 hour. Preheat the rod whenever it is used.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.
3. Short arc is required to perform welding. Narrow weld path is preferred.

Welding Positions:



J506Fe »»

GB/T 5117 E5018
AWS A5.1 E7018

Introduction: J506Fe is a low-hydrogen-potassium-iron-powder coated carbon steel electrode. The iron powder in the coating increases the deposited rate. It has very good usability that enables it to have stable arc, low-spatter, removal of slag is easy and performs all-position welding. The deposited metal has good mechanical properties that offer very good low temperature toughness.

Uses: It is applied in welding structures made of carbon steel and low-alloy steel such as 16Mn.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	R_{el} (N/mm²)	A (%)	KV_2(J) -30°C
Guarantee Value	≥490	≥400	≥20	≥27
General Result	550	455	32	156

Reference Current (DC)

Diameter	Φ2.0	Φ3.2	Φ4.0	Φ5.0
Amperage	60 ~ 100	80 ~ 140	110 ~ 210	160 ~ 230

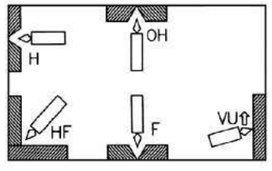
Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.15	≤1.60	≤0.90	≤0.035	≤0.035	≤0.30	≤0.20
General Result	0.077	1.07	0.54	0.005	0.014	0.011	0.028

Mo	V
≤0.30	≤0.08
0.007	0.016

Notes:
1. The electrode must be preheated at the temperature of 350°C for 1 hour. Preheat the rod whenever it is used.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.
3. Short arc is required to perform welding. Narrow weld path is preferred.

Welding Positions:



J507 (J48.57) »

GB/T 5117 E5015
AWS A5.1 E7015

Introduction: J507 is low-hydrogen sodium coated carbon steel electrode. It must be operated on DCEP. It has very good welding usability that enables it to perform all-position welding, has stable arc, removal of slag is easy and has low spatter. The deposited metal has good mechanical performance and crack-resistance, which offers good low temperature toughness.

Uses: It is applied in welding medium-carbon steel and low-alloy structures such as 16Mn, 09Mn2Si, 09Mn2V and the steels used in shipbuilding such as A, B, D, E. It is also used in thick steel plates and the carbon steel structures that are difficult to weld.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	R_{el} (N/mm²)	A (%)	KV2(J)	
				-27°C	-30°C
Guarantee Value	≥490	≥400	≥20	≥47	≥27
General Result	560	450	32	150	142

Reference Current (AC/DC)

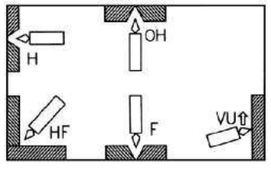
Diameter	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	60 ~ 100	80 ~ 140	110 ~ 210	160 ~ 230

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.15	≤1.60	≤0.90	≤0.035	≤0.035	≤0.30	≤0.20
General Result	0.087	1.12	0.58	0.012	0.021	0.011	0.028

Mo	V
≤0.30	≤0.08
0.007	0.016

Welding Positions:



Notes:
1. The electrode must be preheated at the temperature of 350°C for 1 hour. Preheat the rod whenever it is used.
2. The impurities such as rust, oil stains and moisture must be cleared off of the work piece.
3. Short arc is required to perform welding. Narrow weld path is preferred.

Stainless Steel Electrode A002 »

GB/T 983 E308L-16
AWS A5.4 E308L-16

Introduction: A002 is a kind of Titanium calcium type coating with ultra-low carbon Cr19Ni10 stainless steel electrode. Carbon content of deposited metal is less than or equal to 0.04%. The intergranular corrosion resistance is good. Excellent welding performance and heat resistance, high strength coating, the porosity resistance is good. AC/DC both can be applied.

