ECOspark® 420

Solid wire, mild steel, non coppered

Classifications

EN ISO 14341-A	EN ISO 14341-B	AWS A5.18 / SFA-5.18	CSA W48-18 (GMAW Carbon Steel)
G 42 5 M21 3Si1	G 49A 5 M21 S6	ER70S-6	B-G 49A 5 M21 S6
G 42 4 C1 3Si1	G 49A 4 C1 S6		B-G 49A 4 C1 S6

Characteristics and typical fields of application

Solid wire electrode G3Si1 / ER70S-6 with increased properties for reliable welding performance within a wide parameter range. Suited for service and test temperaures down to -50ºC. Wires with the ECOspark® surface 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 manual and fully mechanised processes with wire from (reincorced) spools, BASEdrum or the environmental friendly ECOdrum bulk package.

Base materials

Steels up to a yield strength of 420 MPa (60 ksi)
S235JR-S355JR, S235J0-S355J0, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P275NL1-P355NL1, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, 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; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60

Typical analysis

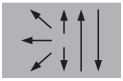
	C	Si	Mn
wt.-%	0.08	0.9	1.45

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	440 (≥ 420)	560 (500 – 640)	28 (≥20)	160 (≥ 110)	-	80 (≥ 47)
u2	430 (≥ 420)	530 (500 – 640)	26 (≥20)	130 (≥ 90)	95 (≥ 47)	-

u1 untreated, as welded M21
u2 untreated, as welded CO_2

Operating data



Polarity	DC+
Shielding gas (EN ISO 14175)	C1 M2 M3

Dimension mm
0.8
0.9
1.0
1.2
1.6

Approvals

TÜV (19669), DB (42.132.86), ABS, CWB, DNV, CE