

TL-50

AWS A5.1 E7016
EN ISO 2560-A-E 42 3 B 1 2
JIS Z 3211 E4916

Characteristics and Applications:

TL-50 is a low hydrogen type electrode for the welding of 490N/mm² high tensile steel. The welding can be done with stable arc, less spatters, good slag covering, release, and good X-ray soundness. It is suitable for low alloy steels, medium carbon steels, heavy steel plates, cast steels. Proper base metals such as: structural steel, steel tubes for Heat transfer, plate for pressure vessel, low-alloy steel tube, mechanical structural carbon-steel plate, API-5L.A25.X52.X56.X60.X65, etc. Due to good X-ray and mechanical properties, TL-50 is used for skill testing and competition by choice.

Notes on usage:

1. Clean up the contaminations on the base metal to avoid porosity and crack.
2. Dry the electrodes at 300-350°C for 60 minutes, and keep at 100-150°C before using.
3. Use back-step method to prevent arc starting from blowholes and hold for 3-5 seconds at every end-up.
4. Maintain short arc length. Moving range should be controlled within 3 times of the wire's dia when you are welding with weave method.
5. Do not exceed the range of recommended current. Over heat input might decrease the impact value.

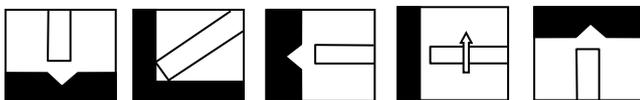
Typical chemical composition of weld metal (wt%):

| C | Mn | Si | P | S |
|------|-----|-----|-------|-------|
| 0.08 | 1.1 | 0.5 | 0.020 | 0.006 |

Typical mechanical properties of weld metal:

| Yield strength MPa(ksi) | Tensile strength MPa(ksi) | Elongation % | Charpy V-Notch J (ft-lbf) -30°C (-20°F) |
|----------------------------|------------------------------|-----------------|---|
| 445(65) | 550(80) | 27 | 140(103) |

Welding position:



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

| Diameter (mm) | 2.6 | 3.2 | 4.0 | 5.0 | |
|---------------|------|-------|-----------|---------|---------|
| Length (mm) | 350 | 350 | 350 450 | 450 | |
| Amps | F | 60-90 | 90-130 | 130-180 | 180-240 |
| | V&OH | 50-80 | 90-120 | 110-160 | 160-200 |

* The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and TienTai 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 TienTai Electrode Co., Ltd.