Uses: Used for welding ultra-low-carbon Cr19Ni10 stainless steel structures, and also used for 06Cr18Ni11Ti corrosion-resistant stainless steel structures whose working temperature is lower than 300°C. Mainly used in the manufacture of synthetic fiber, chemical fertilizer, oil and other equipments

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≧510	≧30
General Result	580	45

Reference CURRENT (AC OR DC+)

Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40~80	50~100	70~130	100~160	140～200

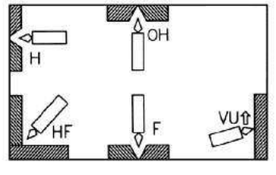
Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≤0.04	0.50 ~ 2.50	≤1.00	≤0.030	≤0.040	18.0-21.0	9.0-12.0
General Result	0.024	1.30	0.62	0.008	0.020	19.90	9.80

Mo	Cu
≤0.75	≤0.75
0.040	0.035

Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

Welding Positions:



A022 »

GB/T 983 E316L-16
AWS A5.4 E316L-16

Introduction: A022 is a kind of titanium calcium type coating with ultra-low carbon Cr18Ni12Mo3 stainless steel electrode. Carbon content of deposited metal is less than or equal to 0.04%. It has excellent heat resistance, the corrosion resistance, the crack resistance and the porosity resistance. Good operation performance and high strength coating. AC/DC both can be applied.

Uses: Used for welding of synthetic fiber and other equipments and the same type of stainless steel structure, In addition, it is applied to weld the steel that cannot be processed with thermal treatment, such as chromium stainless steel, clad steel, dissimilar steel, etc.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≧490	≧25
General Result	570	46

Reference CURRENT (AC OR DC+)

Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40~80	50~100	70~130	100~160	140～200

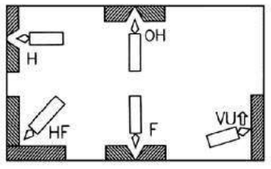
Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≤0.04	0.50 ~ 2.50	≤1.00	≤0.030	≤0.040	17.0-20.0	11.0-14.0
General Result	0.024	1.30	0.62	0.008	0.020	19.05	11.60

Mo	Cu
2.0-3.0	≤0.75
2.45	0.035

Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

Welding Positions:



A102 »

GB/T 983 E308-16
AWS A5.4 E308-16

Introduction: A102 is a kind of titanium calcium type coating Cr19Ni10 stainless steel electrode. The deposited metal has good mechanical properties and intergranular corrosion resistance. It has good welding performance and porosity resistance. Heat resistance coating and crack resistance. AC/DC both can be applied.

Uses: Used for welding the corrosion resistant stainless steel structure, such as 06Cr19Ni10 and 06Cr18Ni11Ti and their working temperature should be below 300℃.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≧550	≧30
General Result	590	45

Reference Current (DC)

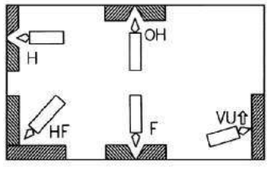
Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40~80	50~100	70~130	100~160	140～200

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≦0.08	0.50~2.50	≦1.00	≦0.030	≦0.040	18.0~21.0	9.0~11.0
General Result	0.038	1.35	0.68	0.008	0.022	19.75	9.60

Mo	Cu
≦0.75	≦0.75
0.064	0.10

Welding Positions:



Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

A132 »

GB/T983 E347-16
AWS A5.4 E347-16

Introduction: A132 is a kind of titanium calcium type coating Cr19Ni10Nb which contains the Nb stabilizing property. It has good mechanical properties and intergranular corrosion resistance. Good welding performance and porosity resistance. Heat resistance coating and crack resistance. AC/DC both can be applied.

