



# CEWELD E 9018-B9

**TYPE** Basic, Cr and Mo-alloyed electrode for heat resistant steels T/P91 and T/P92

**APPLICATIONS** CEWELD E 9018-B9 is intended for the welding of equivalent T/P91 type CrMo steels modified with minor additions of niobium and vanadium to obtain improved creep rupture properties. These welding consumables are specifically designed for use in high strength structures at elevated temperatures so that the low alloy additions responsible for creep rupture strength are kept above the minimum required for satisfactory performance.  
Suitable for: Headers, main steam pipes and turbine casings in fossil fuel power stations. Oil refineries, coal liquefaction and gasification plants. Preheat and interpass temperature 200°C - 300°C.

**PROPERTIES** CEWELD E 9018-B9 is modified with minor additions of niobium and vanadium to achieve improved creep rupture properties. It is specifically designed for use in high strength structures at elevated temperatures so that the low alloy additions responsible for creep rupture strength can meet the strength requirements. In this case the welds are weakest in the area of the softened (intercritical) HAZ of the base material.

**CLASSIFICATION**

|        |                         |
|--------|-------------------------|
| AWS    | A 5.5: E 9018-B91       |
| EN ISO | 3580-A: E CrMo91 B42 H5 |
| F-nr   | 4                       |
| FM     | 4                       |

**SUITABLE FOR** **9%Cr, 1%Mo, VNb**  
1.4903, 1.4904, 1.4922, 1.4955, 1.7386, 1.7389,  
X11CrMo9-1, X12CrMo9.1, X20CrMoV10-1, X10CrMoVNb9-1, GX12CrMoVNbN9-1  
ASTM Grade 91, T91, P91, F91, FP91, WP91, C12A  
STPA28, STBA28

**APPROVALS** CE

**WELDING POSITIONS**



**TYPICAL CHEMICAL ANALYSIS OF WELD METAL (%)**

| C    | Si  | Mn  | P    | S    | Cr | Ni  | Mo  | V   | Nb   | N    |
|------|-----|-----|------|------|----|-----|-----|-----|------|------|
| 0.09 | 0.3 | 0.9 | 0.01 | 0.01 | 9  | 0.6 | 0.9 | 0.2 | 0.06 | 0.04 |

**MECHANICAL PROPERTIES**

| Heat Treatment | R <sub>P0.2</sub><br>(MPa) | R <sub>m</sub><br>(MPa) | A <sub>5</sub><br>(%) | Impact Energy (J) ISO-V | Hardness |
|----------------|----------------------------|-------------------------|-----------------------|-------------------------|----------|
|                |                            |                         |                       | RT                      |          |
| 760°C±15°C 1h  | 550                        | 700                     | 21                    | 55                      | HRc      |

**REDRYING** 400°C / 1 hr

**GAS ACC. EN ISO 14175**



# CEWELD E 9018-B9

E 9018-B9 2,5 X 300MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| Can       | 2,5     | 8720663400505 |

E 9018-B9 3,2 X 350MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| Can       | 2,6     | 8720663400536 |

E 9018-B9 4,0 X 450MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| Can       | 3,3     | 8720663400567 |