

Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.29	AWS A5.29M
T 50 6 1Ni P M 1 H5	T556T1-1MA-N1-UH5	E81T1-Ni1M-JH4	E551T1-Ni1MJH4

Characteristics and typical fields of application

Union TG 55 Ni is a rutile basic flux cored wire with fast freezing slag characteristic. It is suitable for GMAW welding with mixed gas M21 acc. to EN ISO 14175 for welding of structural steels with a nominal tensile strength of 500 MPa in all positions. The wire displays exceptional high impact properties in the as welded as well as in the stress relieved condition.

This "welder friendly" wire with its soft, spatter-free arc, always operates in spray arc mode. It is possible to weld in any position with one Diameter (1.2 mm from 160 A to 250 A), so ideal for fit-up work. Single sided root runs are made economically on ceramic backing strips. The nickel alloyed weld metal – corresponding to the stick electrode E8018-C3 – is usable in petrochemical plants and in offshore technology.

Areas of application are primarily in the offshore, structural steel and shipbuilding industries.

Base materials

S275N-S500N, S275NL-S500NL, S275M-S500M, S275ML-S500ML, S460QL1, S500QL1, P355N, P460N, P355Q-P500Q, P275NL1-P460NL1, P275NL2-P460NL2, L360NB, L415NB, L290MB-L485MB, L360QB-L485QB

ASTM A 203 Gr. D, E; A 350 Gr. LF1, LF2, LF3; A 420 Gr. WPL3, WPL6; A 516 Gr. 60, 65, 70; A 572 Gr. 42, 50, 55, 60, 65; A 633 Gr. A, D, E; A 662 Gr. A, B, C; A 707 Gr. L1, L2, L3; A 738 Gr. A; A 841 A, B, C; API 5 L X52, X60, X65, X70

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

	C	Si	Mn	P	S	Ni	Gas
wt-%	0.06	0.45	1.4	≤ 0.02	≤ 0.015	0.90	M21

Mechanical properties of all-weld metal

Heat-treatment	Shielding gas	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
		MPa	MPa	%	+20 °C	-60 °C
aw	M21	500	560	20	120	47

Operating data

	Polarity: DC (+)	Shielding gas: (EN ISO 14175) M21 Consumption: ca. 15 – 18 l/min	ø (mm) 1.2	Spool B300	Amps A 150 – 300	Voltage V 22 – 32
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Approvals

GL, LR