

Classifications			
EN ISO 14341-A	EN ISO 14341-B	AWS A5.18	AWS A5.18M
G 42 4 M21 3Si1	G49A 4U M21 S6	ER70S-6	ER48S-6
G 42 4 C1 3Si1	G49A 4U C1 S6		

Characteristics and typical fields of application

Copper solid wire suited for universal GMAW application in structural steel engineering, and provides excellent feeding characteristics. Thanks to the good mechanical properties this filler wire is optimally suited for welding thick-walled components. The non copper coated version of the solid wire BÖHLER EMK 6 TOP is designed for low spatter formation and excellent feeding properties for extremely high wire feed rates. These types are especially suited for robotic welding.

Base materials

Steels up to a yield strength of 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 of solid wire (wt.-%)

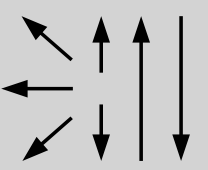
	C	Si	Mn
wt.-%	0.08	0.9	1.45

Mechanical properties of all-weld metal

Condition	Yield strength R _e	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-40 °C
u	440 (≥ 420)	560 (500 – 640)	30 (≥ 20)	160	80 (≥ 47)
u2	440 (≥ 420)	540 (500 – 640)	29 (≥ 20)	120	50 (≥ 47)
s	380	490	30	160	

u untreated, as welded – shielding gas Ar + 15 – 25 % CO₂
 u2 untreated, as welded – shielding gas 100 % CO₂
 s stress relieved, 620 °C/2h – shielding gas Ar + 15 – 20 % CO₂

Operating data

	Polarity:	Shielding gases:	ø (mm)
	DC (+)	Argon + 15 – 25 % CO ₂	0.8
		100 % CO ₂	1.0
			1.2
			1.6

Approvals

TÜV (3036.), DB (42.014.11), ABS (3SA, 3YSA), CWB (X), DNV (III YMS), GL (3YS), LR (3S, 3YS H15), LTSS, SEPROZ, CE