

# K-91TB3SM

For heat-resisting steel (2.25%Cr-1% Mo)

## Classifications

|                     |                    |              |                  |
|---------------------|--------------------|--------------|------------------|
| EN ISO 17634-A:2008 | : T (CrMo 2) P M 1 | AWS A5.29-10 | : E91T1-B3M      |
| EN ISO 17634-B:2008 | : T62 T1-1M-2C1M   | AWS A5.36-12 | : E91T1-M21P0-B3 |
| JIS Z 3318          | : T62 T1-1M-2C1M   | KS D 7121    | : YF2CM-G        |

## Description

- It is designed for welding of 620MPa 2.25%Cr-1% Mo steels used for high pressure vessels, oil refining industries, steam pipes of boilers etc (ASTM A182 Gr. F21,F22,F22a, A193 Gr. B16, A213 Gr. T22, A250 Gr. T22, A336 Gr. F21,F22, A356 Gr. 10, A387 Gr. 21,22; A389 Gr. C24, A542 Gr. 2A, 2B, A691 Gr. 12)
- The weld metal contain about 2.25%Cr, 1%Mo and has good crack and heat resistance
- Wire is a titania type of flux cored wire for all-position welding
- It has excellent creep rupture strength and good impact value at low temperatures(-20°C)

## Welding positions



## Polarity & shielding gas

- Mix: Ar+20%CO<sub>2</sub> (15~25ℓ/min)
- DCEP (DC+)

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

| Shielding gas | C    | Si   | Mn   | P     | S     | Cr   | Mo   |
|---------------|------|------|------|-------|-------|------|------|
| Mix           | 0.06 | 0.33 | 1.06 | 0.015 | 0.013 | 2.19 | 1.04 |

## Typical mechanical properties of all-weld metal

|                | Y.S<br>(MPa) | T.S<br>(MPa) | El.<br>(%) | IV (J) |       | PWHT      |
|----------------|--------------|--------------|------------|--------|-------|-----------|
|                |              |              |            | 0°C    | -20°C |           |
| AWS A5.29      | min. 540     | 620~760      | min. 17    |        |       |           |
| EN ISO 17634-B | min. 530     | 620~820      | min. 15    |        |       |           |
| Example (Mix)  | 658          | 726          | 21         | 139    | 120   | 690°Cx1Hr |

## Notes on usage and welding condition

- Refer to page 211~213 for more information on usage
- Preheat at 160~190°C and PWHT at 690°C

## Package

| Dia. (mm)     | 1.2             | 1.4 | 1.6 |
|---------------|-----------------|-----|-----|
| Spool (kg)    | 5, 12.5, 15, 20 |     |     |
| Pailpack (kg) | 100 ~ 300       |     |     |