# SAW (submerged arc welding) wires for mild and low alloyed steel

FLIESS SINCE 1915

## UP-99 CrMo 2 (S1CrMo2)

| Classification DIN EN ISO | Classification AWS |
|---|---|
| 24598-A SCrMo2 | A5.23 EB3R |
| **Approvals** | **Material No.** |
| TÜV 03274.06, CE, GL | - |

### Characteristics and application

Submerged arc welding wire for high temperature creep resistant 2.25%Cr1%Mo ferritic steel. These steels are used for creep resisting applications up to ~600°C. Typical applications in power generation plant include steam piping, turbines and boilers; the alloy also finds applications in the chemical and petro-chemical industries. The wire has low levels of tramp elements (eg. Sn, As, Sb and P) providing a low Bruscato Factor (X< 10 ppm) for temper embrittlement resistant applications.

### Base materials

For matching 2.5%Cr1%Mo creep resisting ferritic steels
10CrMo 9-10, 12CrMo 9-10, 13CrMo 4-5, 16CrMo 4-4,G17CrMo 5-5, 24CrMo5, 25CrMo4
ASTM: A182 grade F22, A199/A200 grades T21/T22, A213 grade grade T22, A217 grade WC9, A234 grade WP22, A335 grade P22, A387 grades 21/22

### Typical analysis in %

| C | Si | Mn | Cr | Mo |
|---|---|---|---|---|
| 0,11 | 0,15 | 0,55 | 2,60 | 1,00 |

### Typical heat treatment

Preheat temperature: 200°C
Interpass temperature: max. 300°C
PWHT: 690°C-750°C

### Mechanical properties of the pure weld metal

| Yield strength in Mpa | Tensile strength in Mpa | Elongation in % | Charpy-V-Value (ISO-V) in J |
|---|---|---|---|
| ≥470 | ≥550 | 4d/5d: ≥20/18 | - |