



## DESCRIPTION

Solid wire for creep resisting ½Mo steels

Submerged arc wire designed for prolonged elevated temperature service up to about 450°C for welding of low alloy and creep resistant steels. Application area includes boiler, pressure vessel, tanks, pipeline, and crane constructions as well as in structural steel engineering.

## SPECIFICATIONS

EN ISO 24598-A	S Mo FB	AWS A5.23	EA2*
Shielding	DAIKOFLUX 982	Positions	PA, PB, PC
Current	DC/AC	Packaging Type	K415 spool and drums.

## ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	2

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD			PRODUCT
C	0.07	Tensile strength R <sub>m</sub> MPa	585			620
Mn	1.2	Yield strength R <sub>p0.2</sub> MPa	415			450
P	0.01	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	19			24
S	0.01	Impact Charpy ISO-V	47J @ 20°C			70J @ -20°C
Mo	0.5	Impact Charpy ISO-V	-			-
Si	0.3	<b>WELDING PARAMETERS</b>	2.4 mm	3.2 mm	4.0 mm	
Cu	0.1		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.	

## NOTES

\*EA3 and EA4 available upon request. Preheat and interpass temperature <200°C. SAW mechanical properties depend on wire/flux combination, refer to flux TDS.





# 0.5Mo

DESCRIPTION

CREEP RESISTING STEELS

0.5Mo

## APPLICATION

The alloy with a nominal 0.5% molybdenum offers a significant improvement in high-temperature performance compared to carbon-manganese steels (C-Mn). It is widely used in the **\*\*fabrication of vessels\*\*** and **\*\*pipelines\*\*** requiring resistance to creep rupture and ductility at temperatures up to about 450 °C. The molybdenum content also enhances resistance to hydrogen attack, making it ideal for use in chemical processing plants. The mechanical properties of the weld metal, both in the as-welded and stress-relieved conditions, are excellent for welding technical structural and general structural steels intended for ambient or sub-zero temperature service. Therefore, these consumables are closely related to high-strength manganese-molybdenum alloy steels. Preheat and interpass temperatures generally range from 100 °C to 250 °C, depending on the thickness of the material being welded and the degree of restraint. Post-weld heat treatment (PWHT) for tempering can vary depending on the applied code; extremes range from 550 °C to 720 °C, with the most common range being from 630 °C to 670 °C. For materials up to 20 mm thick, some codes allow omitting the PWHT.

## ALLOY TYPE

Ferritic creep resisting 0.5%Mo steels for elevated temperature service.

## MICROSTRUCTURE

In the stress-relieved condition the microstructure consists of acicular ferrite with some tempered bainite.

## MATERIALS

**EN W.Nr.:** 10028-2 gr. 16Mo3 (1.5415), 16Mo5 (1.5423), 10MnMo 4 5 (1.5424), 11MnMo 4 5 (1.5425), GS-22Mo 4 (1.5419)

**ASTM:** A335 gr. P1, A209 & A 250 gr. T1, A336 gr. F1, A204 gr. A, B, C, A217 gr. WC1, A352 gr. LC1

