

SM-70G

GAS METAL ARC WELDING CONSUMABLE
FOR WELDING OF MILD & 490MPa CLASS
HIGH TENSILE STEEL



❖ *Specification*

AWS A5.18

ER70S-G

❖ *Applications*

Fillet and horizontal fillet welding of construction machinery, structural Steels, bridges, ships.

❖ *Characteristics on Usage*

SM-70G is a solid MIG wire designed for flat and horizontal fillet welding and is to be used in a high current welding with CO₂ shielding gas. It benefits from a high deposition rate and excellent penetration. As this wire contains special elements, its weldability and impact values are excellent.

❖ *Note on Usage*

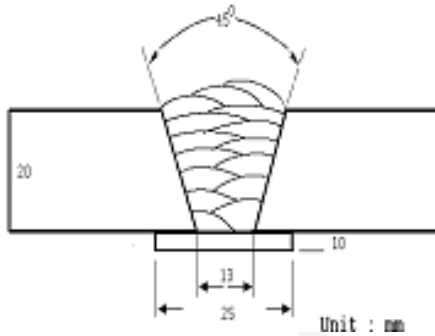
1. Use with CO₂ gas.
2. Flow quantity of shielding gas should be 20ℓ/min. approximately.
3. Use wind screen against wind.
4. Keep distance between tip and base metal 6~15mm for less than 250A, and 15~25mm for more than 250A of welding current.



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm
Shielding Gas	: 100%CO ₂
Flow Rate(ℓ /min.)	: 20
Amp./ Volt.	: 280 / 32
Stick-Out(mm)	: 20~25
Pre-Heat(°C)	: R.T .
Interpass Temp.(°C)	: 150±15
Polarity	: DC(+)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test			CVN Impact Test (Joule)	
	YS(MPa)	TS(MPa)	EL(%)	0°C	-20°C
SM-70G	450	560	28.0	155	110
AWS A5.18 ER70S-G	≥ 400	≥ 480	≥ 22	As agreed between supplier and purchaser	

❖ Chemical Analysis of all weld metal(wt%)

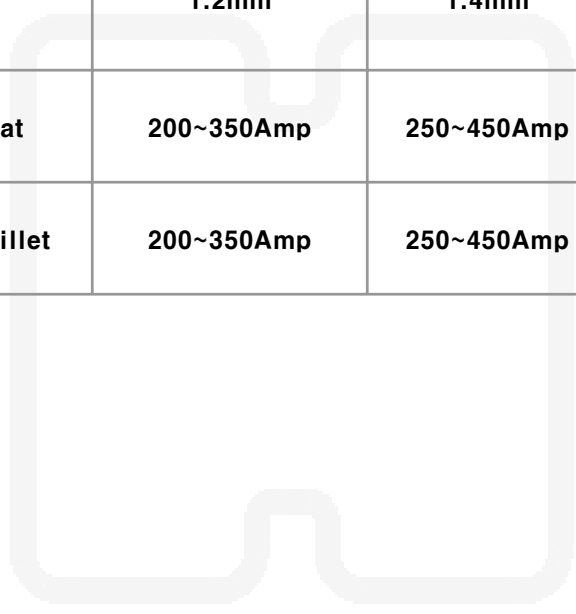
Consumable	C	Si	Mn	P	S
SM-70G	0.07	0.52	1.07	0.015	0.009
AWS A5.18 ER70S-G	Not Specified				



Proper Welding Condition

❖ Proper Current Range

Consumable	Welding Position	Wire Dia. (mm)		
		1.2mm	1.4mm	1.6mm
SM-70G	Flat	200~350Amp	250~450Amp	300~550Amp
	H-Fillet	200~350Amp	250~450Amp	300~550Amp





Chemical Composition of Wire

❖ Chemical Composition of Wire (Wt%)

Consumable	C	Si	Mn	P	S	Ti
SM-70G	0.05	0.82	1.53	0.013	0.010	0.18
AWS A5.18 ER70S-G	Not Specified					