

CHE58-1

Covered Welding Rod for High Tensile Steels

AWS A5.1 E7018-1/E7018
BS EN ISO 2560-B-E49 18-1 A
CSA W48-06 E4918-1H8
JIS Z3212 D5016
GB/T 5117 E5018-1

Type of Covering: Extra low hydrogen, potassium, iron powder

Welding Position: F, H, HF, OH, V

Type of Current: DCEP or AC

Features & Applications

Its nominal deposited efficiency is about 110%. The weld metal shows excellent low temperature toughness and high crack resistance. It is widely used in important structures fabricated by equivalent tensile strength mild steels or low alloy steels such as ships, boilers, high pressure vessels, bridges, skyscrapers, offshore drilling platforms, nuclear power plants and so on. It has been appointed to be honor consumables by almost all nuclear power projects in China due to its faithworthy quality.

Chemical Composition of Deposited Metal (%)

	C	Mn*	Si	S	P	Cr*	Ni*	Mo*	V*
Standard	≤0.15	≤1.60	≤0.75	≤0.035	≤0.035	≤0.20	≤0.30	≤0.30	≤0.08
Typical	0.068	1.36	0.51	0.010	0.016	0.027	0.006	0.003	0.016

The total amount of elements with * one should be ≤1.75%

Mechanical Properties of Deposited Metal (AW)

	Yield Strength ReH (MPa)	Tensile Strength Rm (MPa)	Elongation A4 (%)	Impact Value (J)		
				-20 °C	-30 °C	-46 °C
Standard	≥375	490-660	≥22	≥47	≥27	≥27
Typical	440	540	30	170	150	130

The standard of mechanical properties conforms to shipping institutions and the certificate of inspection would follow it unless the purchaser has special requirement.

Diffusible hydrogen in deposited metal: ≤5ml/100g (mercury process)

X-ray radiographic inspection: Grade I

Sizes, Pieces & Recommended Current (DC+ or AC open circuit voltage ≥70V)

Size (mm)	2.5 x 300	2.5 x 350	3.2 x 350	3.2 x 450	4.0 x 400	4.0 x 450	5.0 x 400	5.0 x 450	
Pieces (5kg)	≈290	≈248	≈145	≈114	≈84	≈75	≈51	≈45	
Current (A)	F, H	70-100	70-100	100-140	100-140	140-170	140-170	190-240	190-240
	V, OH	60-70	60-70	80-110	80-110	130-150	130-150	—	—

Approvals

Institute	CCS	LR	ABS	BV	GL	DNV	BKI	KR	CWB
Grade	4YH5	3Ym, H15	4YH5	4YHHH	4YH10	4YH5	4YH10	3YH10	E4918-1-H8

Notice: 1) The rod should be baked at 400 °C for 1-2 hours before use.

2) The surfaces to be welded must be cleaned away impurities of oil contamination, rust, moisture and so on.

3) Short Arc and narrow-gap welding is recommended.

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