

Classifications

EN ISO 636-A	AWS A5.18	Mat. No.
W 42 5 W2Si	ER70S-3	1.5112

Characteristics and typical fields of application

Copper coated, non alloyed GTAW rod for TIG welding of unalloyed structural steels. Due to its high purity the weld metal obtains high impact values down to -50 °C (-58 °F). These high values will be maintained after a stress relieving PWHT.

Typical fields of use: boiler, tank and pipeline constructions and apparatus engineering.

Base materials

Unalloyed structural steels up to a yield strength of 420 MPa (60 ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P275NL1-P420NL1, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240, ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, B, C, D; A 285 Gr. A, B, C; A 350 Gr. LF1, LF2; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 515 Gr. 60, 65, 70; A 516 Gr. 55, 60, 65, 70; A 570 Gr. 30, 33, 36, 40, 45; A 572 Gr. 42, 50, 55; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 607 Gr. 45; A 633 Gr. C, E; A 662 Gr. B; A 668 Gr. A, B, C; A 707 Gr. L1, L2, L3; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56,

Typical analysis of the TIG rods (wt.-%)

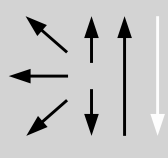
	C	Si	Mn
wt.-%	0.08	0.60	1.15

Mechanical properties of all-weld metal

Heat-treatment	Shielding gas	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
		MPa	MPa	%	+20 °C	-50 °C
aw	l1	420	530	22	150	47
sr	l1	360	510	22	150	47

sr = (620 °C / 1148 °F)

Operating data

	Polarity:	Shielding gas:	Marks:	ø mm	L mm
	DC (-)	(EN ISO 14175) I 1-3	✦ W2Si / ER70S-3	1.6	1000
				2.0	1000
				2.4	1000
				3.0	1000

Approvals

TÜV (09482), CE