

Classifications

EN ISO 3581-A	AWS A5.4	Mat. No.
E 19 9 L R 3 2	E308L-17	1.4316

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 350 °C (662 °F). Corrosion resistant similar to matching low carbon and stabilized austenitic 18/8 CrNi(N) steels / cast steel grades.

Good resistance to nitric acid. For joining and surfacing applications with matching and similar – stabilized and non stabilized – CrNi(N) steels/cast steel grades. Cold toughness at subzero temperatures as low as –105 °C (–157 °F).

Base materials

TÜV certified parent metals

1.4311 – X2CrNi18-10; 1.4550 – X6CrNiNb18-10;
AISI 304, 304L, 304LN, 302, 321, 347; ASTM A157 Gr. C9; A320 Gr. B8C od. D

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

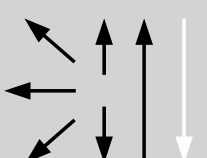
	C	Si	Mn	Cr	Ni
wt-%	< 0.04	< 0.9	0.8	19.5	9.5

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	–105 °C
aw	320	350	550	35	65	40

Operating data

	Polarity: DC (+) / AC	ø (mm)	L mm	Amps A
		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 and similar non stabilized and stabilized CrNi(N) steels / cast steel grades	None	Mostly none. If necessary, solution annealing at 1000 °C (1832 °F)
Cryogenic austenitic steels / cast steel grades	None	None

Approvals

TÜV (00558), DB (30.132.07), CE