

TIG rod



General Description and Welding Notes

GTAW is a full position welding process, which can produce and keep high stable arc and produces high quality and good appearance weld metal without spatter occurred. This low heat input welding process is widely applied on thin work piece or high quality required heavy work piece and pipe joint root pass.

Welding notes :

1. Welding Electrode (Tungsten)

DC- is strongly recommended (Electrode negative can stand much higher welding current than positive).

2. Shielding Gas

Argon is a much commercialized type of gas. High purity Argon is recommended to prevent defects such as pits or blow holes.

Proper flow rate : 12~18L/min (indoor area); 15~20 L/min. with proper shelter to prevent air trapping into the arc and weld pool (outdoor area).

Teflon hose or steel pipe is preferred for long distance supply (easy to trap moisture by rubber or nylon hose).

3. Tungsten type

Recommend 1~2% Thorium element Tungsten electrode on DC current. Tip end to be proper ground irregularly to keep good arc concentration ability. (Tip end is easy burned from arc heat.).

4. Tungsten electrode stick out

Normal: 4-5mm with arc length 1-3mm

Special: 5-6mm with arc length 2-3mm (deep groove pass)

5. Base metal cleaning

Surface dirt, scale, grease and moisture to be completely removed before welding.

6. Wind Protection

Recommend proper protection from wind for outdoor welding.

7. Polarity illustration

DCEP (DC+): Electrode positive or DC reverse polarity (DCRP).

DCEN (DC-): Electrode negative or DC straight polarity (DCSP).

GT50

AWS A5.18M ER48S-6 / A5.18 ER70S-6
JIS Z 3316 YGT50

Product Features:

- GTAW (TIG) wire available for welding of mild and 490 N/mm² high tensile strength steel.
- Good low temperature impact toughness, suitable for welding of all positions pipe joint root pass and thin plates.
- Shielding gas: Argon (Ar), DC- polarity.

Applications:

- Suitable for all kinds of mild and high strength steel structures.

Typical chemical composition of rod (wt%)

C	Si	Mn	P	S
0.07	0.86	1.51	0.015	0.018

Typical mechanical properties of all-weld metal

Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation %	Impact value (-20°C) J
493	567	27.0	147

Size(mm) and recommended shielding gas

Diameter	1.6	2.0	2.4	3.2
Length	1000	1000	1000	1000
Shielding Gas	Ar			

© Note: Refer to page A33 Carbon steel TIG Welding (General Description and Welding Notes).

GT52T

AWS A5.18M ER48S-G
A5.18 ER70S-G

Product Features:

- GTAW (TIG) wire available for welding of mild and 490 N/mm² high tensile strength steel.
- Good low temperature impact toughness, suitable for welding of all positions pipe joint root pass and thin plates.
- Ti element contained for improving de-oxidation capability, getting fine grain and good mechanical properties of weld metal

Applications:

- Suitable for all kinds of mild and high strength steel structures.

Typical chemical composition of rod (wt%)

C	Si	Mn	P	S	Ti
0.07	0.80	1.54	0.025	0.013	0.18

Typical mechanical properties of all-weld metal

Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation %	Impact value (-20°C) J
460	560	30.0	110

Size(mm) and recommended shielding gas

Diameter	1.6	2.0	2.4	3.2
Length	1000	1000	1000	1000
Shielding Gas	Ar			

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Product Features:

- GTAW (TIG) wire for welding of 550 N/mm² grade high tensile strength steel.
- Good low temperature impact toughness, suitable for welding of all positions pipe joint root pass and thin plates.
- Ti element contained for improving de-oxidation capability.

Applications:

- Suitable for welding of high tensile strength Mn-Mo & Mn-Mo-Ni Steel.

Typical chemical composition of rod (wt%)

C	Si	Mn	Mo	Ti
0.08	0.88	1.63	0.16	0.2

Typical mechanical properties of all-weld metal

Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation %	Impact value (-30°C) J
517	610	26.0	95

Size(mm) and recommended shielding gas

Diameter	1.6	2.0	2.4	3.2
Length	1000	1000	1000	1000
Shielding Gas	Ar			

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