Uses: Used for welding important corrosion resistant stainless steel this contains stable Ti such as 06Cr18Ni11Ti.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≧520	≧25
General Result	630	41

Reference Current (AC OR DC+)

Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40~80	50~100	70~130	100~160	140～200

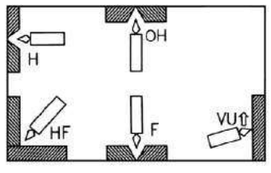
Chemical Composition of Deposited Metal (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≦0.08	0.50~2.50	≦1.00	≦0.030	≦0.040	18.0~21.0	9.0~11.0
General Result	0.045	1.68	0.75	0.008	0.021	19.80	9.65

Mo	Cu	Nb+Ta
≦0.75	≦0.75	8×C~1.00
0.066	0.105	0.45

Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

Welding Positions:



A202 »

GB/T 983 E316-16
AWS A5.4 E316-16

Introduction: A202 is a, calcium-titanium coated, Cr18Ni12Mo2 stainless steel electrode. Mo in the deposited metal offers good corrosion-resistance, heat-resistance and crack-resistance. It is especially tough fighting the corrosion caused by fluorine. The electrode can work on AC/DC.

Uses: It is used in welding the 06Cr17Ni12Mo2 stainless steel that is applied in the media of organic acid and inorganic acid.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≥520	≥25
General Result	590	40

Reference Current (AC/DC+)

Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40 ~ 80	50 - 100	70 ~ 130	100 ~ 160	140 ~ 200

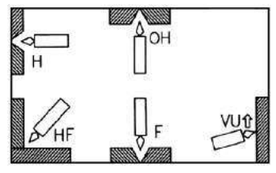
Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≤0.08	0.50 ~ 2.50	≤1.00	≤0.030	≤0.040	17.0 ~ 20.0	11.0 ~ 14.0
General Result	0.045	1.40	0.65	0.009	0.022	19.35	12.40

Mo	Cu
2.0 ~ 3.0b	≤0.75
2.52	0.10

Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

Welding Positions:



A302 »

GB/T 983 E309-16
AWSA5.4 E309-16

Introduction: A302 is a, calcium-titanium coated, Cr23Ni13 stainless steel electrode. The deposited metal has good crack-resistance and oxidation resistance. The electrode can operate on AC/DC. It is easy to operate.

Uses: It is used in similar type stainless steel, dissimilar stainless steel and high chromium steel and high manganese steel.

Mechanical Properties of Deposited Metal

Test Item	R_m (N/mm²)	A (%)
Guarantee Value	≥550	≥25
General Result	595	40

Reference Current (AC/DC+)

Diameter	Φ2.0	Φ2.5	Φ3.2	Φ4.0	Φ5.0
Amperage	40 - 80	50 -100	70-130	100-160	140-200

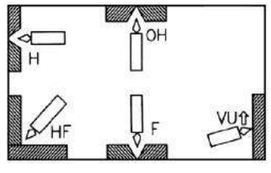
Chemical Composition of Deposited Metal (%)

Chemical Composition	C	Mn	Si	S	P	Cr	Ni
Guarantee Value	≤0.15	0.50 ~ 2.50	≤1.00	≤0.030	≤0.040	22.0 ~ 25.0	12.0 ~ 14.0
General Result	0.055	1.45	0.70	0.009	0.021	24.25	12.75

Mo	Cu
≤0.75	≤0.75
0.035	0.10

Notes:
1.The electrode must be preheated at the temperature of 300°C for 1 hour. Preheat the rod whenever it is used
2.Preferred DC power supply, electric current should not be high.

Welding Positions:



Sintered Flux
JQ.SJ301 »

AWS F6A0-EL8
F7A0-EM12

Introduction: JQ.SJ301 flux is a kind of calcium-titanium sintered flux, with basicity of 1.0. The granular shape is round; size 2.0 ~ 0.28mm (10-60 mesh); color black. It has very good welding usability that enables it to have stable arc, the removal of slag is easy, and the bead appearance is nice. It is especially suitable for welding all kinds of round seam. The flux can be operated on DC/AC. The wires should be connected to the positive terminal when the welding machine is set to DC current.

Uses: Working with the right welding wires (H08A, H08MnA, and H08MnMoA) can weld ordinary structural steel and the steels that are used in boilers, pipelines.

