

# **ST-308L**

2021.10



## ❖ Specification

<b>AWS A5.9</b>	ER308L
<b>JIS</b>	Z3321 YS308L
<b>EN</b>	ISO 14343-A W 19 9 L

## ❖ Applications

ST-308L is designed for welding of low carbon 18% Cr-8% Ni stainless steel.

## ❖ Characteristics on Usage

ST-308L is a filler rod for TIG welding with pure Ar gas. As the weld metal contains ferrite, its crack resistibility is excellent. Both bead appearance and weldability are good. Furthermore, resistance to corrosion and mechanical properties is good.

## ❖ Note on Usage

Use 100% Ar

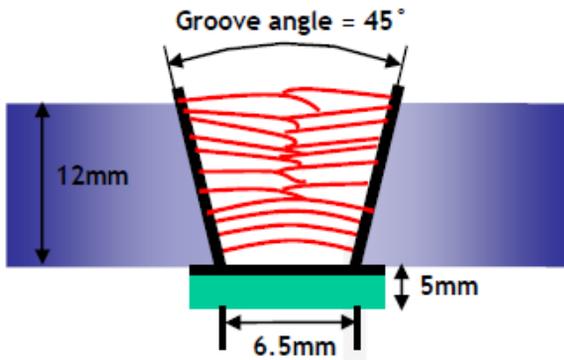
## ❖ Packing

<b>Dia.</b>	1.6mm (1/16in)	2.0mm (5/64in)	2.4mm (3/32in)	2.6mm (0.10in)	3.2mm (1/8in)
<b>TIG</b>	5kg (11lbs)				



## Mechanical Properties & Chemical Composition of All Weld Metal

### ❖ Welding Conditions



[ Joint Preparation & Layer Details ]

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

### ❖ Mechanical Properties of All weld metal

Consumable	Tensile Test				CVN Impact test Joule (ft·lbs)	
	0.2% YS MPa (ksi)	1.0% YS MPa (ksi)	TS MPa (ksi)	EL (%)	-60℃ (-76°F)	-196℃ (-321°F)
ST-308L	410 (59)	460 (67)	595 (86)	45.6	113 (84)	56 (41)

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

Consumable	Chemical Composition (wt%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
ST-308L	0.02	0.39	2.0	0.012	0.010	10.2	20.0	0.01	0.01
AWS A5.9 ER308L	≤0.03	0.30 ~0.65	1.0 ~2.5	≤0.03	≤0.03	9.0 ~11.0	19.5 ~22.0	≤0.75	≤0.75

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.



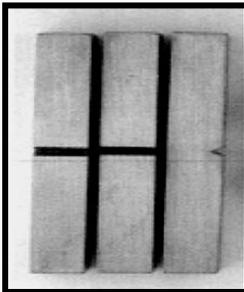
### δ-Ferrite No. & Lateral Expansion

#### ❖ δ - Ferrite No.

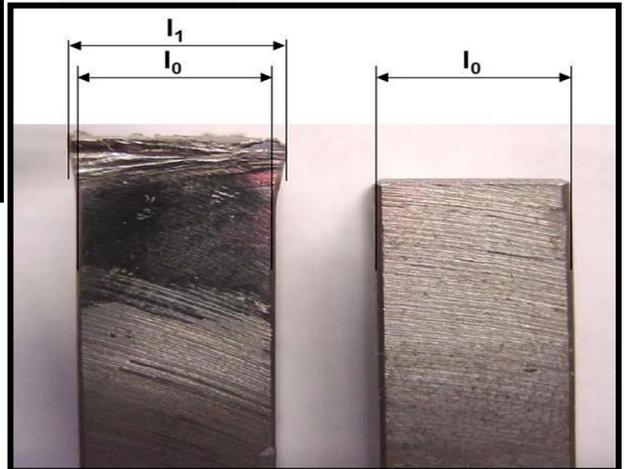
Consumable	Shielding Gas	Diagram		
		Schaeffler	Delong	WRC(1992)
ST-308L	100%Ar	8.1	7.0	7.9

#### ❖ Lateral Expansion [mm]

°C (°F)	X1	X2	X3	Avg.
-196 (-321)	0.42	0.46	0.52	0.47



**Lateral expansion =  $I_1 - I_0$**



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