

BÖHLER HL 51-FD

Metal cored wire, unalloyed

Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.18	AWS A5.18M
T 46 4 M M 1 H5	T554T15-1MA-UH5	E70C-6MH4	E48C-6MH4

Characteristics and typical fields of application

Metal-cored high-efficiency wire for semi-automatic and fully automatic joint welding of unalloyed and fine-grained constructional steels and service temperatures from -40 °C to +450 °C. Very high metal recovery between 93 and 97 % and deposition rate up to 9 kg/hr. Steady spray arc-like droplet transfer with minimal spatter formation. Good penetration, high resistance to porosity, good wetting behaviour as well as low hydrogen contents (< 5 ml/100 g deposit) are further quality features of this metal cored wire. Minimum oxide residues permit the welding of multi passes without the need for inter-run cleaning. Ideal for horizontal and flat fillet welds. Compared to solid wires 20 % higher productivity can be achieved.

Base materials

Steels up to a yield strength of 460 MPa (67 ksi)

S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275N-S460N, S275M-S460M, P235GH-P355GH, P275NL1-P460NL1, P215NL, P265NL, P355N, P285NH-P460NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L450QB, L245MB-L450MB, 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, E; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60, X65

Typical analysis of all-weld metal (wt%)									
C		С	Si			Mn			
wt% 0.0		0.07		0.7		1.5			
Mechanical properties of all-weld metal									
Condition	Yield streng R _e	jth	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J				
	MPa		MPa	%	+20 °C –4		–40 °C		
u	490 (≥ 460)		610 (550 – 740)	27 (≥ 20)	130		90 (≥ 47)		
S	470		580	24	120		55		
u untreated, as welded – shielding gas Ar + 15 – 25 % CO ₂ s stress relieved, 580 °C/2 h - shielding gas Ar + 15 – 25 % CO ₂									
Operating data									
▶ ↑ ↑	Polari DC(+	-	Redrying not necessary	Shielding gases: Argon + 15 – 25 % CO ₂		ø (mm) 1.2			

Welding with standard GMAW-facilities possible.

Approvals

TÜV (11163.), DB (42.014.29), ABS (ø 1.2 mm), BV (ø 1.2 mm), DNV, GL (ø 1.2 mm), LR, CE