HYUNDAI WELDING

Rev. 04

SW-308LT

FLUX CORED ARC WELDING CONSUMABLE FOR WELDING OF EXTRA LOW-CARBON 18% Cr-8% Ni STAINLESS STEEL FOR CRYOGENIC APPLICATIONS

2023.11

HYUNDAI WELDING CO., LTD.

SW-308LT

❖ Specification

AWS A5.22	E308LT1-1/-4
JIS Z3323	TS308L-FB1
EN ISO 17633-A	T19 9 L P M21/C1 2

❖ Applications

SW-308LT is designed for welding of 18%Cr-8%Ni stainless steels.

❖ Characteristics on Usage

SW-308LTis suitable for all position welding makes easier re-arcing, beautiful bead appearance and better slag removability. This wire benefit from a fast freezing slag system which assist the operator when welding out of position and performs equally as well when welding in the flat and horizontal position.

❖ Note on Usage

Use 100% CO_2 gas or Ar+20~25% CO_2 gas

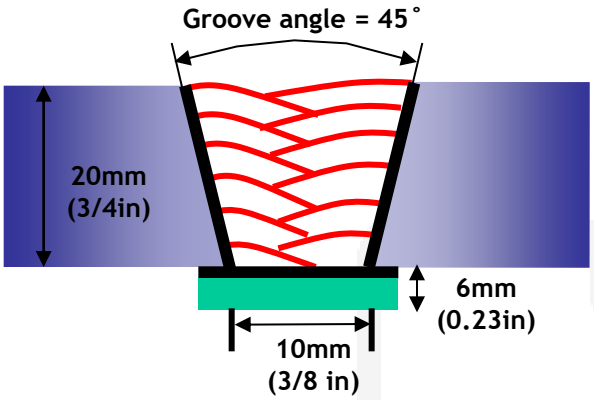
❖ Packing

Diameter	1.2mm (0.045in)			
Spool *including ball pac	5kg (11lbs)	12.5kg (28lbs)	15kg (33lbs)	20kg (44lbs)

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	:	1.2mm(0.045in)
Shielding Gas	:	100% CO2
Flow Rate(ℓ /min.)	:	20~22
Amp./ Volt.	:	210/29
Stick-Out(mm)	:	20(3/4 in)
Pre-Heat(℃)	:	R.T . ℃(°F)
Interpass Temp.(℃)	:	≤150℃(302°F)
Polarity	:	DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN IMPact Test J(ft · lbs)	
	TS (MPa/lbs/in²)	EL (%)	-60℃ (-76°F)	-196℃ (-320°F)
SW-308LT	567(81,215)	48.4	47(26.5)	34(25.1)
AWS A5.22 E308LTX-X	≥520	≥ 35	Not Specified	

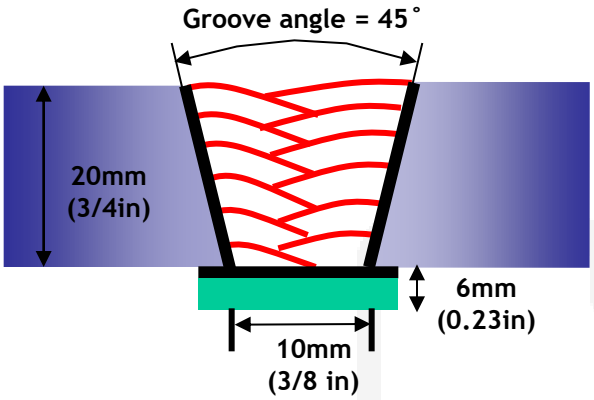
❖ Chemical Analysis of All weld metal(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SW-308LT	100%CO2	0.027	0.65	1.51	0.015	0.009	10.02	18.26	0.03	0.015
AWS A5.22 E308LTX-X		≤0.04	≤1.0	0.5 ~2.5	≤0.04	≤0.03	9.0 ~11.0	18.0 ~21.0	≤ 0.5	≤ 0.5

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	:	1.2mm(0.045in)
Shielding Gas	:	Ar + 20% CO2
Flow Rate(ℓ /min.)	:	20~22
Amp./ Volt.	:	210/29
Stick-Out(mm)	:	20(3/4 in)
Pre-Heat(℃)	:	R.T . ℃(°F)
Interpass Temp.(℃)	:	≤150℃(302°F)
Polarity	:	DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN IMPact Test J(ft · lbs)	
	TS (MPa/lbs/in²)	EL (%)	-60℃ (-76°F)	-196℃ (-320°F)
SW-308LT	573(83,085)	48.4	48(28.0)	36(25.6)
AWS A5.22 E308LTX-X	≥520	≥ 35	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SW-308LT	Ar+ 20% CO2	0.027	0.74	1.59	0.015	0.009	9.88	18.28	0.03	0.018
AWS A5.22 E308LTX-X		≤0.04	≤1.0	0.5 ~2.5	≤0.04	≤0.03	9.0 ~11.0	18.0 ~21.0	≤ 0.5	≤ 0.5

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Bead Appearance

Horizontal Fillet(2F, PB) , Base : STS 304L(6mm,0.23in)	Fillet Vertcal up(3F, PF) , Base : STS 304L(6mm,0.23in)	
		
100% CO2(210A/30V)		
		
Ar+20% CO2(210A/28V)	100% CO2(160A/26V)	Ar+20% CO2(160A/25V)

❖ δ – Ferrite No.

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	Delong	WRC(1992)	
SW-308LT	100% CO2	7.8	9.5	7.0	3~8
	Ar+20% CO2	7.6	9.3	6.8	3~8

Welding Efficiency & Proper Welding Condition

❖ Deposition Rate & Efficiency

Consumable (size)	Shielding Gas	Welding Conditions		Wire Feed Speed m/min (in/min)	Deposition Efficiency(%)	Deposition Rate kg/hr(lb/hr)
		Amp. (A)	Volt. (V)			
1.2mm (0.045 in)	100%CO_2	210	30	12(472)	86~88	4.6(10.1)
	Ar-20%CO_2	210	29	12(472)	87~89	4.8(10.6)
Remark					Deposition efficiency =(Deposited metal weight/Wire weight used)×100	Deposition rate =(Deposited metal weight/Welding time,min.)×60

❖ Proper Current Range

Consumable	Shielding Gas	Welding Position	Wire Dia.
			1.2mm (0.045 in)
SW-308LT	100%CO_2 or Ar-20~25%CO_2	F	160~220Amp
		HF	160~220Amp
		V-Up & OH	140~180Amp