

GMAW Solid Wire for Stainless Steel

KMS-309

Classification

AWS	A5.9/A5.9M	ER309
JIS	Z3321	YS309
EN	14343-A	G 23 12 H
YB	T5092	H12Cr24Ni13Si

Shielding Gas: Ar+1~2%O₂(CO₂)

Applications and Features

- (1) Weld metal is austenitic structure with 23%Cr-12%Ni.
- (2) Moderate ferrite content increases good crack and corrosion resistance.
- (3) Used for welding dissimilar materials such as mild steel to stainless steel, as well as for a barrier layer in stainless overlays.
- (4) Occasionally used for welding “18-8” base metals when severe corrosion conditions exist or dissimilar metals

Welding Position



Welding Instruction

- (1) Use Ar+1~2%O₂ for spray transfer and Ar+1~2%CO₂ for short-circuit transfer.
- (2) For welding dissimilar alloy, please refer to Appendix I.
- (3) For other instructions, please refer to Appendix B and F .

Typical Chemical Composition of Weld Metal (wt%)

C	Si	Mn	P	S	Cr	Ni
0.05	0.42	1.63	0.011	0.009	23.81	13.12

Typical Mechanical Properties of Weld Metal

Tensile Strength	Yield Strength	Elongation
N/mm ²	N/mm ²	%
610	430	40

Size and Suggested Operating Range (DC+)

Diameter (mm)		0.8	0.9	1.0	1.2	1.4	1.6
Ar+1~2%CO ₂	Current (A)	40~120	60~140	80~160	100~210	-	-
	Voltage (V)	15~20	15~21	16~22	17~22	-	-
Ar+1~2%O ₂	Current (A)	160~210	170~260	180~280	200~300	210~320	220~330
	Voltage (V)	24~28	24~30	24~30	24~30	24~32	24~32