

FOR LOW TEMPERATURE SERVICE STEEL

AWS E81T1-K2
JIS YFL-C506R
KS YFL-C506R

K-81TSR

Typical applications

K-81TSR is designed for welding of 590MPa high tensile steel for low temperature service. Butt and fillet MAG welding of offshore structures, LNG and LPG carriers and storage tank, etc. It can be acceptable for CTOD characteristics.

Characteristics on Usage

- ① Wire is a titania type of flux cored wire for all-position welding.
- ② K-81TSR makes weld metal with 1.5%Ni and good impact value after PWHT at low temperatures down to -60°C.
- ③ Welding heat input must be controlled in order to get required impact value since notch toughness tends to decrease due to excessive heat input.
- ④ It provides smooth arc and low spatter generation, good slag removal in using shielding gas 100%CO₂.
- ⑤ Refer to page 150 for more information on usage.

Typical chemical composition of all-weld-metal (%)

| Shielding Gas | C | Si | Mn | P | S | Ni |
|-----------------|-------|------|------|-------|-------|------|
| CO ₂ | 0.024 | 0.31 | 1.21 | 0.011 | 0.010 | 1.47 |

Typical mechanical properties of all-weld-metal

| PWHT | Y · P N/mm ² {kgf/mm ² } | T · S N/mm ² {kgf/mm ² } | El (%) | Charpy V-notch J{kgf · m} (-60°C) |
|--------------|---|---|-----------|--------------------------------------|
| As welded | 570 {58} | 640 {65} | 25 | 97 {10} |
| 620°C X 2hr. | 520 {53} | 600 {61} | 29 | 57 {6} |

Sizes available and recommended currents (DC wire⊕)

| Dia. | (mm) | 1.2 |
|------|-------|---------|
| Amp. | F | 160~300 |
| | H-Fil | 160~320 |
| | V | 160~240 |

Package

| Dia. | (mm) | 1.2 | 1.4 | 1.6 |
|-------|------|-----------------|-----|-----|
| Spool | (kg) | 5, 12.5, 15, 20 | | |

Welding positions



Approved by