

SW-317L Cored

FLUX CORED ARC WELDING CONSUMABLE
FOR WELDING OF 19% Cr-13% Ni 3% Mo STAINLESS STEEL



SW-317L Cored

❖ Specification

AWS A5.22

E317LT1-1/-4

JIS Z3323

TS317L-FB1

❖ Applications

SW-317L Cored is designed for welding of 19%Cr-13%Ni 3%Mo stainless steels.

❖ Characteristics on Usage

1. SW-317L Cored is suitable for all position welding makes easier re-arc-ing, beautiful bead appearance and better slag removability. Due to ferrite contents in the weld metals austenite structure, it has excellent crack resistance

❖ Note on Usage

Use 100% CO₂ gas or Ar+20~25% CO₂ gas

❖ Packing

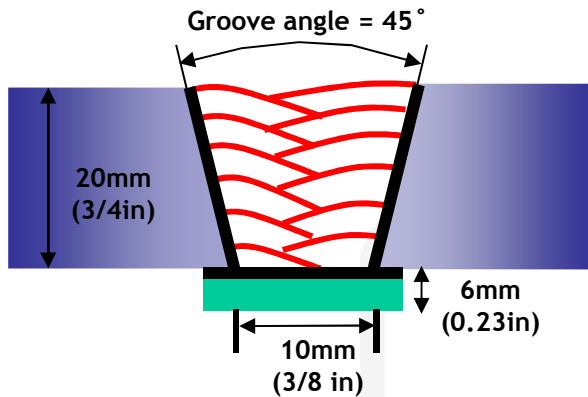
Diameter	1.2mm (0.045in)	1.4 (0.052in)	1.6 (1/16in)	
Spool *including ball pac	5kg (11lbs)	12.5kg (28lbs)	15kg (33lbs)	20kg (44lbs)



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% CO ₂
Flow Rate(ℓ /min.)	: 20~22
Amp./ Volt.	: 210/30
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 (%)	-20°C (-4°F)	-60°C (-76°F)
SW-317L Cored	585(85)	36.8	36(26.5)	32(23.6)
AWS A5.22 E317LTX-X	≥ 520	≥ 20	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SW-317L Cored	100%CO ₂	0.029	0.61	1.45	0.022	0.007	12.40	18.71	3.17	0.07
AWS A5.22 E317LTX-X		≤0.04	≤1.0	0.5~ 2.5	≤0.04	≤0.03	12.0~ 14.0	18.0~ 21.0	3.0~ 4.0	≤0.5

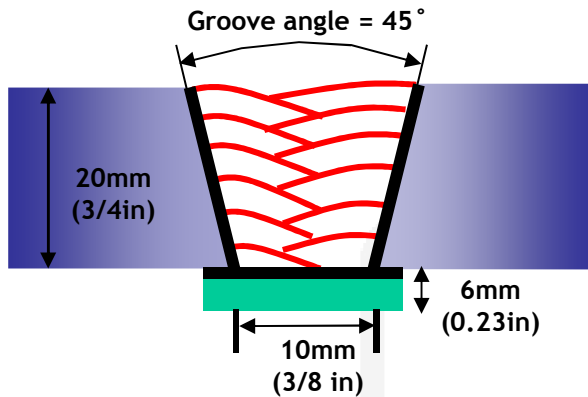
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Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm(0.045in)
Shielding Gas	: Ar+200% 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 (%)	-20°C (-4°F)	-60°C (-76°F)
SW-317L Cored	595(86)	35.4	35(25.8)	31(22.8)
AWS A5.22 E317LTX-X	≥ 520	≥ 20	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)




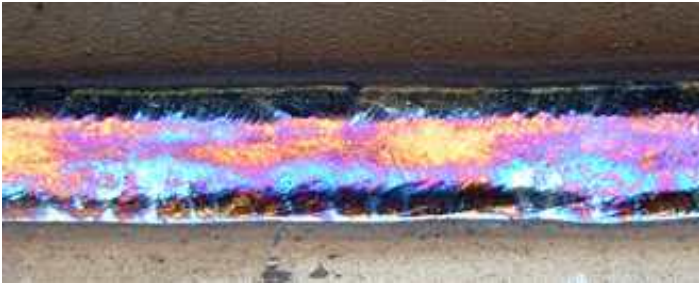
Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SW-317L Cored	Ar+20%CO ₂	0.028	0.67	1.55	0.022	0.007	12.55	18.90	3.25	0.07
AWS A5.22 E317LTX-X		≤0.04	≤1.0	0.5~ 2.5	≤0.04	≤0.03	12.0~ 14.0	18.0~ 21.0	3.0~ 4.0	≤0.5

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

❖ **Bead Appearance**

Horizontal Fillet(2F, PB) , Base : STS 304L(6T)		Fillet Vertical up(3F, PF) , Base : STS 304L(6T)	
			
	100% CO2(220A/30V)		
			
	Ar+ 20% CO2(220A/28V)	100% CO2(160A/25V)	Ar+20% CO2(160A/24V)

❖ **δ – Ferrite No.**

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	Delong	WRC(1992)	
SW-317L Cored	100% CO2	8.0	13.8	9.9	10.9
	Ar+20% CO2	8.4	14.7	10.5	11.2

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SW-317L 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-317L 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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