

Classifications

EN ISO 14343-A	AWS A5.9	Mat. No.
G Z 18 16 5 N L	ER317L(mod.)	1.4453

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). High Mo content provides elevated resistance to Cl-bearing environment and pitting corrosion. Non magnetic. Well suited for joining and surfacing to matching and similar austenitic non-stabilized and stabilized stainless and non magnetic CrNiMo(N) steels / cast steel grades.

Recommended for joining matching/similar austenitic and ferritic steels / cast steel grades with a maximum application temperature of 300 °C (572 °F). Well suited for depositing intermediate layers when welding products clad with a matching or similar overlay.

Base materials

TÜV-certified parent metal

1.4429 – X2CrNiMoN17-13-3; 1.4436 – X3CrNiMo17-13-3; 1.4438 – X2CrNiMo18-16-4;
1.4439 – X2CrNiMoN17-13-5; 1.4583 – X10CrNiMoNb18-12

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Cr	Mo	Ni	N
wt-%	0.02	0.4	5.5	19.0	4.3	17.2	0.16

Structure: Austenite, no 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	320	350	570	34	65

Operating data

Polarity:	Shielding gas:	ø (mm)	Spool:
DC (+)	(EN ISO 14175) M12, M13	1.0 1.2	B300 B300

Welding instruction

Materials	Preheating	Postweld heat treatment
Matching and similar austenitic non-stabilized and stabilized CrNiMo(N) steels/cast steel grades	None	If necessary, solution annealing at 1050 °C (1922 °F) annealing at 1050 °C (1922 °F)
Non magnetic CrNiMo(N) steels / cast steel grades Stahlgussorten	None; keep interpass welding temperature low	If necessary, stress relieving according to parent metal, otherwise solution annealing at 1050 °C (1922 °F)

Approvals

TÜV (11507), CE