

Specification

AWS A5.22 E309LT0-1/4

Applications

- Weld deposit is 23% Cr-12% Ni, which is suitable for joining stainless steel to carbon steel or low alloy steel.

Characteristics

- It provides excellent weldability, corrosion resistant, and crack resistance, due to proper Ferrite contents in the weld metal.
- Stable arc, good slag removal, easy control of weld puddle, low spatters, X-ray quality welds and good penetration.
- Bright silvery bead appearance and good wettability of bead.
- Ideal for flat and fillet welding.

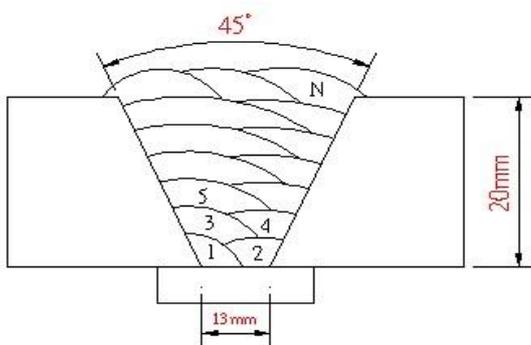
Note on Usage

- Distance between base metal and tip should be kept within the range of 15~25mm.
- Shielding gas flow rate should be kept within 20~25l/min.

Mechanical Properties & Chemical Composition of All Weld Metal

Welding Conditions

Method by AWS Rules



Diameter(mm)	1.2mm
Shielding Gas	100% CO ₂
Flow Rate (l/min)	20
Amp / Volt	200 / 32
Stick-Out (mm)	15-20
Interpass Temp (°C)	175±15
Polarity	DC(+)

[Joint Preparation & Layer Details]

● **Mechanical Properties of the Weld Metal**

Brand Name	Tensile Test Results			Charpy V-Notch Impact Value (Joules)		
	Y.S. (MPa)	T.S. (MPa)	EL. (%)	-30°C	-40°C	-60°C
KFW-309LF	415	553	38	-	-	-
E309LT0-1/4	-	520 min	30 min	-	-	-

● **Chemical Analysis of the Weld Metal**

Brand Name	Unit: wt%						
	C	Si	Mn	P	S	Cr	Ni
KFW-309LF	0.02	0.8	1.2	0.03	0.01	23.29	12.23
E309LT0-1/4	<0.04	<1.0	0.5-2.5	<0.04	<0.03	22.0-25.0	12.0-14.0

● **Ferrite Number of the Weld Metal**

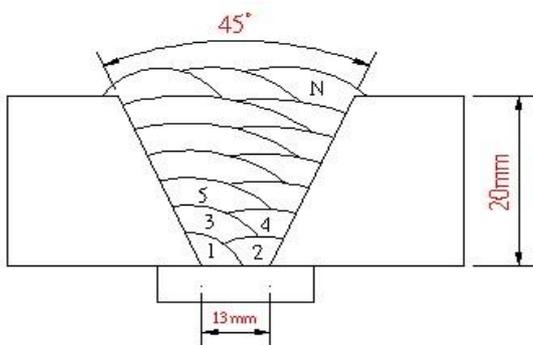
F.N.= 15

* Ferrite number is calculated by WRC-1992

Mechanical Properties & Chemical Composition of All Weld Metal

Welding Conditions

Method by AWS Rules



Diameter(mm)	1.2mm
Shielding Gas	80% Ar+ 20% CO ₂
Flow Rate (l/min)	20
Amp / Volt	210 / 31
Stick-Out (mm)	15-20
Interpass Temp (°C)	175±15
Polarity	DC(+)

[Joint Preparation & Layer Details]

● **Mechanical Properties of the Weld Metal**

Brand Name	Tensile Test Results			Charpy V-Notch Impact Value (Joules)		
	Y.S. (MPa)	T.S. (MPa)	EL. (%)	-30°C	-40°C	-60°C
KFW-309LF	422	601	39	-	-	-
E309LT0-1/4	-	520 min	30 min	-	-	-

● **Chemical Analysis of the Weld Metal**

Brand Name	Unit: wt%						
	C	Si	Mn	P	S	Cr	Ni
KFW-309LF	0.02	0.9	1.3	0.03	0.01	23.85	12.24
E309LT0-1/4	<0.04	<1.0	0.5-2.5	<0.04	<0.03	22.0-25.0	12.0-14.0

● **Ferrite Number of the Weld Metal**

F.N.= 16

* Ferrite number is calculated by WRC-1992

Available Sizes and Suggested Operating Range

Welding Position	Wire Diameter (mm)		
	1.2mm	1.4mm	1.6mm
F&HF	120~300	150~350	180~400
Vertical Up	200~260	220~270	230~280

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 Kuang Tai Metal IND 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.