



**KUANG TAI**

# KFW-309L

## Product Data Sheet

## Flux Cored Wire for Stainless Steel

### Specification

AWS A5.22 E309LT1-1/4

### Applications

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

### Characteristics

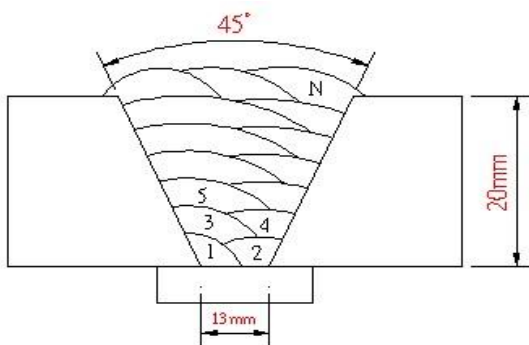
- It provides excellent weldability, corrosion resistant, and crack resistance, due to proper Ferrite contents in the weld metal.
- Stable arc, good slag removal, easy control of weld puddle, low spatters, X-ray quality welds and good penetration.
- Flat bead shape and good wettability of bead.
- Ideal for all positions 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 <sub>2</sub>
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-309L	411	574	37	-	-	-
E309LT1-1/4	-	520 min	30 min	-	-	-

● **Chemical Analysis of the Weld Metal**

Brand Name	Unit: wt%						
	C	Si	Mn	P	S	Cr	Ni
KFW-309L	0.03	0.5	1.1	0.02	0.01	22.81	12.21
E309LT1-1/4	<0.04	<0.1	0.5-2.5	<0.04	<0.03	22.0-25.0	12.0-14.0

● **Ferrite Number of the Weld Metal**

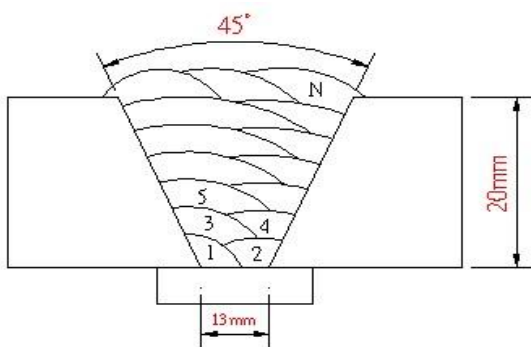
***F.N.= 15***

\* 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 <sub>2</sub>
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-309L	424	670	39	-	-	-
E309LT1-1/4	-	520 min	30 min	-	-	-

● **Chemical Analysis of the Weld Metal**

Brand Name	Unit: wt%						
	C	Si	Mn	P	S	Cr	Ni
KFW-309L	0.02	0.6	1.2	0.03	0.01	23.16	12.22
E309LT1-1/4	<0.04	<0.1	0.5-2.5	<0.04	<0.03	22.0-25.0	12.0-14.0

● **Ferrite Number of the Weld Metal**

***F.N.= 18***

\* Ferrite number is calculated by WRC-1992

**Available Sizes and Suggested Operating Range**

Welding Position	Wire Diameter		
	0.9mm	1.2mm	1.6mm
F&HF	70-170	100-250	200-350
Vertical Up	80-120	100-180	-

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.