



HYUNDAI
W E L D I N G

Rev. 00

SM-309L

HYUNDAI WELDING CO., LTD.



❖ Specification

AWS A5.9 ER309L

JIS Z3321 YS309L

❖ Applications

MIG welding of low carbon 22% Cr- 12% Ni steel, heat resistance cast Steel clad of 18% Cr- 8% Ni clad steel and stainless steel to Cr-Mo steel or carbon steel.

❖ Characteristics on Usage

As the weld metal contains ferrite, its resistance to crack is good
Due to its high level of alloy, it has excellent heat resistance

❖ Note on Usage

Use 100% Ar gas or Ar+2~5% O₂ gas

❖ Packing

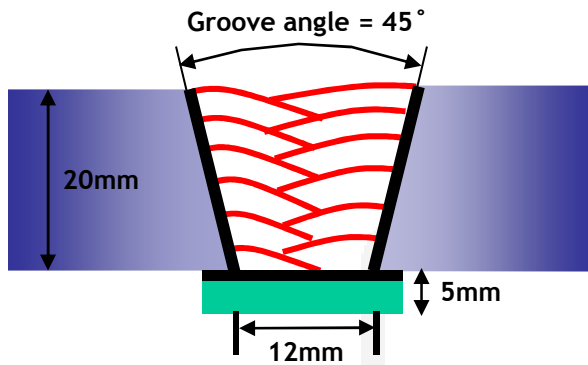
Dia.(mm)	0.9	1.2
Spool (kg) *including ball pac	12.5	



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[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(℃)	: R.T .
Interpass Temp.(℃)	: 150±15
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact test (Joule)	
	TS(MPa)	EI(%)	0℃	-196℃
SM-309L	551	41.0	96.3	30.6

❖ Chemical Analysis of the wire(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SM-309L	Ar+2% O ₂	0.016	0.46	1.61	0.016	0.005	13.70	23.2	0.12	0.07
AWS A5.9 ER309L		≤0.03	0.30~ 0.65	1.0~ 2.5	≤0.03	≤0.03	12.0~ 14.0	23.0~ 25.0	≤0.75	≤0.75

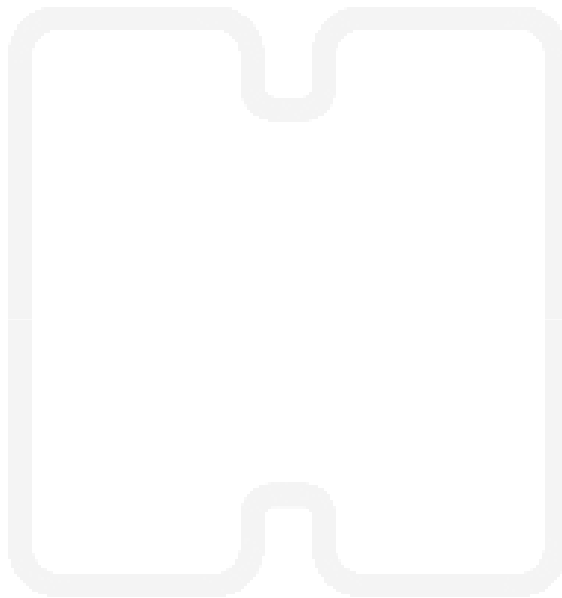
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**Mechanical Properties
& Chemical Composition of All Weld Metal**

❖ **δ – Ferrite No.**

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	DeLong	WRC(1992)	
SM-309L	Ar+2% O2	7.	13.0	10.4	8.5



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