

Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.18 / SFA-5.18
T 46 3 M M21 1 H5	T 49 3 T15-1M21A-UH5	E70C-6M H4
T 46 3 M M20 1 H5	T 49 3 T15-1M20A-UH5	

Characteristics and typical fields of application

Seamless metal-cored wire for semi-automatic and fully automatic joint welding of unalloyed and fine-grained constructional steels utilizing service temperatures from -46°C to +450°C. Steady spray arc-like droplet transfer with minimal spatter formation. 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. Ideal for horizontal and flat fillet welds. This wire is designed for minimum oxide residues permit the welding of multi passes without the need for inter-run cleaning. D1.8 Seismic Supplement approved.

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, P355N, P285NH-P460NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH- P265GH, L245NB-L415NB, L450QB, L245MB-L450MB, GE200-GE240, ship building steel: 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 516 Gr. 55, 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, X65

Typical analysis

	Gas	C	Si	Mn
wt.-%	M20 - M21	0.06	0.8	1.5


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	-30°C	-46°C
u	480 (≥460)	580 (550-660)	29 (≥22)	120	90 (≥47)	80 (≥27)
u1	530 (≥460)	610 (550-660)	25 (≥22)	120	90 (≥47)	70 (≥27)

u untreated, as welded – shielding gas M21

u1 untreated, as welded – shielding gas M20

Operating data

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	M20, M21 (Ar + 5 – 25% CO ₂)	1.0
			1.2
			1.6

Welding with conventional or pulsed power sources using DC+

Approvals

TÜV (09023), DB (42.052.08), ABS, BV, DNV, LR, CWB, RINA, CE, D1.8 seismic supplement