

**Classifications**

EN ISO 17632-A	EN ISO 17632-B	AWS A5.20 / SFA-A5.20	AWS A5.36 / SFA-5.36
T 46 2 R M21 3 H5	T 49 2 T1-0M21A-H5	E70T-1M/T-9M H4	E70T1-M21A0-CS1-H4
T 42 0 R C1 3 H5	T 49 0 T1-1C1A-H5	E70T-1C-T9C H4	E70T1-C1AZ-CS1-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 Argon-CO<sub>2</sub> shielding gas or pure CO<sub>2</sub>.  
Main features: good weldability in both flat and horizontal positions, slow freezing and easy to remove slag and bead is smooth and bright. This wire is especially suitable for ship building, steel structural work or wherever good bead appearance is required.

**Base materials**

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

AH 32-DH 40

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

**Typical analysis**

	Gas	C	Si	Mn
wt.-%	M21	0.04	0.50	1.55
wt.-%	C1	0.03	0.35	1.30


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

Condition	Yield strength R <sub>e</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	%	0°C	-20°C	-29°C
u	500 (≥ 460)	590 (550–660)	28 (≥ 22)	100	70 (≥ 47)	85 (≥ 27)
u1	450 (≥ 420)	520 (500–640)	26 (≥ 22)	60 (≥ 47)	40	35 (≥ 27)

u untreated, as welded – shielding gas M21

u1 untreated, as welded – shielding gas C1

**Operating data**

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	M21, C1	
			1.0
			1.2
			1.4
			1.6
			2.0
			2.4

Welding with standard GMAW-facilities possible

**Approvals**

ABS, CWB, CE