

Classifications

EN ISO 17632-A	AWS A5.20 / SFA-A5.20	AWS A5.36 / SFA-5.36
T42 5 P C1 1 H5	E71T-12C JH4	E71T12-C1AP5-CS2-H4

Characteristics and typical fields of application

Seamless rutile flux cored wire for single- or multilayer welding of Carbon, Carbon-Manganese steels and similar types of steels including fine grain steels with pure CO₂ shielding gas.

Main features: excellent weldability in all positions and excellent toughness at low temperatures in as welded conditions and after post weld heat treatments. This wire is especially suitable for ship building, pressure vessels, bridge construction, and earthmoving equipment. The seamless technology guarantees constant low diffusible Hydrogen in all situations of humidity and environment. CTOD tested at -10 °C (14 °F). This product can be used in sour gas applications. (HIC tested acc. to NACE TM-0284). Test values for SSC are available upon request.

Base materials

S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275N-S460N, S275M-S460M, P235GH-P355GH, 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 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

	Gas	C	Si	Mn	Ni
wt.-%	C1	0.04	0.40	1.3	0.40

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	%	-40 °C	-50 °C	-60 °C
u	500 (≥ 420)	570 (500-640)	24 (≥ 20)	110 (≥ 47)	100 (≥ 47)	60
s1	460 (≥ 420)	550 (500-640)	28 (≥ 20)	80 (≥ 47)	75 (≥ 47)	55
s2	460 (≥ 420)	550 (500-640)	29 (≥ 20)	95 (≥ 47)	90 (≥ 47)	60

u untreated, as welded – shielding gas C1

s1 stress released 620°C / 3h – shielding gas C1

s2 stress released 620°C / 13h – shielding gas C1

Operating data

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	C1	1.2
			1.4
			1.6

Welding with standard GMAW-facilities possible

Approvals

ABS, CWB, DNV-GL, BV, LR, CE