WELDING CONSUMABLES &FLUX

WELDING CONSUMABLES

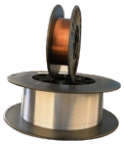
FOR MMA WELDING

WELDING ELECTRODES

E6010	E6011	E6013	E6016	E7016	E7018	E4047
E308L–16	E309L–16	E309–16	E310–16	E316L–16	E316–16	E347–16
ENi–C1	Stellite1	Stellite 6	Stellite 12	Stellite 21	Stellite 25	

GOUGING CARBON RODS (Refer to page 08)

FOR MIG WELDING



MIG WIRE

ER70S–6	ER49–1	ER4043	ER4047	ER5356	ER5556	ER5183
ER1100	ER308	ER308L	ER308LSi	ER309	ER309L	ER309LSi
ER316	ER316L	ER316LSi	ERCuSi–A	ERCuAl–A1	ERCuAl–A2	ERCuAl–A3
ERCuSn–A	ERCuNiAl	E71T–1	E71T–GS	E71T–11		

FOR SUBMERGED ARC WELDING

EL8 EL12 EM12 EM12K

FOR TIG WELDING

TIG RODS

ER70S–3	ER70S–6	ER4043	ER4047	ER5356	ER5556	ER5183
ER1100	ER308	ER308L	ER308LSi	ER309	ER309L	ER309LSi
ER316	ER316L	ER316LSi	Stellite1	Stellite 4	Stellite 6	Stellite 7
Stellite 8	Stellite 12	Stellite19	Stellite20	Stellite 21	Stellite25	Stellite 31
Stellite F	Stellite 107	Deloro22	Deloro 40	Deloro 50	Deloro6325	Deloro 60
Delcrome 90	Delcrome 94					

TUNGSTEN RODS (L: 150mm/175mm Dia: 1.0/1.2/1.6/2.0/2.4/3.0/3.2/4.0/4.8)

WT20	WT10	WT30	WT40	WL10	WL15	WL20
WZ3	WZ8	WY20	WS2	WC20	WP	

FOR BRAZING WELDING

BRAZING ALLOY

BCu–2	BCup–3	BCup–5	BCup–6	BAg–1	BAg–1a	BAg–2	BAg–2a
BAg–4	BAg–5	BAg–6	BAg–7	BAg–20	BAg–24	BAg–27	BAg–35
BAg–36	BAg–37	HS–221					

FOR BRAZING WELDING

Reference		Standard		Form	Compatible Filler Metal	Compatible Parenting Metal	Working Temperature ℃	Feature
		EN 1045	AWS A5.31					
Silver Brazing Flux	FB101	FH10	FB3-A	Powder, Paste, Slurry, Liquid, Dispensable Paste	AgCuZn,AgCuZnCd, AgCuP,etc.	Copper,Brass,Steel,Stainless Steel,Carbide	565–870	Flux with many subclasses with universal application,specially developed for brazing alloys with wide melting range.The residual is not or low corrosive
	FB102	FH11					565–870	Similar to FB101.The residual needs to be removed after brazing.
	FB103		FB4-A			Copper,Brass,Aluminum Bronze,Steel,Stainless Steel,Carbide	595–870	Flux similar to FB102.It is specially desined for base metal with aluminum content up to 9%
	FB104		FB3-C			Steel,Stainless Steel,Carbide	565–870	Flux similar to FB101,the different it that Fb104 has a typical PH of 8.5.
	FB105		FB3-D		AgCu,AgCuNi,AgNi, CuZn,CuMN.NiCrSiB,etc	Copper,Steel,Stainless Steel, Carbide	760–1205	Flux with big temperature range,especially for high temperature brazing,It works very well with carbide tools.
Copper Brazing Flux	FB301	FB21	FB3-D	Powder, Paste, Dispensable Paste	CuZn,CuMN.NiCrSiB,etc	Copper,Steel, Carbide	850–1100	Specialty designed to use with copper alloy or nickel alloys filler metal under high temeprature to joint based metal of Steel and stainless steel.
	FB306						850–1100	Similar to FB301, with higher activity and specialty for base metal of carbide.
	FB308	FH11	FB3-A		AgCuZn,AgCuZnCd, AgCuP,etc.	Copper,Brass,Steel,Stainless Steel	565–925	Flux work with most of silver brazing filler metal. It is similar to FB101 but less aggressive and more fluid. The reidual is not corrosive.It works well specially for HVAC industry.
Water Soluable Aluminum Brazing Flux	FB201	FL10	FB1-A	Powder, Paste, Dispensable Paste	AlSi, AlSiCu, AlSiZn etc.	Aluminum Alloy, Steel, Stainless Steel	500–615	Chloride brazing flux for aluminum brazing with AlSi alloy filler metal.The residual must be completely removed after brazing with water rinsing.
	FB206				AlSi, AlSiCu, AlSiZn etc.	Aluminum Alloy, Steel, Stainless Steel	480–620	Similar to FB201,but with a wider working temperature range.
	FB208				AlSi, AlSiCu, AlSiZn etc.	Aluminum Alloy, Aluminum-Magnesium, Alloy, Steel, Stainless Steel	480–620	Similar to FB206 with specialty to join brazing aluminum magnesium alloy with magnesium content up to 3.5%.
Non-corrosive Aluminum Brazing Flux	FB501	FL20	FB1-B	Powder, Paste, Slurry, Dispensable Paste	AlSi	Aluminum Alloy, Steel, Stainless Steel	560–620	Non-corrosive,not water soluble,fluoride aluminum brazing flux, which is well known as Nocolok with Solvey.
	FB502				AlSi,AlSiCu,AlSiZn,Mg etc.	Aluminum Alloy, Aluminum-Magnesium, Alloy, Steel, Stainless Steel	450–620	Cesium flux, non-corrosive, water soluble, low melting temperature with high activity.
	FB503				AlSi	Aluminum Alloy, Steel, Stainless Steel	540–620	Similar to FB501,with a little lower temperature.
	FB504				AlSi	Aluminum Alloy, Steel, Stainless Steel	570–620	This flux can react and activate aluminum, for certain circumstances, filler metal is optional if this flux is used.

