

**Classifications**

EN ISO 17632-A	EN ISO 17632-B	AWS A5.20 / SFA-5.20
T 46 4 P M21 1 H10	T 49 4 T1-1M21A-UH10	E71T-1/T-9/T-12M-JH8
T 42 2 P C1 1 H5	T 49 2 T1-1C1A-UH5	E71T-1/T-9/T-12C-JH4

**Characteristics and typical fields of application**

All position rutile flux-cored wire with fast freezing slag system. Suitable for welding with shielding gas M21 and 100% CO<sub>2</sub>. User friendly welding characteristics in all positions with one wire diameter 1.2 mm and same parameter setting. Excellent mechanical properties, easy slag removal, low spatter loss, smooth, finely rippled bead surface, high X-ray safety. For welding of unalloyed structural and fine-grained steels down to service temperature of -40°C with shielding gas M21.

The product performs to the highest productivity with significant savings in time and economical aspects when used for positional welding.

**Base materials**

Steels up to a yield strength of 460 MPa (shielding gas M21)

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,

shipbuilding steel: A, B, D, E, AH 27S - EH 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**

	Gas	C	Si	Mn
wt.-%	M21	0.06	0.50	1.20
wt.-%	C1	0.05	0.45	1.10

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

Condition	Yield strength R <sub>p0.2</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact energy ISO-V KV J	
	MPa	MPa	%	-20°C	-40°C
u	500 (≥ 460)	580 (550 – 660)	26 (≥ 22)	130	90 (≥ 47)
u1	480 (≥ 420)	550 (500 – 640)	25 (≥ 22)	110 (≥ 47)	40 (≥ 27)

u untreated, as welded – shielding gas M21

u1 untreated, as welded – shielding gas C1

**Operating data**

	<b>Polarity</b>	DC+	<b>Dimension mm</b>
	<b>Shielding gas</b>	M21, C1	1.2
	<b>(EN ISO 14175)</b>		1.6

Welding with standard GMAW-facilities possible

**Approvals**

TÜV (11164.), DB (42.014.35), ABS, LR, DNV, BV, CWB, RINA, CE