



DESCRIPTION

Copper-coated rod for 0.5% Mo creep-resistant steels

Rod developed to ensure continuous service at high temperatures up to approximately 450°C, ideal for welding low-alloy and creep-resistant steels. Main applications include boilers, pressure vessels, tanks, piping, crane structures, and heavy metal structural work.

SPECIFICATIONS

EN ISO 21952-A	W MoSi	AWS A5.28	ER70S-A1
Shielding	I1	Positions	PA, PB, PC, PD, PE, PF
Current	DC-	Packaging Type	5kg carton tube

ASME QUALIFICATIONS

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

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.09	Tensile strength R _m MPa	515	640
Mn	1.2	Yield strength R _{p0.2} MPa	400	530
Ni	0.15	Elongation A (L ₀ =5d ₀) %	19	26
Cr	0.15	Impact Charpy ISO-V	-	90J @ -20°C
P	0.01	Impact Charpy ISO-V	-	-
S	0.01			
Mo	0.5			
Si	0.6			
Cu	0.25			
		WELDING PARAMETERS	1.6 mm	2.4 mm
		Ampere	95A - 135A	145A - 205A
		Voltage	-	-
		Packaging	Ø 1,2÷3,2mm	Ø 1,2÷3,2mm
		Packaging Type	5kg carton tube	5kg carton tube

NOTES

Preheat and interpass temperature <200°C.





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

