

Classifications

EN ISO 14341-A	AWS A5.18 / SFA-5.18
G 46 5 M21 4Si1	ER70S-6
G 46 4 C1 4Si1	

Characteristics and typical fields of application

Solid wire electrode with engineered surface, designed for reliable welding performance within a wide parameter range. ECOspark wires are characterised by very good feeding properties at high wire feeding rates, by a very stable arc performance and significant lower oxide / silicate forming on the weld surface. This makes them especially suited for fully mechanised processes where the wire comes in BASEdrum or the environmental friendly ECOdrum bulk package.

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

	C	Si	Mn
wt.-%	0.01	1.0	1.7

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

Condition	Yield strength R_e	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact energy ISO-V KV J		
	MPa	MPa	%	20°C	-40°C	-50°C
u1	480 (≥ 460)	620 (530 – 680)	26 (≥20)	150 (≥100)	-	80 (≥ 47)
u2	470 (≥ 460)	590 (530 – 680)	27 (≥20)	110 (≥80)	80 (≥ 47)	-

u1 untreated, as welded M21

u1 untreated, as welded CO₂
Operating data

	Polarity	DC +	Dimension mm
	Shielding gas (EN ISO 14175)	C1	0.8
		M2	0.9
		M3	1.0
			1.2
			1.6

Approvals

TÜV (19670), DB (42.132.88), DNV (IV YS), ABS, CE