

Classifications

EN ISO 18274	AWS A5.14
S Ni 6625 (NiCr22Mo9Nb)	ERNiCrMo-3

Characteristics and typical fields of application

GMAW wire for high-quality joint welding of nickel-base alloys like alloy 625 and alloy 825 as well as of CrNiMo stainless steels with high Mo-content (e.g. "6Mo" steels). Additionally it is recommended for high-temperature or creep resisting, heat resisting and cryogenic materials, joining of dissimilar steels, and also for problem steels. Can be used for pressure vessel fabrication for service temperatures in the -196°C to $+550^{\circ}\text{C}$ range, otherwise up to scaling resistance limit of $+1200^{\circ}\text{C}$ (S-free atmosphere). Due to the weld metal embrittlement between $600 - 850^{\circ}\text{C}$, this temperature range should be avoided. Highly resistant to hot cracking; furthermore, C-diffusion at high service temperatures or during post weld heat treatment of dissimilar steels is largely inhibited. Extremely resistant to stress corrosion cracking and pitting (PRE_N 52). Resistant to thermal shocks, fully austenitic. Low coefficient of thermal expansion (between C-steels and austenitic CrNi (Mo) steel). Wire and weld metal satisfy highest quality standards.

Base materials

2.4856 NiCr 22 Mo 9 Nb, 2.4858 NiCr 21 Mo, 2.4816 NiCr 15 Fe, 1.4583 X10CrNiMoNb18-12, 1.4876 X 10 NiCrAlTi 32 20 H, 1.4876 X 10 NiCrAlTi 32 20, 1.4529 X1NiCrMoCuN25-20-7, X 2 CrNiMoCuN 20 18 6, 2.4641 NiCr 21 Mo 6 Cu,
Joint welds of listed materials with non-alloy and low alloy steels, e.g P265GH, P285NH, P295GH, 16Mo3, S355N, X8Ni9,
N 08926, ASTM A 553 Gr.1, Alloy 600, Alloy 625, Alloy 800, 9% Ni- steels

Typical analysis of solid wire (wt.-%)

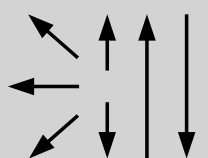
	C	Si	Mn	Cr	Ni	Mo	Nb	Fe	Ti
wt.-%	≤ 0.02	0.1	0.1	22.0	Bal.	9.0	3.6	≤ 0.5	+

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	%	$+20^{\circ}\text{C}$	-196°C
u	510 (≥ 460)	780 (≥ 760)	40 (≥ 25)	130	80 (≥ 32)

u untreated, as welded – shielding gas Argon + 40 % Helium

Operating data

	Polarity: DC (+)	Shielding gases: 100% Argon M12 (Argon + 30 % He + 0,5 % CO ₂) Ar + 28 % He + 2 % H ₂ + 0,05 % CO ₂	ø (mm)
			1.0
			1.2

Welding with puls technic will be advantageous

Approvals

TÜV-D (04323.), Statoil, SEPROZ, CE. NiCr 625-IG A: TÜV-D (09404.), DB (43.014.25), CE