Mechanical Properties of Deposited Metal

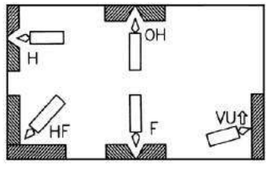
Test Item		R_m(N/mm²)	R_{el}(N/mm²)	A(%)	KV2(J)-20°C
H08MnA	Guarantee Value	415 ~ 550	≥330	≥22	≥27
	General Result	485	380	32	32
H10Mn2	Guarantee Value	415 ~ 550	≥330	≥22	≥22
	General Result	500	400	32	32

Chemical Composition (%)

Chemical Composition	SiO+TiO	CaO+MgO	AlO+MnO	CaF	S	P
Guarantee Value	----	----	----	----	≤0.060	≤0.080
General Result	29.5	24	28.5	17.7	0.031	0.038

Notes:
1. Flux must be baked at 300°C ~ 350°C for 2 hours
2. Impurities such as rust, oil stain and moist should be cleared before welding.

Welding Positions:



JQ.SJ101 »»

AWS F6A0-EM12
F7A4-EH14

Introduction: SJ101 flux is a kind of fluoric-alkali sintered flux, with basicity of 1.8 and the grey rounded grain size of 2.0-0.28mm (10-60 meshes). During application, the arc is stable, and the removal of slag is easy. Welding bead is nice. The deposited metal has good low temperature toughness. The wires can work on AC/DC and must connect to the positive terminal on DC current while using DC.

Uses: Working with the proper welding wires (H08MnA, H10Mn2, H08MnMoA, and H08Mn2MoA) can weld multiple kinds of alloy steel structures such as ship body, pressure vessel, boiler, pipeline etc.

Mechanical Properties of Deposited Metal

Test Item		R_m(N/mm²)	R_{el}(N/mm²)	A(%)	KV2(J)	
					-20°C	-40°C
H08MnA	Guarantee Value	415 ~ 550	≥330	≥22	≥27	----
	General Result	500	385	35.5	128	----
H10Mn2	Guarantee Value	480 ~ 650	≥400	≥22	----	≥27
	General Result	535	425	32	----	132
H08MnMoA	Guarantee Value	550 ~ 650	≥470	≥20	≥27	----
	General Result	575	495	22	129	----
H08Mn2MoA	Guarantee Value	690 ~ 830	≥610	≥16	≥27	----
	General Result	765	635	30	66	----

Chemical Composition (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF	S	P
Guarantee Value	----	----	----	----	≤0.060	≤0.080
General Result	19.2	33.5	24.0	22.8	0.031	0.025

Notes:
1. Flux must be baked at 300°C ~ 350°C for 2 hours
2. Impurities such as rust, oil stain and moist should be cleared before welding.

JQ.SJ501 »»

GB F4A0 - H08A
AWS F6AZ-EL8

Introduction: JQ. SJ501 flux is a kind of titanium-aluminum acetic sintered flux, with basicity of 0.5 ~ 0.8. The granular shape is round; size 2.0 ~ 0.28mm (10-60 mesh); color grey. During application, the arc is stable and the removal of slag is easy. The welding bead is nice. The flux has strong resistance to porosity and can still perform well even if there is some rust or other oxides on the work piece. The flux can operate on DC/AC. The wires should be connected to the positive terminal when the welding machine is set to DC current.

Uses: Working with proper welding wires (H08MnA, H10Mn2, H08MnMoA, and H08Mn2MoA) can weld the structures made of low-carbon steel and low alloy-steel such as ship, boiler, pressure vessel; the flux working with proper wires can perform very well in the situation that requires high-speed welding on the thin steel plates.

