



# DAIKOWS 1CrMo



CREEP RESISTING STEELS

1CrMo

## DESCRIPTION

Solid wire for creep resisting 1¼Cr- ½Mo steels

Wire rod for prolonged elevated temperature service up to about 550°C, especially in steam generation power plants. Suitable for corrosion resistance to sulphur bearing crude oil at 250-450° C. Used in chemical and petro-chemical industries for resistance to hydrogen attack in fabrication of hydrocrackers, coal liquefaction plant and NH3 pressure vessel operating at up to 450° C. The wire has low levels of tramp elements (Sn, As, Sb and P) providing a low Bruscato Factor (X< 12 ppm) for temper embrittlement resistant applications.

## SPECIFICATIONS

ISO 24598-A	S CrMo1 FB	AWS A5.23	EB2
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	DAIKOFLUX 982
Positions	PA, PB, PC	Current	DC/AC

## ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	3

## FERRITE

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## PREN

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## HARDNESS

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## CHEM. COMP. %

### DEFAULT

C	0.06
Mn	0.8
Cr	1.2
P	0.01
S	0.01
Mo	0.5
Si	0.2
Cu	0.15

## MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R <sub>m</sub> MPa	510	560
Yield strength R <sub>p0.2</sub> MPa	355	480
Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	20	24
Impact Charpy ISO-V	47J @ 20°C	50J @ -20°C
Impact Charpy ISO-V	-	-

## WELDING PARAMETERS

	2.4 mm	3.2 mm	4 mm
Ampere	350A - 450A	430A - 530A	480A - 580A
Voltage	27V - 31V	27V - 31V	27V - 31V
Packaging	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm
Packaging Type	K415 spool and drums. K415 spool and drums. K415 spool and drums.		

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit [www.daikowelding.com](http://www.daikowelding.com).





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DESCRIPTION

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## APPLICATION

Designed for prolonged elevated temperature service up to 550°C, these consumables have primary applications in steam-generating power plants. These consumables excel in various components like piping, turbine castings, steam chests, valve bodies, and boiler superheaters. They also provide corrosion resistance in refineries for sulfur-bearing crude oil (250-450°C) and resist hydrogen attack in chemical and petrochemical industries for hydrocrackers, coal liquefaction plants, and NH<sub>3</sub> pressure vessels (up to 450°C). In the as-welded state, these consumables yield a weld deposit with a useful 300HV hardness, suitable for build-up or hard surfacing to combat metal-to-metal wear and heavy impact. A minimum preheat and interpass temperature of 200°C is recommended, extending up to 300°C for thicker sections. It is crucial to maintain these temperatures throughout the welding cycle and for some time after the completion of welding. With the exception of specific applications, post-weld heat treatment (PWHT) is invariably necessary, typically at a temperature of 690°C, the duration of which depends on the thickness of the section.

## ALLOY TYPE

1¼Cr-½Mo alloyed steel consumables for elevated temperature service.

## MICROSTRUCTURE

After PWHT, the microstructure consists of tempered bainite.

## MATERIALS

**EN W.Nr.:** 13CrMo 4-5 (1.7355), 13CrMo 4-4 (1.7335), 16CrMo 4-4 (1.7337), 11CrMo 5-5 (1.7339), GS-25CrMo 4 (1.7128), GS-17CrMo 5-5 (1.7357).

**ASTM:** A387 Gr 11 & 12, A182 F11 & F12, A217 WC6 & WC11, A234 WP11 & WP12, A199 T11, A200 T11, A213 T11 & T12, A335 P11 & P12.

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