

Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.36	AWS A5.36M
T50 6 1Ni P M 1 H5	T576T1-1MA-N2-UH5	E81T1-M21A8-Ni1-H4	E551T1-M21A6-Ni1-H4

Characteristics and typical fields of application

Union RV Ni 1 is a seamless copper coated rutile flux cored wire for the welding of cryogenic steels in all positions with mixed gas M21 acc. to EN ISO 14175. The wire is characterized by a low spatter affinity, a fine bead appearance, a good slag detachability and x-ray proof joints. The weld metal furthermore disposes of excellent mechanical properties as welded and annealed. The Ni-alloyed weld metal (acc. to stickelectrode E8018-C3) allows the application at petrochemical constructions and offshore technics.

The fast solidifying slag permits the manual and mechanized position welding with increased welding current. The welding of root passes in all positions with ceramic backing strips is proven.

Base materials

S355JR, S355J0, S355J2, S450J0, S355N-S460N, S355NL-S460NL, S355M-S460M, S355ML-S460ML, S460Q, S500Q, S460QL, S500QL, S460QL1, S500QL1, P355GH, P355NH, P420NH, P460NH, P355N-P460N, P355NH-P460NH, P355NL1-P460NL1, P355NL2-P460NL2, L245NB-L415NB, L245MB-L485MB, L360QB-L485QB, aldur 500Q, aldur 500QL, aldur 500QL1

ASTM A 350 Gr. LF2; A 516 Gr. 65, 70; A 572 Gr. 42, 50, 60, 65; A 573 Gr. 70; A 588 Gr. B, C, K; A 633 Gr. A, C, D, E; A 662 Gr. B, C; A 678 Gr. B; A 707 Gr. L2, L3; A 841 Gr. A, B, C; API 5 L X42, X52, X60, X65, X70, X52Q, X60Q, X65Q, X70Q

Typical analysis of all-weld metal (wt.-%)

	Gas	C	Si	Mn	Ni
wt-%	M21	0.07	0.45	1.3	0.85

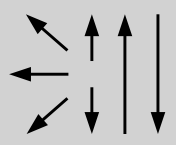
Mechanical properties of all-weld metal

Condition	Yield strength R _e	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	-40°C	-60°C
u	550 (≥500)	610 (560–690)	25 (≥18)	100	75 (≥47)
s	520 (≥500)	580 (560–690)	29 (≥18)	60	

u untreated, as welded – shielding gas M21

s stress relieved 620°C / 2h – shielding gas M21

Operating data

	Polarity:	Shielding gas:	ø (mm)	Spool	Amps A	Voltage V
	DC (+)	(EN ISO 14175) M21;	1.2	B300	160 – 300	22 – 32
	Consumption: 15 – 18 l/min		1.4	B300	180 – 350	23 – 32
			1.6	B300	180 – 375	24 – 33

Approvals

TÜV, DB, DNV-GL, ABS, CE