

Classifications

EN ISO 14172	AWS A5.11	Mat. No.
E Ni 6625 (NiCr22Mo9Nb)	ENiCrMo-3	2.4621

Characteristics and typical fields of application

High resistance to corrosive environments. Resistant to stress corrosion cracking. Resistant to scaling up to 1000 °C (1832 °F). Temperature limit: 500 °C (932 °F) max. in sulphureous atmospheres. High temperature resistant up to 900 °C (1652 °F). Good toughness at subzero temperatures as low as -196 °C (-321 °F). For joining and surfacing work with matching / similar corrosion resistant materials as well as on matching and similar heat resistant, high temperature steels and alloys. For joining and surfacing work with cryogenic austenitic CrNi(N) steels / cast steel grades and on cryogenic Ni steels suitable for quenching and tempering.

Base materials

TÜV-certified parent metal

1.4547	- Alloy 254SMO	- UNS S31254	- X1CrNiMoCuN20-18-7
1.4876	- Alloy 800	- UNS N08800	- X10NiCrAlTi32-20
1.4958	- Alloy 800 H	- UNS N08810	- X5NiCrAlTi31-20
2.4816	- Alloy 600	- UNS N06600	- NiCr15Fe
2.4856	- Alloy 625	- UNS N06625	- NiCr22Mo9Nb
2.4858	- Alloy 825	- UNS N08825	- NiCr21Mo

and combinations of aforementioned materials with ferritic steels up to S355J, 16Mo3, 10CrMo9-10 and 9% Ni steels.

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

	C	Si	Mn	Cr	Mo	Ni	Nb	Fe
wt-%	< 0.04	< 0.7	< 1	21.5	9.0	Bal.	3.3	< 2.0

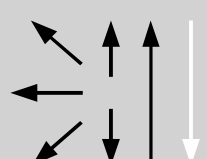
Structure: Austenite

Mechanical properties of all-weld metal

Heat-treatment	Yield strength	Yield strength	Tensile strength	Elongation	Impact work	
	R _{p0.2}	R _{p1.0}	R _m	A (L ₀ =5d ₀)	ISO-V CVN J	
	MPa	MPa	MPa	%	+20 °C	-196°C
aw	420	450	760	30	75	60

Creep rupture properties: As per matching high temperature materials

Operating data

	Polarity:	∅ mm	L mm	Amps A
	DC (+)	2.5	250	45 – 70
		3.2	300	65 – 105
		4.0	350	85 – 130
		5.0	400	130 – 160

Welding instruction		
Materials	Preheating	Postweld heat treatment
Matching / similar metals	None	None; if necessary, solution annealing at 1150 °C (2102 °F)
Cryogenic CrNi(N) steels / cast steel grades	None	None
Cryogenic Ni steels / cast steel grades suitable for quenching and tempering	According to parent metal	None
Approvals		
TÜV (03463), GL, CE		