

Classifications

EN ISO 14341-A	EN ISO 14341-B	AWS A5.18	AWS A5.18M:
G 46 4 M21 4Si1	G 55A 4U M21 S6	ER70S-6	ER48S-6
G 46 4 C1 4Si1	G 55A 4U C1 S6		

Characteristics and typical fields of application

Copper coated solid wire used for GMAW of structural components with increased strength requirements. It has excellent welding characteristics at high currents and is optimally suited for welding thick-walled components. BÖHLER EMK 8 provides excellent feeding characteristics. The non copper coated version of the solid wire BÖHLER EMK 8 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 460 MPa (67 ksi)

S235J2G3 - S355J2G3, E360, P235T1-P355T1, P235G1TH, P255G1TH, P235GH, P265GH, P295GH, P310GH, P255NH, S235JRS1 - S235J4S, S355G1S - S355G3S, S255N - S460N, P255NH-P460NH, GE200-GE260

ASTM A27 u. A36 Gr. all; A106 Gr. A, B A214; A 242 Gr.1-5; A266 Gr. 1, 2, 4; A283 Gr. A, B, C, D; A285 Gr. A, B, C; A299 Gr. A, B; A328; A366; A515 Gr. 60, 65, 70; A516 Gr. 55; A556 Gr. B2A; A570 Gr. 30, 33, 36, 40, 45; A572 Gr. 42, 50; A606 Gr. all; A607 Gr. 45; A656 Gr. 50, 60; A668 Gr. A, B; A907 Gr. 30, 33, 36, 40; A841; A851 Gr. 1, 2; A935 Gr.45; A936 Gr. 50

Typical analysis of solid wire (wt.-%)

	C	Si	Mn
wt.-%	0.1	1.0	1.7

Mechanical properties of all-weld metal

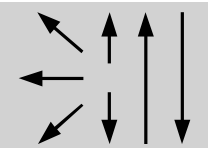
Condition	Yield strength R _e	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J		
	MPa	MPa	%	+20 °C	-40 °C	-50 °C
u	480 (≥ 460)	620 (530 – 680)	26 (≥ 20)	150	80 (≥ 47)	≥ 47
u1	470 (≥ 460)	580 (530 – 680)	28 (≥ 20)	110	50 (≥ 47)	≥ 47
s	410	540	28	130	70	≥ 47

u untreated, as welded – shielding gas Ar + 15 – 25 % CO₂

u1 untreated, as welded – shielding gas 100 % CO₂

s stress relieved, 600 °C/2h – shielding gas Ar + 15 – 25 % CO₂

Operating data

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

TÜV (3038.), DB (42.132.82), ABS, DNV GL, LR, CE