WELDING WIRES FOR MAG(CO_2) – WELDING

Classification:

EN 440	G4Si1
EN1668	WSG2
DIN 8559	SG - 2
AWMES/AWS A 5.18	ER70S-6

Description and Application:
Solid copper coated welding wire for welding in gas shielding atmospheres. Suitable for welding unalloyed and low alloyed construction steels with tensile strength below 530N/mm^2 like boiler plate, fine–grained steels, pipe steels, shipbuilding steels and cast steels.

Base materials:

Description:	DIN,AISI:	EN:
Unalloyed steels	St 33 to St 60.2	10025
Fine-grained steels	St E 255 to St E 355	-
	W St E 25 to W St E 355	-
Boiler and vessel plate	HI,H II,17Mn4,19Mn5	10028-2
Pipe steels	St 35 to St 52.4	-
	E St E 210.7 to St E 360.7	-
Shipbuilding steels	A,B,D,E	10025
Cast Steel	GS 38 to GS 52	-

Typical Chemical Composition of welding wire(wt.%):

C	Si	Mn	P	S	Cu
0.10	0.80	1.250	<0.025	<0.025	0.50

Mechanical properties of all weld metal(CO_2 – Shielding gas):

Yield strength	>430	N/mm^2
Tensile strength	540	N/mm^2
Elongation	>22	%
Impact energy	>27	J(-18°C)

Suitable shielding gases: CO_2
Polarity: DC+
Wire sizes available : 0,8 ; 1,0 ; 1,2 ; 1,6 (ø mm)
Packing: Welding wires are spooled in plastic spools with precision winding of 15Kgs weight.

E71T-1 FLUX CORED WIRE
AWS A5.20 E71T-1，E71T-GS
GB/T10045-2001 E501T-1

DESCRIPTION

E71T-1 is formulated to deposit x-ray quality welds in flat, vertical up, horizontal, or overhead positions. E71T-1 is designed for welding low carbon and mild steel, structural and pressure vessel grades. E71T-1 flux core ingredients produce a fast freezing slag that facilitates out of position welds. Bead contour is flat to slightly convex. Slag is easy to remove and low spatter provides easy post weld cleaning. Conforms to AWS A5.20 E71T-1 OR E71T-GS.

3.Chemical Composition of Deposited Metal(%)

Item	C	Mn	Si	P	S	Cr	Ni	Mo	V	Cu
Standard	≤0.18	≤1.75	≤0.90	≤0.03	≤0.03	≤0.20	≤0.50	≤0.30	≤0.08	≤0.35

4.Mechanical Properties of Deposited Metal

Item	Yeild Point (MPa)	Tensile Strength(MPa)	Elongation(%)	Test Temp(°C)	Impact Energy	Average (J)
Standard	≥400	≥480	≥20	-20	≥27	

5.Recommended Current (DC+) and Voltage Range

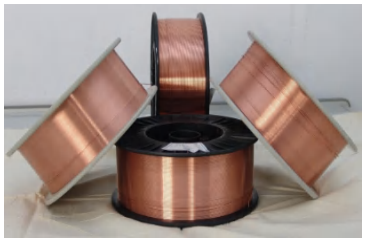
Welding position	1.2 mm			1.6 mm		
	Current Range	Voltage Range	CO_2 Flow	Current Range	Voltage Range	CO_2 Flow
Flat	120~320A	16~34V	15~25 L/Min	180~400A	22~42V	15~25 L/Min
Horizontal	120~280A	16~29V	15~25 L/Min	180~400A	22~42V	15~25 L/Min
Overhead	120~240A	16~28V	15~25 L/Min			
Vertical Up	120~240A	16~27V	15~25 L/Min	180~260A	23~30V	15~25 L/Min
Vertical Down	120~260A	16~29V	15~25 L/Min	180~260A	23~30V	15~25 L/Min

6.Shielding gas :100% CO2

7.Diameter: 0.8mm,0.9mm,1.0mm,1.2mm,1.4mm,1.6mm

8.Packing: Precision layer winding,wrapped with volatile corrosion inhibitor paper, vaccum packed with aluminum foil-bags further packed in seaworthy corrugated carton.

Classification:



EN 440	G4Si1
DIN 8559	SG - 3
ASME/AWS/A5.18	ER70S-3

Description and Application:
Solid copper coated welding wire for welding in gas shielding atmospheres. Slightly higher silicon and manganese alloyed than Euro Tig 2. The higher contains of silicon and manganese increase the yield stress and tensile strength of weld metal. The high silicon content promotes a low sensitivity to surface impurities and contributes to smooth weld. Suitable for welding unalloyed and low alloyed construction steels with tensile strength below 640N/mm^2 like boiler plate, fine–grained steels, pipe steels, shipbuilding steels and cast steels.

