

SM-309



❖ Specification

AWS A5.9	ER309
JIS	Z3321 YS309
EN	ISO 14343-A G 23 12

❖ Applications

MIG welding of 22%Cr-12%Ni steel, heat resistant cast steel clad side 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 crack resistibility is good. Due to its high level of alloy, it has excellent resistance to heat.

❖ Note on Usage

Use 100% Ar or Ar + 2%O₂ gas.

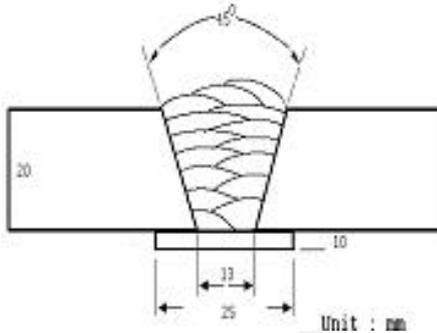
❖ Packing

Dia.	0.8mm (0.033in)	0.9mm (0.035in)	1.0mm (0.040in)	1.2mm (0.045in)	1.6mm (1/16in)
Spool	12.5kg (28lbs)				



Mechanical Properties & Chemical Composition of All Weld Metal

❖ **Welding Conditions**



- Diameter(mm)** : 1.2mm
- Shielding Gas** : Ar + 2%O₂
- Flow Rate(ℓ /min.)** : 15~20
- Amp./ Volt.** : 230/27
- Stick-Out(mm)** : 20
- Pre-Heat(°C)** : R.T.
- Interpass Temp.(°C)** : 150 ± 15
- Polarity** : DC(+)

[Joint Preparation & Layer Details]

❖ **Mechanical Properties of All weld metal(wt%)**

Consumable	Tensile Test		CVN Impact test Joule (ft·lbs)	
	T.S. MPa (ksi)	EL. (%)	-60°C (-76°F)	-196°C (-320.8°F)
SM-309	570 (83)	37.0	74 (55)	21 (15)

❖ **Chemical Analysis of the wire**

Consumable	C	Si	Mn	Ni	Cr	Mo
SM-309	0.05	0.32	1.72	13.3	23.7	0.15

❖ **Chemical Analysis of the weld metal**

Consumable	C	Si	Mn	Ni	Cr	Mo
SM-309	0.05	0.42	1.79	13.1	22.4	0.03

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