

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.-%)**

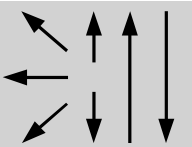
	C	Si	Mn
wt.-%	0.1	1.0	1.7

**Mechanical properties of all-weld metal**

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

u untreated, as welded – shielding gas Ar + 15 – 25 % CO<sub>2</sub>  
 u1 untreated, as welded – shielding gas 100 % CO<sub>2</sub>  
 s stress relieved, 600 °C/2h – shielding gas Ar + 15 – 25 % CO<sub>2</sub>

**Operating data**

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

**Approvals**

TÜV (3038.), DB (42.014.05), ABS (3SA, 3YSA), DNV (III YMS), GL (3YS), LR (3S, 3YS H15), SEPROZ, CE, NAKS