Base materials:

Description:	DIN,AISI:	EN:
Unalloyed steels	St 33 to St 60.2	10025
Fine-grained steels	St E 255 to St E 355	-
	W St E 25 to W St E 355	-
Boiler and vessel plate	HI,H II,17Mn4,19Mn5	10028-2
Pipe steels	St 35 to St 52.4	-
	E St E 210.7 to St E 360.7	-
Shipbuilding steels	A,B,D,E	10025

Typical Chemical Composition of welding wire(wt.%):

C	Si	Mn	P	S	Cu
0.10	0.80	1.50	<0.025	<0.025	0.50

Mechanical properties of all weld metal(CO_2 – Shielding gas):

Yield strength	>410	N/mm^2
Tensile strength	490	N/mm^2
Elongation	>20	%
Impact energy	>40	J(-29°C)

Suitable shielding gases:MAG Process: 100% CO_2, Ar + 18% CO_2, Ar + O_2
(C1,M21,M22-M33 according to EN 439)

Polarity: DC+

Wire sizes available :0,8 ;1,0 (ø mm)

Packing: Welding wires are spooled in plastic spools with precision winding of 15Kgs weight.

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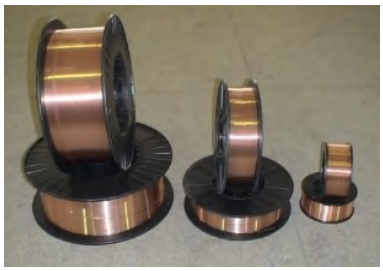
SOLID WELDING WIRE FOR TIG



CODING :

SFA/AWS A5.28 ER 80S-G

CHARACTERISTICS:

TOKO 80SG is a copper coated wire for TIG welding of 1Cr1/2Mo steels.

TYPICAL ALL WELD METAL CHEMICAL COMPOSITION

Element	C	Mn	Si	S	P	Cr	Mo
%	0.12	1.20	0.80	0.025	0.025	1.50	0.60

TYPICAL MECHANICAL PROPERTIES ALL WELD METAL

		min	**Typical TIG**
Tensile Strength	**:**	550N/mm^2	635N/mm^2
0.2% Proof Stress	**:**	470N/mm^2	520N/mm^2
Elongation on 4d	**:**	19%	25%
Impact energy (-10°C**):**		--	>200J
Hardness	**:**	--	220(215)

Wire sizes available : 1.2 ;1.6 ; 2.4 (ø mm)

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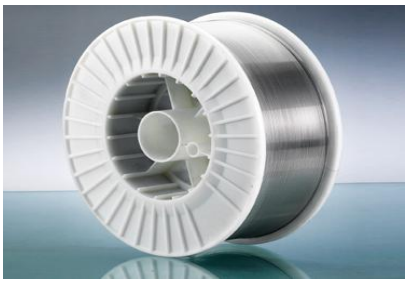
AWS A5.9 ER308L
DIN X2 Cr Ni 19 9
JIS Y 308L



APPLICATIONS:

Tig welding of extra low carbon 18%Cr - 8% Ni Stainless Steel

CHARACTERISTICS ON USAGE:

TOKO TIG 308L is a wire for TIG welding with pure Ar gas. As the weld metal contains ferrite, its crack resistibility is excellent. Both its appearance and usability of weld metal are good. The corrosion resistibility and intergranular corrosion resistibility are extremely excellent. Furthermore, the mechanical properties are good.

TYPICAL COMPOSITION OF ALL-WELD METAL (%)

C	Si	Mn	Ni	Cr
0.020	0.40	1.70	10.00	20.00

TYPICAL MECHANICAL PROPERTIES OF ALL WELD METAL

T S(N/mm^2)	EL (%)	CVN-IMPACT VALUE (J) at 0°C
600	40	100

TYPICAL WELDING CONDITIONS

SIZE(mm)	A	V	Gas flow *l*/min	Remarks
1.2	250	26	25	Sheilding gas
1.6	300	29	25	Ar

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AWS A5.9 ER309L
DIN X2 Cr Ni 22 12
JIS Y 309L

APPLICATIONS:

Tig welding of 22%Cr-12%Ni steel and a variety welding stainless with mild steel. Clad steel side of 18%Cr-8%Ni clad steel.

CHARACTERISTICS ON USAGE:

TOKO TIG 309L is a wire for TIG welding with pure Ar gas. As the weld metal contains ferrite, its crack resistibility is excellent. Furthermore the heat resistibility and corrosion resistibility are extremely good.

