

# TGA-53

AWS A5.18 ER70S-3  
EN ISO 636-A W 42 5 2Si

## Characteristics and Applications :

TGA-53 is designed for welding mild steel and 490N/mm<sup>2</sup> grade steel. The product is often applied to butt or fillet welding of high pressure piping for shipbuilding and general construction. As an all-position welding rod for TIG welding, it is especially suitable for the root pass of pipe welding. Use DC(-) polarity.

## Notes on usage :

1. 100% Argon shielding gas with 99.997% high purity is recommended and the flow rate must be properly controlled. The recommended flow rate is 7-12l/min when arc current is 100-200Amp and it goes up to 12-15l/min when arc current rises to 200-300Amp.
2. Select right gas cup size and employ proper stick out of tungsten electrode.
3. To obtain a very clean weld pool, keep the weld plate free from dirt, rust, paint and any other atmospheric contamination.
4. Trailer Shield is required to ensure the weld pool completely shielded until solidification is complete and no porosity problem.

## Typical chemical composition of wire (wt%):

	C	Mn	Si	P	S	Ni	Cr	Mo	V	Cu
AWS	0.06-0.15	0.90-1.40	0.45-0.75	0.025	0.035	0.15	0.15	0.15	0.03	0.50
EN ISO	0.06-0.14	0.90-1.30	0.50-0.80	0.025	0.035	0.15	0.15	0.15	0.03	0.50
Typical value	0.07	1.23	0.66	0.02	0.02	0.01	0.025	0.015	0.005	0.02

## Typical mechanical properties of all weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-1bf) -20°C (0°F)	PWHT
AWS	≥ 400(58)	≥ 490(70)	≥ 22	≥ 27(20)	-
EN ISO	≥ 420(61)	500-640(73-93)	≥ 20	≥ 47(36)	-
Typical value	449(65)	534(77)	33	140(103)	AW

## Sizes available:

Diameter (mm)	1.6	2.0	2.4	3.2
Length (mm)	915			

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