

# TL-110

JIS Z 3212 D8016  
AWS A5.5 E11016-G  
EN 757 E 62 2 2NiMo B T 12

## Characteristics and Applications:

TL-110 is a low hydrogen type electrode for all-position welding of 760N/mm<sup>2</sup> grade high tensile steel. Good mechanical properties and good crack resistance can be obtained. It is suitable for heat treatable low alloy steel (such as SCM21/4 chrome-molybdenum steel、SNM8 Nickel Chromium Molybdenum Steel, etc.) due to high content of carbon, pre-heating of thick plate, maintenance of inter-pass temperature and slow cool-down are sometimes required according to base metal type.

## Notes on Usage:

1. Dry the electrodes at 350-400°C for 60 minutes and keep at 100-150°C before use.
2. When the heat input is excessive, the impact value tends to be reduced. Therefore, select proper heat input depending on the required impact value.
3. Maintaining short arc length as possible is highly recommended. While welding with weave method, moving range should be controlled within 3 times of the wire's dia.
4. Pre-heat at 100°C is sometime required according to base metal or its thickness.
5. Use back-step method and hold for 3-5 seconds at every end-up to prevent arc starting from blowholes.
6. Preheating the plates at 100-150°C before welding.

## Typical chemical composition of weld metal (wt%)

C	Mn	Si	P	S	Ni	Mo	Cr
0.08	1.10	0.35	0.02	0.008	2.20	0.47	0.30

## Typical mechanical properties of weld metal

YS (MPa)	TS (MPa)	EL %	PWHT
680	790	22	620°Cx1hr

## Welding position



## Sizes and recommended current range (AC or DC <+>)

Diameter (mm)		3.2	4.0	5.0
Length (mm)		350	450	450
Amps	F	90-130	130-180	180-240
	V&OH	80-120	110-160	-

\* The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Tien Tai Electrode Co., Ltd. expressly disclaims any liability incurred from any reliance thereon. Typical data is obtained when welded and tested in accordance with AWS specification. Other tests and procedures may produce different results. No data is to be construed as recommendation for any welding condition or technique not controlled by Tien Tai Electrode Co., Ltd.