

Classifications

EN ISO 636-A	AWS A5.28 / SFA-5.28
W Z3Ni1	ER80S-G [ER80S-Ni1 (mod.)]

Characteristics and typical fields of application

Ni-alloyed GTAW rod for welding of offshore pipe work and similar high integrity applications. High impact properties down to $-50\text{ }^{\circ}\text{C}$. Test values for SSC-test are available.

Base materials

Cryogenic fine-grained steels and high strength steels up to 460 MPa yield strength.

S275N-S460N, S275NL-S460NL, S275M-S460M, S275ML-S460ML, P355N, P355NH, P460N, P460NH, P275NL1-P460NL1, P275NL2-P460NL2, L360NB, L415NB, L360MB-L450MB, L360QB-L450QB

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, X52Q, X60Q, X65Q

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Ni
wt.-%	0.07	0.7	1.4	0.9

Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J	
	MPa	MPa	%	$-20\text{ }^{\circ}\text{C}$	$-50\text{ }^{\circ}\text{C}$
u	500 (≥ 460)	600 (550 – 640)	25 (≥ 20)	150	≥ 47

u untreated, as welded – shielding gas Argon

Operating data

	Polarity: DC (–)	Shielding gases: 100 % Argon	Rod marking: front: ✦ WZ3Ni1	ø (mm) 2.0 2.4
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Preheating, interpass temperature and post weld heat treatment as required by the base metal.

Approvals

TÜV (12808.), CE