

Classifications: AWS A5.18 ER70S-6
Characteristics and typical fields of application

GTAW rod with high silicon content. The welding rod is suited for joints in boiler and vessel fabrication as well as in structural steel engineering. BÖHLER EMK 6 can be used in sour gas applications (HIC-Test acc. to NACE TM-02-84). SSC-test results are also available upon request.

Base materials

Steels with yield strength < 420 MPa (60 ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P275NL1-P355NL1, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240, ship building steels: A, B, D, E, A 32-E 36

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 633 Gr. C; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60

Typical analysis

	C	Si	Mn
wt.-%	0.08	0.9	1.45

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength	Tensile strength	Elongation A ($L_0=5d_0$)	Impact energy ISO-V KV ft-lbs		
	ksi	ksi	%	68°F	-40°F	-60°F
u	65 (≥ 61)	81 (≥ 73 - 93)	28 (≥ 20)	133	59	≥ 35
s	58	74	28	133	81	

u untreated, as welded – shielding gas 100 % Argon

s stress relieved, 1110°F/2h – shielding gas 100 % Argon

Operating data

	Polarity	DC–	Dimension
	Shielding gas	I1	1/16" × 39"
	AWS A5.32 (ISO 14175)		3/32" × 39"
	Rod marking	W3Si1 ER70S-6	1/8" x 39"

Approvals

TÜV (09717), CE