

SM-70GS

GAS METAL ARC WELDING CONSUMABLES
FOR WELDING OF Mild & 490Mpa CLASS
HIGH TENSILE STEEL



❖ Specification

AWS A5.18

ER70S-G

❖ Applications

Butt and fillet welding of ships, steel structures and machinery

❖ Characteristics on Usage

SM-70GS is a solid wire designed for flat and fillet welding and is to be used with a high current welding with Ar + CO₂ mixed shielding gas.

As this wire contains special elements, its weldability and impact values are excellent.

❖ Note on Usage

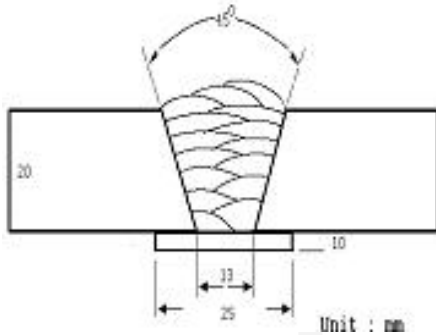
1. Use with Ar + 15~20%CO₂ gas.
2. Flow quantity of shielding gas should be 25ℓ/min. approximately.
3. Use wind screen against wind.
4. Keep distance between tip and base metal 6~15mm for less than 250A, and 15~25mm for more than 250A of welding current.



Mechanical Properties & Chemical Composition of All Weld Metal

❖ **Welding Conditions**

Method by AWS Rules



[Joint Preparation & Layer Details]

- Diameter(mm)** : 1.2mm (0.045in)
- Shielding Gas** : Ar + 20%CO₂
- Flow Rate(ℓ /min.)** : 20
- Amp./ Volt.** : 280 / 30
- Stick-Out(mm)** : 20~25
- Pre-Heat(℃)** : R.T .
- Interpass Temp.(℃)** : 150±15
- Polarity** : DC(+)

❖ **Mechanical Properties of the weld metal**

Brand Name	Tensile Test Results			Charpy V-Notch Impact Value J (ft . lbs)	
	Y.S. MPa(ksi)	T.S. MPa(ksi)	EL.(%)	0℃ (32°F)	-30℃ (-22°F)
SM-70GS	480 (69.6)	550 (79.8)	28.0	155 (114)	100 (74)
AWS A5.18 ER70S-G	≥ 400	≥ 480	≥ 22	As agreed between supplier and purchaser	

❖ **Chemical Analysis of the weld metal(wt%)**

Brand Name	C	Si	Mn	P	S
SM-70GS	0.08	0.38	1.00	0.014	0.008
AWS A5.18 ER70S-G	Not Specified				

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 HYUNDAI WELDING 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.



Proper Welding Condition

❖ Proper Current Range

Brand Name	Welding Position	Wire Dia. (mm)		
		1.2mm (0.045in)	1.4mm (0.052in)	1.6mm (1/16in)
SM-70GS	F & HF	80~350Amp	150~400Amp	200~500Amp
	Vertical Up	80~150Amp	-	-
	Over Head	80~150Amp	-	-

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Chemical Composition of Wire

❖ Chemical Composition of Wire (Wt%)

Brand Name	C	Si	Mn	P	S	Ti
SM-70GS	0.04	0.62	1.21	0.015	0.006	0.11
AWS A5.18 ER70S-G	Not Specified					

Notice

***This test report is made for giving general information, and it's not meaning guarantee.
Test results are changeable by several welding
- parameter including base materials***

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