

SW-308LT

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



❖ 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-308LT is suitable for all position welding makes easier re-arc-ing, 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% CO₂ gas or Ar+20~25% CO₂ gas

❖ Packing

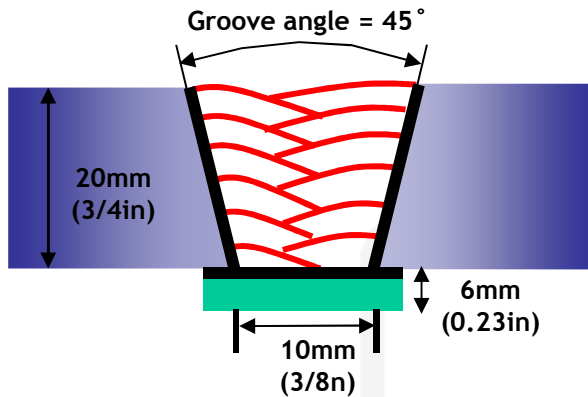
Diameter	1.2mm (0.045in)			
Spool *including ball pac	5kg (11lbs)	12.5kg (28lbs)	15kg (33lbs)	20kg (44lbs)



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm(0.045 in)
Shielding Gas	: 100% CO ₂
Flow Rate(ℓ /min.)	: 20~22
Amp./ Volt.	: 210/29
Stick-Out(mm)	: 20(3/4 in)
Pre-Heat(°C)	: R.T . °C(°F)
Interpass Temp.(°C)	: ≤150°C(302°F)
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact Test J(ft · lbs)	
	TS (Mpa/ksi)	EL (%)	-60°C (-76°F)	-196°C (-320°F)
SW-308LT	567(81)	48.4	36(26.5)	34(25.1)
AWS A5.22 E308LTX-X	≥ 520	≥ 35	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Shieldin g Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SW-308LT	100%CO ₂	0.019	0.76	1.52	0.015	0.010	10.66	18.40	0.02	0.091
AWS A5.22 E308LTX-X		≤0.0 4	≤1. 0	0.5 ~2. 5	≤0.0 4	≤0.0 3	9.0 ~11. 0	18.0 ~21. 0	≤ 0.5	≤ 0.5

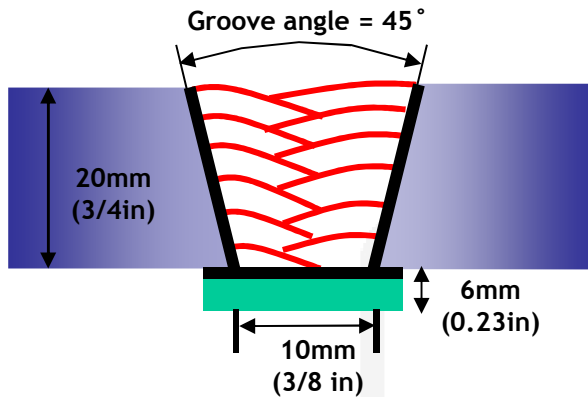
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Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm(0.045in)
Shielding Gas	: Ar + 20% CO ₂
Flow Rate(ℓ /min.)	: 20~22
Amp./ Volt.	: 210/29
Stick-Out(mm)	: 20(3/4 in)
Pre-Heat(°C)	: R.T . °C(°F)
Interpass Temp.(°C)	: ≤150°C(302°F)
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact Test J(ft · lbs)	
	TS (Mpa/ksi)	EL (%)	-60°C (-76°F)	-196°C (-320°F)
SW-308LT	573(83)	48.4	38(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% CO ₂	0.019	0.76	1.52	0.015	0.010	9.66	18.40	0.02	0.081
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

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**Mechanical Properties
& Chemical Composition of All Weld Metal**

❖ **Bead Appearance**

Horizontal Fillet(2F, PB) , Base : STS 304L(6mm,0.23in)		Fillet Vertical 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

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SW-309L Cored

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)
1.6mm (1/16 in)	100%CO ₂	290	33	8.9(350)	86~88	5.5(12.1)
	Ar-20%CO ₂	290	32	8.9(350)	87~89	5.(12.6)
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)	1.6mm (1/16 in)
SW-309L Cored	100%CO ₂ or Ar-20~25%CO ₂	F	160~220Amp	250~290Amp
		HF	160~220Amp	250~290Amp
		V-Up & OH	140~180Amp	-

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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

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