

AI-3686T

Specifications

AWS/ASME ERNiCrMo-14

Description and Applications

AI-3686CPT is a TIG rod consisting of a nickel-chromium-molybdenum-tungsten alloy with a higher than usual Cr+Mo+W level than the usual alloys used to weld C-276, alloy 622 and UNS 6022. This alloy is used for its high strength and outstanding resistance to pitting, crevice and general corrosion and is designed to weld to itself or to other materials. One of the features of this alloy is that the welded deposits require no further postweld heat treatments to maintain their high strength and ductility.

AI-3686CPT is used in various industries such as the marine and aerospace industry and also in chemical processing where it is an excellent choice for its resistance to pitting and crevice corrosion. The high alloy content results in welds of exceptional corrosion resistance in the as welded condition and the deposit is extremely effective in environments requiring general corrosion resistance in hydrochloric or sulphuric acids, or mixtures of the two.

Applications include pollution control engineering, chemical processes, petrochemical, oil and gas and marine industries.

Typical Weldmetal Analysis

C	Mn	Si	Cr	Ni	Fe	Ti	W	Mo	Cu	Nb
0.02	1.0 Max	0.25 Max	21.0	Bal	5.0 Max	0.25 Max	3.7	16.0	0.5 Max	3.0-4.4

Mechanical Properties of Weldmetal

	As Welded
Tensile Strength	>758 MPa
Elongation A5	35%
Hardness	95 HRb

Welding Instructions

Procedure for Gas Tungsten Arc (TIG) Welding

1. Thoroughly clean all areas to be joined.
2. For the butt welding of thick plates, bevel edges to 60° - 70° included angle.
3. Use a Thoriated or Ceriated tungsten electrode, ground to a sharp needle point making sure the grinding lines run with length (longitudinally) of the electrode's axis. The length of the needle point should be about 2 - 3 times the diameter of the tungsten electrode.
4. Use Direct Current Electrode Negative (DC-) and Welding Grade Argon.
5. Preheat thick sections
6. It is recommended that a pickling paste be applied after welding for cleaning and finishing.



Welding Instructions

Shielding Gas: Argon 100% or Oxy-Acetylene

Gas Rate 15-18 l/min

Available Sizes

2.5, 3.25 & 4.00mm Diameter

Also available as **MIG Wire** 0.9, 1.20 & 1.6mm and **Electrode** 2.5, 3.2 & 4.0 mm Diameter

Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy.

All figures subject to change without notice. Batch analysis is available for all products sold. Should you require any further information, please contact us at sales@alloysint.com.au