TYPICAL COMPOSITION OF ALL-WELD METAL (%)

C	Si	Mn	Ni	Cr
0.03	0.40	1.75	12.50	24.00

TYPICAL MECHANICAL PROPERTIES OF ALL WELD METAL

T S(N/mm^2)	EL (%)	CVN-IMPACT VALUE (J) at 0°C
600	38	150

TYPICAL WELDING CONDITIONS

SIZE(mm)	A	V	Gas flow l/min	Remarks
1.2	280	28	25	Sheilding gas
1.6	330	30	25	Ar

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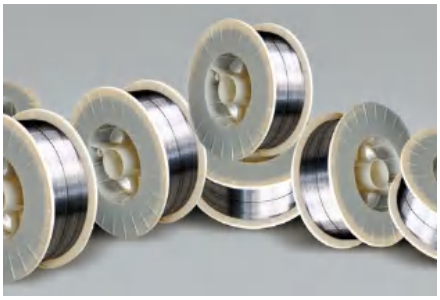
AWS A5.9 ER310
DIN X12 Cr Ni 25 20
JIS Y 310



APPLICATIONS:

Tig welding of 25%Cr -20% Ni Steel

CHARACTERISTICS ON USAGE:

TOKO TIG 310 is a wire for TIG welding with pure Ar gas. The weld metal display all austenite. Its heat resistibility and corrosion resistibility of weld metal are excellent. Elongation of weld metal is extremely good.

TYPICAL COMPOSITION OF ALL-WELD METAL (%)

C	Si	Mn	Ni	Cr
0.09	0.35	1.90	21.00	26.50

TYPICAL MECHANICAL PROPERTIES OF ALL WELD METAL

T S(N/mm^2)	EL (%)	CVN-IMPACT VALUE (J) at 0°C
610	41	110

TYPICAL WELDING CONDITIONS

SIZE(mm)	A	V	Gas flow *l*/min	Remarks
1.2	280	28	25	Sheilding gas
1.6	330	30	25	Ar

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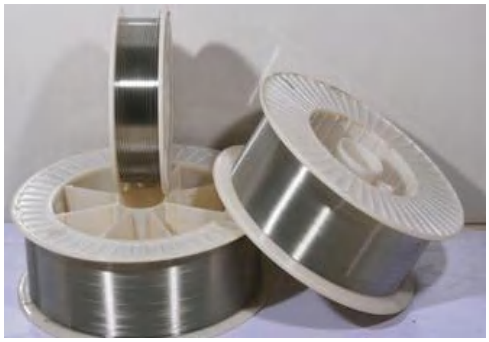
AWS A5.9 ER316L
DIN X5 Cr Ni Mo 19 11
JIS Y 316



APPLICATIONS:

Tig welding of low carbon 18%Cr-12Ni-Mo Steel

CHARACTERISTICS ON USAGE:

TOKO TIG 316L is a wire for TIG welding with pure Ar gas. As the weld metal contains ferrite, its crack resistibility is excellent. Both its appearance and usability of weld metal are good. The heat resistibility and corrosion resistibility of weld metal are extremely good.

TYPICAL COMPOSITION OF ALL-WELD METAL (%)

C	Si	Mn	Ni	Cr	Mo
0.02	0.40	1.85	12.40	18.50	2.30

TYPICAL MECHANICAL PROPERTIES OF ALL WELD METAL

T S(N/mm^2)	EL (%)	CVN-IMPACT VALUE (J) at 0°C
570	44	140

TYPICAL WELDING CONDITIONS

SIZE (mm)	A	V	Gas flow (*l*/min)	Remarks
1.2	290	28	25	Sheilding gas
1.6	340	30	25	Ar

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CLASSIFICATION:

AWS A 5.14 ERNiCu-7

DESCRIPTION AND APPLICATION:

Euro Tig Monel 7 is used for TIG and MIG welding of nickel copper alloys(ASTM B127,B163,B164 and B165 UNS Number No4400). This filler metal can be used for MIG overlay on steel after a first layer with nickel 208(Filler Metal 61). Dissimiliar welding applications include joining nickel copper alloys to Nickel 200 and copper nickel alloys.

CHEMICAL COMPOSITION(WT.%):

C	**Mn**	**Si**	**Fe**	**Al**	**Ti**
0.05	3.45	0.77	0.4	0.1	2.25
Ni	**S**	**P**	**Cu**		
65.2	0.002	0.009	Balance		

MECHANICAL PROPERTIES:

Tensile strength, 76500psi	530Mpa
Elongation	34
Yield Strength 52500psi	360Mpa