FOR SUBMERGED ARC WELDING

LJ-SJ101

Conforming to: AWS-A5.17 F7A2-EH14 F7A2-EM12K F7A2-EA2-A2 DIN BFB 165AC12MHP5

Description and application

Semi-Basic,agglomeratcd flux for welding of essential steel in combination with appropriate SAW wire (such as EH14,EA2,EM12K etc.).Weld bead hardly increases Si and Mn,it belongs to metallurgy neutral. It has perfect welding performance,stable arc,good surface, excellent slag removal, high impact toughness at low temperature. The filler metal should be connected to Positive when DC.SJ101 can be used for many applications ranging from boilers to pressure vessel, pipeline and low alloy steel structure.

- Flux type: Fluoride-Basic
- Basicity index: 1.80
- Grain size:2.0-0.28mm(10-60meshes)

Compositions of fluxes(%)

SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
15–25	25–35	20–30	15–25	≤0.06	≤0.06

Typical all weld metal mechanical property

Wire	Yied Stress	Tensile Strength	Elongation	AKV(J)
EH14	≥400Mpa	480-660Mpa	≥22%	≥27/-40℃

Remark

1. Before welding, fluxes should be baked for two hours at 300-350℃.
2. Removal of rust, oil, dirt, water, impurities, etc in welding-areas.

LJ-SJ301

Conforming to: AWS-A5.17 F6A0-EL12 F7A0-EM12K DIN BSC 198AC10SKM

Description and application

Versatile flux for welding of ordinary structural steel and boiler steel in combination with appropriate SAW wire (such as EM12,EM12K and EL8),which can obtain smooth weld bead with flat weld interfaces free from undercut. Steadily arc and easy slag removal, no phenomenon of slag-flow are other special features of LJ-SJ301. It can be applied to the Multi-pass weld and multi-wire weld, especially to weld pipelines in various diameters.

- Flux type: Silicon-Calcium
- Basicity index: 1.0
- Grain size:2.0-0.28mm(10-60meshes)

Compositions of fluxes(%)

SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2	S	P
15–25	15–25	30–40	5–15	≤0.06	≤0.08

Typical all weld metal mechanical property

Wire	Yied Stress	Tensile Strength	Elongation	AKV(J)
EL12	≥330Mpa	415-550Mpa	≥24%	≥50/0℃
EM12K	≥400Mpa	480-650Mpa	≥24%	≥50/0℃

LJ-SJ501

Conforming to: AWS-A5.17 F6A0-EH12 F7A2-EM12K DIN BAR 188AC10KM

Description and application

Agglomerated acid flux for welding of ordinary carbon manganese,low alloy structure and boiler quality steel in combination with appropriate SAW wire (such as EL8,EM12,EM12K). The flux suitable for high speed welding and provides very good weld bead appearance and excellent slag removal even with narrow groove and fillet welds. The other character of LJ-SJ501 is high resistance to cracking and porosity. Especially it is insensitive to oil, rust, scale and dirt on the surface to be welded. Most being applied to double-side with single pass weld and fillet welds. As the consumption of the flux is very low, it is very econmical.

- Flux type: Aluminum-Rutile
- Basicity index: 0.5-0.8
- Grain size:2.0-0.28mm(10-60meshes)

Compositions of fluxes(%)

SiO_2+TiO_2	Al_2O_3+MnO	CaF_2	S	P
25–35	50–60	3–10	≤0.06	≤0.06

Typical all weld metal mechanical property

Wire	Yied Stress	Tensile Strength	Elongation	AKV(J)
EL12	≥330Mpa	415-550Mpa	≥22%	≥27/0℃
EM12K	≥400Mpa	480-650Mpa	≥22%	≥27/0℃

Remark

1. Before welding, fluxes should be baked for two hours at 300-350℃.
2. Removal of rust, oil, dirt, water, impurities, etc in welding-areas.

ZHEJIANG LISSAM WELDING EQUIPMENT CO.,LTD
Http:// www.lissam.com E-mail: lissam@vip.163.com