

CARBOROD KV3 is a copper coated ER90S-B3 type solid TIG welding rod depositing a 2¼Cr 1Mo weld metal for the welding of creep resistant steels. Suitable for use with Ar shielding gas.

CARBOROD KV3 is used for the welding of similar composition and ½Mo ¼V and 1%Cr 1Mo steels. Used in the construction of steam generating plant operating at temperatures <600°C. Also suitable for the welding of 1¼Cr 1Mo steels where improved resistance to hydrogen attack or corrosion by sulphur is required. Main applications are welding of boilers, plates and tubes as well as in oil refineries e.g. in crack plants produced from mainly 10CrMo9-10 (ASTM A335 Gr. P/T22).

CARBOROD KV3 deposits very clean weld metal with a guaranteed Bruscato factor of X<15, and with controlled As, Sb, Sn content to minimise the susceptibility to temper embrittlement. CARBOROD KV3 is specified, where the operational guidelines are given by ASME norms.

### Classification

|        |                     |
|--------|---------------------|
| EN ISO | 21952-B: W 62M 2C1M |
| AWS    | A5.28: ER 90S-B3    |

### Chemical analysis (Typical values in %)

| C    | Mn   | Si   | P      | S      | Cr   | Mo |
|------|------|------|--------|--------|------|----|
| 0.08 | 0.60 | 0.55 | ≤0.020 | ≤0.020 | 2.40 | 1  |

### All-weld metal Mechanical Properties

| Heat Treatment  | Yield Strength (MPa) | Tensile Strength (MPa) | Elongation A5 (%) | Impact Energy ISO - V (J) |
|-----------------|----------------------|------------------------|-------------------|---------------------------|
|                 |                      |                        |                   | -29 °C                    |
| PWHT 620°C x 1h | ≥540                 | ≥620                   | ≥ 18              | ≥47                       |
| PWHT 690°C x 1h | ≥400                 | ≥620                   | ≥ 18              | ≥70                       |

Gas test: I1

**Shielding Gas** - EN ISO 14175 : I1

### Materials

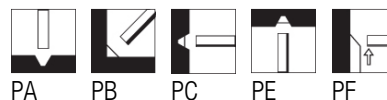
10CrMo9-10; 12CrMo9-10; A387 Gr.22; Cl 1 and 2; A 182 Gr.F 22; A 336 Gr.F22

### Storage

Keep dry and avoid condensation.

### Current condition and welding position

DC-



### Packaging data

| Diam. (mm) | Packaging Type | Weight (kg) | Code |
|------------|----------------|-------------|------|
| 1.6        | TUB            | 5           | ●    |
| 2.0        | TUB            | 5           | ●    |
| 2.4        | TUB            | 5           | ●    |