Mechanical Properties of Deposited Metal

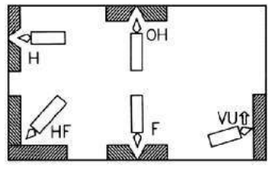
Test Item		R_m(N/mm²)	R_{el}(N/mm²)	A(%)	KV2(J)	
					-20°C	-40°C
H08MnA	Guarantee Value	----	----	----	≤0.060	≤0.080
	General Result	30	59	8.8	0.039	0.041

Chemical Composition (%)

Chemical Composition	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	S	P
Guarantee Value	----	----	----	≤0.060	≤0.080
General Result	30	59	8.8	0.039	0.041

Notes:
1. Flux must be baked at 300°C ~ 350°C for 2 hours
2. Impurities such as rust, oil stain and moist should be cleared before welding.

Welding Positions:



Premiere

J38.10

GB/T 5117 E4313
AWS A5.1 E6013
ISO 2560-B-E4313A

Introduction: J38.10 is a rutile coating carbon steel welding electrode.AC/DC dual use,all-position welding.Good operating performance,easy ignition and re-ignition,stable arc and beautiful appearance of weld,easy slag removal.

Uses: For welding low carbon steel,especially suitable for welding on thin plates and which requires require the weld surface appearance and smooth cover layers.

Mechanical Properties of Deposited Metal

Test Item		R_m(N/mm²)	R_{el}(N/mm²)	A(%)	KV2(J)0°C
H08MnA	Guarantee Value	≥430	≥330	≥16	------
	General Result	485	390	27	76

Reference Current (AC,DC)

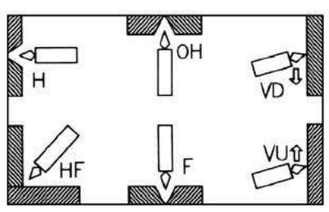
Diameter	Φ2.5	Φ3.0	Φ3.2	Φ4.0	Φ5.0
Amperage	50-100	90-130	90-130	150-210	170-230

Chemical Composition (%)

Chemical Composition	C	Mn	Si	S	P	Ni	Cr
Guarantee Value	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.20	≤0.30
General Result	0.080	0.30	0.20	0.014	0.022	0.018	0.026

Mo	V
≤0.30	≤0.08
0.008	0.007

Premiere



APPROVAL

中国船级社质量认证公司
CHINA CLASSIFICATION SOCIETY CERTIFICATION COMPANY
质量管理体系认证证书
QUALITY MANAGEMENT SYSTEM CERTIFICATE

编号：No. 00513Q20882R5L

兹证明

天津市金桥焊材集团有限公司
（注册地址：天津开发区铁东路金桥区，邮编：300457）
（生产地址：天津市滨海开发区六经路一号，邮编：300390）
（大港焊剂厂地址：天津市大港油田作业一区东二环南）

This is to certify that the Quality Management System (QMS) of

TIANJIN GOLDEN BRIDGE WELDING MATERIALS GROUP CO., LTD.
(Registered Add: STOBE HOUSE AREA, TIE DONG ROAD, TEDA, TIANJIN, 300457, P.R.CHINA)
(Production Add: No.1 LIQING ROAD, DONGLI DEVELOPMENT AREA, TIANJIN, 300390, P.R.CHINA)
(Dagang Welding Flux Factory Add: BESIDES EAST SECOND STATION, OPERATION DISTRICT 1, DAGANG OILFIELD AREA, TIANJIN, P.R.CHINA)

建立的质量管理体系符合标准：GB/T 19001-2008 / ISO 9001:2008.
has been found to conform to standard GB/T 19001-2008 / ISO 9001:2008.

本证书下述范围的质量管理体系有效：*电焊条、焊丝、焊剂、埋弧焊合金粉的设计开发、生产和服务*。
This certificate is valid to the following scope for QMS: *DESIGN, PRODUCTION AND SERVICE OF WELDING ELECTRODES, WELDING WIRE, WELDING FLUX AND FLUX FOR ECLECTRODE*.

本证书有效期至：2016 年 6 月 10 日。
This certificate is valid until 10 June 2016.

注：见附件一、二。Remarks: See Attachment 1, 2.

颁证日期：2013 年 6 月 26 日
Released on 26 June 2013

总经理：
General Manager Huang Shiyuan

QMS IAF CNAS

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