



## DESCRIPTION

Basic coated electrode for creep resisting steels and cast steels up to 530°C

Designed for prolonged elevated temperature service up to about 530°C, especially in steam generation power plants (piping, valve bodies, turbine casting, boiler superheaters...). Suitable for corrosion resistance to sulphur bearing crude oil at 250-450° C. Used in chemical and petrochemical industries for resistance to hydrogen attack in fabrication of hydrocrackers, coal liquefaction plant and NH3 pressure vessel operating at up to 450° C. These electrodes have good weldability in all positions. Low spatter loss, good bead appearance. Ready striking and deslagging.

## SPECIFICATIONS

EN ISO 3580-A	E Cr Mo 1 B 32	AWS A5.5	E8018-B2
Shielding	-	Positions	PA, PB, PC, PD, PE, PF
Current	DC+, AC	Packaging Type	Carton box

## ASME QUALIFICATIONS

F-No (QW432)	4
A-No (QW442)	3

## CHEM. COMP. %

C	0.08
Mn	0.8
Ni	0.05
Cr	1.25
P	0.015
S	0.01
Mo	0.6
Si	0.6
Cu	0.05

## MECHANICAL PROPERTIES

	MIN. PER STANDARD	PRODUCT
Tensile strength R <sub>m</sub> MPa	550	680
Yield strength R <sub>p0.2</sub> MPa	460	580
Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	19	22
Impact Charpy ISO-V	-	100J @ 20°C
Impact Charpy ISO-V	-	>47J @ -20°C

## WELDING PARAMETERS

	2.5 mm	3.2 mm	4.0 mm	5.0 mm
Ampere	65A - 90A	90A - 130A	140A - 180A	190A - 230A
Voltage	-	-	-	-
Packaging	45 pcs/kg	21 pcs/kg	14 pcs/kg	10 pcs/kg
Packaging Type	Carton box	Carton box	Carton box	Carton box

## NOTES

SX version with very low Xf available upon request. Pcs/kg is indicative, actual number may vary ± 5%. Preheat and interpass temperature 150 to 250 °C, post-weld heat treatment of test piece 660 to 700°C for 1h.



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# 1CrMo

DESCRIPTION

CREEP RESISTING STEELS  
1CrMo

## APPLICATION

These consumables are designed for long-term use at high temperatures, up to 550 °C. The main applications include power plant components operating with steam, such as pipes, turbine casings, steam chambers, valve bodies, and boiler superheaters. Some materials are also used in refineries, offering resistance to corrosion from sulfur-containing crude oil, with operating temperatures between 250 and 450 °C. Additionally, these materials are used in the chemical and petrochemical industries, providing resistance to hydrogen attack in the production of hydrocrackers, coal liquefaction plants, and NH<sub>3</sub> pressure vessels, operating up to 450 °C. In the as-welded condition, the materials offer deposits with a hardness of 300 HV, ideal for hardfacing, essential to withstand metal-to-metal wear and heavy impacts. A minimum preheat and interpass temperature of 200 °C is recommended, up to 300 °C for thicker sections, maintaining this temperature throughout the entire welding process and for a certain period afterwards. For most applications, it is essential to perform Post Weld Heat Treatment (PWHT), which generally occurs at a temperature of 690 °C, with duration varying based on material thickness.

## 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

