

Classifications

EN ISO 3581-A	AWS A5.4	Mat. No.
E 19 12 3 Nb R 3 2	E318-17	1.4576

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). Corrosion resistant similar to matching stabilized CrNiMo steels. For joining and surfacing work with matching and similar stabilized and non stabilized austenitic CrNi(N)- and CrNiMo(N) steels and cast steel grades.

Base materials

TÜV certified parent metal
1.4583 – X10CrNiMoNb18-12; AISI 316L, 316Ti, 316Cb

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

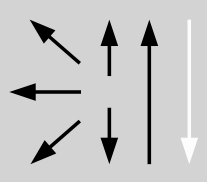
	C	Si	Mn	Cr	Mo	Ni	Nb
wt-%	< 0.03	< 0.9	0.8	19.0	2.8	12.0	> 10xC

Structure: Austenite with part ferrite

Mechanical properties of all-weld metal

Heat-treatment	Yield strength R _{p0.2}	Yield strength R _{p1.0}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	400	440	550	30	60

Operating data

	Polarity:	ø (mm)	L mm	Amps A
	DC (+) / AC	2.0	300	40 – 60
		2.5	350	50 – 90
		3.2	350	80 – 120
		4.0	350	110 – 160
		5.0	450	140 – 200

Welding instruction

Materials	Preheating	Postweld heat treatment
Matching / similar steels / cast steel grades	None	Mostly none. If necessary, solution annealing at 1050 °C (1922 °F) – pay attention to susceptibility to embrittlement

Approvals

TÜV (00607), DB (30.132.09), CE