

Classification

EN ISO 14172	AWS A5.11
E Ni 6625 (NiCr22Mo9Nb)	ENiCrMo-3

Characteristics and typical fields of application

Basic electrode, core wire alloyed for welding the nickel-base alloy 625 and 825 as well as CrNiMo-steels with high molybdenum content (e.g. "6% Mo" steels). It is also recommended for high temperature and creep resisting steels, heat resisting and cryogenic materials, dissimilar joints, and low-alloyed problem steels. Suitable in pressure vessel fabrication for -196°C to +550°C, otherwise up to the scaling resistance temperature of +1200°C (S-free atmosphere). Due to the weld metal embrittlement between 600 – 850°C, this temperature range should be avoided. Highly resistant to hot cracking. Furthermore C-diffusion at high temperature or during heat treatment of dissimilar joints is largely reduced. Extremely resistant to stress corrosion cracking and pitting (PRE_N 52). Thermal shock resistant, fully austenitic, low coefficient of thermal expansion between C-steel and austenitic CrNi (Mo)-steel.

Excellent welding characteristics in all positions except vertical-down, easy slag removal, high resistance to porosity. Electrodes and weld metal meet highest quality requirements.

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 21, 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, ASTM A 553 Gr.1, N 08926, Alloy 600, Alloy 625, Alloy 800 (H), 9 % Ni-steels

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

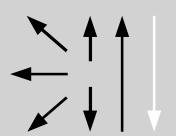
	C	Si	Mn	Cr	Ni	Mo	Al	Nb	Co	Fe
wt.-%	0.025	0.4	0.7	22.0	Bal.	9.0	≤ 0.4	3.3	≤ 0.05	<1

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°C	-196°C
u	530 (≥ 420)	800 (≥ 760)	40 (≥ 27)	80	45 (≥ 32)

u untreated, as welded

Operating data

	Polarity: DC (+)	Redrying if necessary: 250 – 300°C, min. 2 h	Electrode identification: FOX NIBAS 625 NiCrMo-3 resp. FOX NiCr 625 NiCrMo-3	ø (mm)	L mm	Amps A
				2.5	250	45 – 60
				3.2	300	65 – 95
				4.0	350	90 – 120

Approvals

TÜV (04911.), Statoil, LTSS, SEPROZ, NAKS, CE,
(FOX NiCr 625: TÜV (03773.))