

Classifications

EN ISO 2560-A	EN ISO 2560-B	AWS A5.1M	AWS A5.1 / SFA-5.1
E 38 4 B 4 2 H5	E4916-1 A U H5	E4916-1 H4R	E7016-1 H4R

Characteristics and typical fields of application

Basic coated electrode for high-quality welds. Good weldability in all positions except vertical-down. Metal recovery about 110%. Very low hydrogen content (according AWS condition HD < 4 ml/100g weld metal). Weld metal extremely ductile, crack resistant and ageing resistant thus especially suited for rigid welds with heavy seam cross sections.

Base materials

Steels up to a yield strength of 380 MPa (52 ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S355N, S275M-S355M, P235GH-P355GH, P355N, P275NL1-P355NL1, P215NL, P265NL, P285NH-P355NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L360NB, L245MB-L360MB, 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, LF2; 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. A, C, D; A 662 Gr. A, B, C; A 678 Gr. A, B; A 711 Gr. 1013; API 5 L Gr. B, X42, X52, X56

Typical analysis

	C	Si	Mn
wt.-%	0.06	0.3	0.9


Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R_e MPa	Tensile strength R_m MPa	Elongation A ($L_0=5d_0$) %	Impact energy ISO-V KV J			
				20°C	-20°C	-40°C	-45°C
u	440 (≥ 380)	530 (≥ 470 – 600)	27 (≥ 20)	200	130	100 (≥ 47)	≥ 27
s	390 (≥ 380)	490 (≥ 470 – 600)	29 (≥ 20)	200	150	100 (≥ 47)	

u untreated, as welded

s stress relieved 600 °C/2h / furnace down to 300 °C / air

Operating data

	Polarity	DC +	Dimension mm	Current A
	Electrode identification	FOX EV 47 7016-1 E 38 4 B	2.5 × 250	80 – 110
			2.5 × 350	80 – 110
			3.2 × 350	100 – 140
			3.2 × 450	100 – 140
			4.0 × 450	130 – 180
			5.0 × 450	180 – 230
			6.0 × 450	240 – 280

Approvals

TÜV (01098), DB (10.014.09), ABS, BV, DNV, LR, RMR, RINA, CE