

SM-316L



❖ Specification

AWS A5.9 ER316L
JIS Z3321 YS316L

❖ Applications

MIG welding of low carbon 18% Cr- 12% Ni - 2% Mo steel for Chemical industries and nuclear reactors.

❖ Characteristics on Usage

SM-316L is an austenitic type stainless steel wire , the weld metal contains ferrite and crack sensitivity is extremely good. The Usability, such as arc stability and assimilability of welds to base metal is extremely excellent. Resistance to corrosion and mechanical properties of weld metal are great.

❖ Note on Usage

Use 100% Ar or Ar + 2~5% O2 gas.

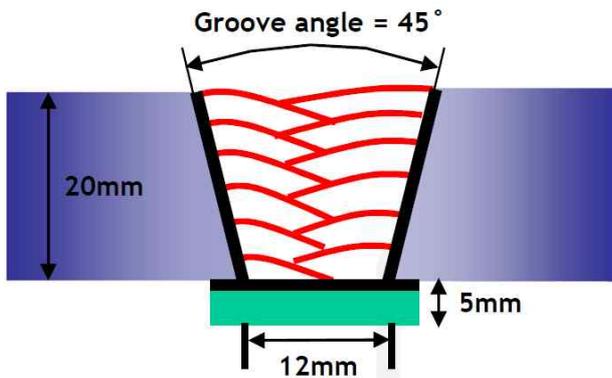
❖ Packing

Dia.	0.8mm (0.033in)	0.9mm (0.035in)	1.0mm (0.040in)	1.2mm (0.045in)
Spool	12.5kg, 15kg (28lbs, 33lbs)			



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm
Shielding Gas	: Ar + 2%O ₂
Flow Rate(ℓ /min.)	: 15~20
Amp./ Volt.	: 230/27
Stick-Out(mm)	: 20
Pre-Heat(°C)	: R.T.
Interpass Temp.(°C)	: 150 ± 15
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact test Joule (ft·lbs)	
	T.S. MPA (lbs/in ²)	EL. (%)	0°C (32°F)	-196°C (-320.8°F)
SM-316L	546~567 (79,191~82,237)	38.2~48.0	84.6~125.0 (62.4~92.2)	33.6~65.0 (24.8~47.9)

❖ Chemical Analysis of the wire(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SM-316L	Ar+ 2% O ₂	0.017	0.46	1.75	0.021	0.010	11.5	18.5	2.17	0.12
AWS A5.9 ER316L		≤0.03	0.30~ 0.65	1.0~ 2.5	≤0.03	≤0.03	11.0~ 14.0	28.0~ 20.0	2.0~ 3.0	≤0.75

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

❖ δ – Ferrite No.

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	Delong	WRC(1992)	
SM-316L	Ar+ 2% O ₂	8.5	12.7	10.9	14.0



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