

Classifications

EN ISO 14341-A	EN ISO 14341-B	AWS A5.28	AWS A5.28M
G 46 8 M21 2Ni2	G 55A 8U M21 N5	ER80S-Ni2	ER55S-Ni2
G 46 6 C1 2Ni2	G 55A 6U C1 N5		

Characteristics und typical fields of application

2.5 % Ni-alloyed GMAW wire for high quality welds in the construction of storage tanks and piping systems for cryogenic applications. The weld deposit is noted for its particularly good low temperature an non-ageing properties down to $-80\text{ }^{\circ}\text{C}$.

Base materials

Cryogenic constructional steels and Ni-steels, cryogenic steels for ship building
 10Ni14, 12Ni14, 13MnNi6-3, 15NiMn6, S275N-S460N, S275NL-S460NL, S275M-S460M, S275ML-S460ML, P275NL1-P460NL1, P275NL2-P460NL2
 ASTM A 203 Gr. D, E; A 333 Gr. 3; A334 Gr. 3; A 350 Gr. LF1, LF2, LF3; A 420 Gr. WPL3, WPL6;
 A 516 Gr. 60, 65; AA 529 Gr. 50; A 572 Gr. 42, 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

Typical analysis of solid wire (wt.-%)

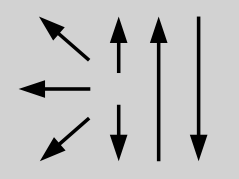
C	Si	Mn	Ni
0.08	0.6	1.0	2.4

Mechanical properties of all-weld metal

Condition	Yield strength	Tensile strength	Elongation	Impact work		
	$R_{p0,2}$	R_m	A ($L_0=5d_0$)	ISO-V KV J		
	MPa	MPa	%	+20 °C	-60 °C	-80 °C
u	510 (≥ 460)	600 (550 – 740)	22 (≥ 20)	170		≥ 47
u2	500 (≥ 460)	590 (550 – 740)	22 (≥ 20)	120	≥ 47	

u untreated, as welded – shielding gas Ar + 15 – 25 % CO₂
 u2 untreated, as welded – shielding gas 100 % CO₂

Operating data

	Polarity	Shielding gases:	\varnothing (mm)
	DC (+)	Argon + 15 – 25 % CO ₂	0.8
		100% CO ₂	1.0
			1.2

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

Approvals

TÜV (01080.), DB (42.014.16), ABS (XYQ460X-5), BV (SA 3 YM; UP), DNV (5 YMS), GL (6Y38S), LR (5Y40S H15), SEPROZ, CE, RMR