

# **ST-309L**



## ❖ Specification

<b>AWS A5.9</b>	ER309L
<b>JIS Z3321</b>	YS309L
<b>EN ISO 14343-A</b>	W 12 12 L

## ❖ Applications

ST-309L is designed for welding of low carbon 22% Cr-12% Ni Steel and a dissimilar metals, clad side of 18% Cr-8% Ni steel.

## ❖ Characteristics on Usage

1. SM-309L is a filler rod for TIG welding with pure Ar gas.
2. As the weld metal contains ferrite, its crack resistibility is excellent.
3. Both its bead appearance and weldability are good.
4. Resistance to corrosion and heat is extremely good

## ❖ Note on Usage

Use 100% Ar gas

## ❖ Packing

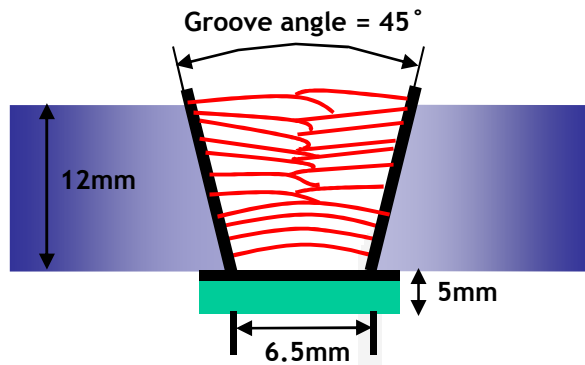
<b>Size(mm)</b>	1.2	1.6	2.0	2.4	3.2
<b>Length(mm)</b>	1000				



## Mechanical Properties & Chemical Composition of All Weld Metal

### ❖ Welding Conditions

Method by AWS Spec.



<b>Diameter(mm)</b>	: 2.4mm
<b>Shielding Gas</b>	: 100% Ar
<b>Flow Rate(ℓ /min.)</b>	: 20~25
<b>Amp./ Volt.</b>	: 160~240
<b>Pre-Heat(℃)</b>	: R.T .
<b>Interpass Temp.(℃)</b>	: 150±15
<b>Polarity</b>	: DC(-)

[ Joint Preparation & Layer Details ]

### ❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact test (Joule)	
	TS(MPa)	EI(%)	-60℃	-196℃
ST-309L	575	43.2	150	46.7

### ❖ Chemical Analysis of the wire(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
ST-309L	100% Ar	0.016	0.45	1.63	0.020	0.001	13.62	23.31	0.098	0.097
<b>AWS A5.9 ER309L</b>		<b>≤0.03</b>	<b>0.30~ 0.65</b>	<b>1.0~ 2.5</b>	<b>≤0.03</b>	<b>≤0.03</b>	<b>12.0~ 14.0</b>	<b>23.0~ 25.0</b>	<b>≤0.75</b>	<b>≤0.75</b>

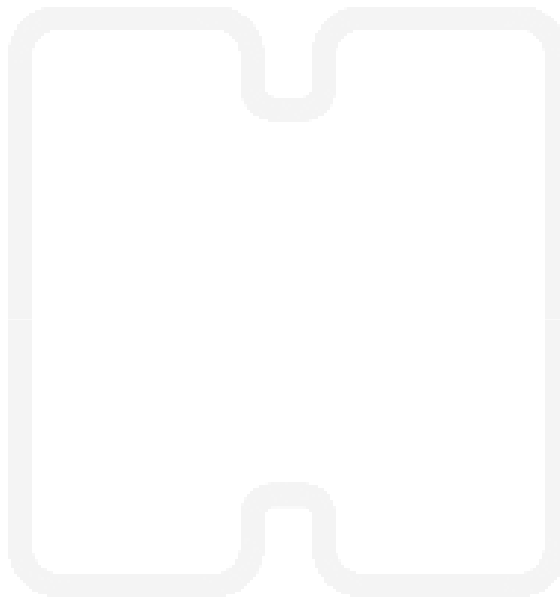
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**Mechanical Properties  
& Chemical Composition of All Weld Metal**

❖ **δ – Ferrite No.**

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	DeLong	WRC(1992)	
ST-309L	100% Ar	9.4	17.8	15.7	12.5



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