

**Classifications**

<b>EN ISO 636-A</b>	<b>AWS A5.28 / SFA-5.28</b>
W 3Ni1	ER80S-Ni5

**Characteristics and typical fields of application**

Ni-alloyed TIG rod and wire of W 3Ni1 / ER80S-Ni5 type for welding of offshore pipe work and similar high integrity applications. High impact properties down to  $-50^{\circ}\text{C}$ . Meets the requirements of NACE SSC-testing.  
(former classification: W Z3Ni1 / ER80S-G)

**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**


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

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

Condition	Yield strength $R_{p0.2}$	Tensile strength $R_m$	Elongation A ( $L_0=5d_0$ )	Impact energy ISO-V KV J	
	MPa	MPa	%	$20^{\circ}\text{C}$	$-50^{\circ}\text{C}$
u	500 ( $\geq 460$ )	600 (550 - 640)	25 ( $\geq 20$ )	150 ( $\geq 80$ )	( $\geq 47$ )

u untreated, as welded – shielding gas Argon

**Operating data**

	Polarity	DC-	Dimension mm
	Shielding gas (EN ISO 14175)	I1	0.8 1.2
	Rod marking	+ W 3Ni1 / ER80S-Ni5 (previous: W Z3Ni1)	1.6 × 1000 2.0 × 1000 2.4 × 1000 3.2 × 1000

Preheating, interpass temperature and post weld heat treatment as required by the base metal.

**Approvals**

TÜV (12808), CE