



DAIKOFCW 2CrMoB



CREEP RESISTING STEELS
2Cr1Mo

DESCRIPTION

Basic flux cored wire for flat and horizontal position

Basic flux cored designed for prolonged elevated temperature service up to about 600°C, especially in steam generation power plants (piping, valve bodies, turbine casting, boiler superheater). Suitable for corrosion resistance to sulphur bearing crude oil at 250-450° C. The wire shows excellent weldability in flat and horizontal position, smooth and bright bead, very low spatter losses, easy to remove slag and exceptional mechanical properties even at low temperatures.

SPECIFICATIONS

| | | | |
|----------------|-------------|----------------|----------------|
| EN ISO 17634-A | CrMo2 B M 4 | AWS A5.36 | E90T5-M21PY-B3 |
| Shielding | M21 | Positions | PA, PB, PC |
| Current | DC+ | Packaging Type | B5300 spool |

ASME QUALIFICATIONS

| | |
|--------------|---|
| F-No (QW432) | 6 |
| A-No (QW442) | 4 |

| CHEM. COMP. % | DEFAULT | MECHANICAL PROPERTIES | MIN. PER STANDARD | PRODUCT |
|---------------|---------|---------------------------------------------------|-------------------|-------------|
| C | 0.07 | Tensile strength R _m MPa | 620 | 640 |
| Mn | 1.1 | Yield strength R _{p0.2} MPa | 540 | 540 |
| Cr | 2.2 | Elongation A (L ₀ =5d ₀) % | 17 | 18 |
| P | 0.02 | Impact Charpy ISO-V | - | - |
| S | 0.02 | Impact Charpy ISO-V | - | - |
| Mo | 1 | | | |
| Si | 0.4 | | | |
| Cu | 0.1 | | | |
| | | WELDING PARAMETERS | 1.2 mm | 1.6 mm |
| | | Ampere | 100A - 300A | 160A - 420A |
| | | Voltage | 16V - 28V | 31V - 35V |
| | | Packaging | Ø 1,2÷1,6mm | Ø 1,2÷1,6mm |
| | | Packaging Type | B5300 spool | B5300 spool |

NOTES

Preheat and interpass temperature 200 to 300 °C, post-weld heat treatment of test piece 690 to 750°C for 1h.



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2Cr1Mo

DESCRIPTION

CREEP RESISTING STEELS

2Cr1Mo

APPLICATION

The 2Cr1Mo consumables are designed to ensure durability and performance at high temperatures, up to 600 °C. These materials are widely used in steam power plants, essential for the construction of pipework, turbine casings, steam chambers, valve bodies, and boiler superheaters. Additionally, they are used in refineries for their resistance to corrosion caused by sulfur-containing crude oil, effectively operating at temperatures between 250 and 450 °C. In the chemical and petrochemical industry, these materials are crucial for resisting hydrogen attack. They are employed in the manufacture of hydrocrackers, coal liquefaction plants, and NH₃ pressure vessels operating up to 450 °C. Under welding conditions, the materials offer deposits with a hardness of 300 HV, ideal for build-up or hardfacing, metal-to-metal wear resistance, heavy impact, and repairs of P20 tool steel. A minimum preheat and interpass temperature of 250 °C is recommended, increased up to 300 °C for sections of considerable thickness, maintaining the temperature throughout the welding cycle and subsequently. Unless otherwise specified, it is imperative to perform post-weld heat treatment (PWHT), generally carried out at 690 °C, with duration varying based on the section thickness.

ALLOY TYPE

2¼Cr-1Mo alloyed steel consumables for elevated temperature service.

MICROSTRUCTURE

After PWHT, the microstructure consists of tempered bainite.

MATERIALS

EN W.Nr.: 11 CrMo 9-10 (1.7383), 10 CrMo 9-10 (1.7380), GS-18CrMo 9 10 (1.7379), GS-12CrMo 9 10 (1.7380), 6CrMo 9 10 (1.7385), 12CrMo 9 10 (1.7375)

ASTM: A387 Gr 21&22, A182 F22, A217 WC9, A234 WP22, A199 T21,T22, A200 T21,T22, A335 P22, A234 WP22

