

ST-50G

GAS TUNGSTEN ARC WELDING (SOLID WIRE)
CONSUMABLES FOR WELDING OF MILD
& 490MPa CLASS HIGH TENSILE STEEL



❖ Specification

<i>AWS A5.18</i>	ER70S-G
<i>JIS Z3316</i>	YGT50
<i>EN 1668</i>	W3Si1

❖ Applications

Butt and fillet welding of carbon steel for pressure vessels, tubes, ships, penstock and aluminum-killed steel for low temperature service.

❖ Characteristics on Usage

ST-50G is a wire for TIG welding with pure Ar gas. All position welding and steel sheet welding can be performed quite easily. Most suitable for one-side welding of tubes. It is used in DC straight polarity.

❖ Note on Usage

1. Use welding grade Ar 100% gas.
2. Flow quantity of shielding gas should be 15~20 /min, generally.
3. Use the wind-screen against wind.

❖ Typical Chemical Composition of Solid Electrodes

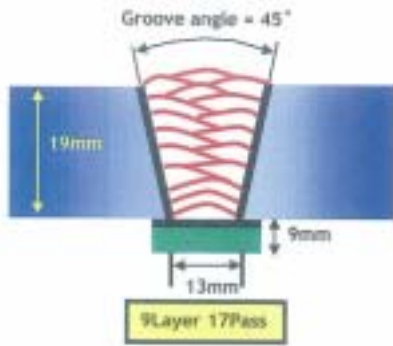
Consumable	Chemical Composition					
	C	Si	Mn	P	S	Cu
ST-50G	0.05	0.65	1.20	0.013	0.010	0.15
AWS A5.18	Not Specified					



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

- Diameter(mm) : **2.4mm (GTAW)**
- Shielding Gas : 100% Ar
- Flow Rate(/min.) : 15~20
- Amp. : 220~250
- Stick-Out(mm) : 20
- Pre-Heat() : 150 ± 15
- Interpass Temp.() : 150 ± 15
- Polarity : DC(-)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test			CVN Impact Test (Joule)	
	YS(MPa)	TS(MPa)	EL(%)	- 20	- 46
ST-50G	470	561	28.7	180	80
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	Cu
ST-50G	0.08	0.63	1.14	0.011	0.011	0.13
ASME A NO.1	0.15	1.00	1.60	-	-	-
AWS A5.18 ER70S-G	Not Specified					

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