| SAW Consumables for High Tensile Strength Steel |                |                           |  |  |  |  |  |  |
|---|----------------|---------------------------|--|--|--|--|--|--|
|   | Classification |                           |  |  |  |  |  |  |
| KF-990/KW-3                                     | AWS A 5.17     | F7A2-EM12K/<br>F7P2-EM12K |  |  |  |  |  |  |
|   | JIS Z3183      | S502-H                    |  |  |  |  |  |  |
|   | EN 14171-A     | S42 3 AB S2Si             |  |  |  |  |  |  |
| Basicity : 1.2                                  | GB T5293       | F5A3-H08MnA               |  |  |  |  |  |  |

### **Applications and Features**

- (1) General purpose flux designed to weld butt joints and both single and multiple pass fillets.
- (2) Good mechanical properties, deep penetration, good bead appearance, good slag removal and excellent X-ray quality welds.
- (3) Suitable for welding carbon steel and 490N/mm<sup>2</sup> grade steel in ship-building, steel structures, bridges and pipes.

## **Welding Position**



# Welding Instruction

Please refer to Appendix E.

# Typical Chemical Composition of Weld Metal (wt%)

| С    | Si   | Mn   | Р     | S     |
|------|------|------|-------|-------|
| 0.08 | 0.38 | 1.61 | 0.015 | 0.010 |

## **Typical Mechanical Properties of Weld Metal**

| Heat treatment                              | Tensile           | Yield Strength    | Elongation | Charpy V-Notch |          |  |  |  |
|---|-------------------|-------------------|------------|----------------|----------|--|--|--|
| condition                                   | N/mm <sup>2</sup> | N/mm <sup>2</sup> | %          | °              | J        |  |  |  |
| As-welded                                   | 500 500           | 20                | 0          | 70             |          |  |  |  |
|   | 580               | 500               | 29         | -29            | 58       |  |  |  |
| PWHT  | 497 405           | 36                | 0          | 68             |          |  |  |  |
|   | 497               | 405               | 30         | -29            | 50       |  |  |  |
| Size and Suggested Operating Range (AC/DC+) |                   |                   |            |                |          |  |  |  |
| Diameter                                    | (mm)              | 3.2               | 4.0        | 4.8            | 5.6      |  |  |  |
| Current (A)                                 | F/H-fillet        | 300~450           | 400~600    | 500~700        | 600~1000 |  |  |  |