

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
G 19 12 3 Nb Si	ER318 (mod.)

Characteristics and typical fields of application

Solid wire of G 19 12 3 Nb Si / ER318 (mod.) type type for joining and surfacing application with matching and similar stabilized and non-stabilized austenitic CrNi(N) and CrNiMo(N)-steels and cast steel grades. Corrosion resistance similar to matching stabilized CrNi-Mo-steels. Max. service temperature 400°C.

Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNi-Mo17-13-3, 1.4437 GX6CrNiMo18-12, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2, 1.4583 X10CrNiMoNb18-12
UNS S31600, S31603, S31635, S31640, S31653, AISI 316, 316L, 316Ti, 316Cb

Typical analysis

	C	Si	Mn	Cr	Ni	Mo	Nb
wt.-%	0.05	0.8	1.5	19	12.0	2.8	≥ 12×C

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J
	MPa	MPa	%	20°C
u	390	600	30	70

u untreated, as-welded – shielding gas Ar + 2.5% CO₂

Operating data

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	M12	0.8
	M13	1.0	
		1.2	

Suggested heat input max. 1.5 kJ/mm and interpass temperature max. 100°C. SPost-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1050°C followed by water quenching.

Approvals

TÜV (19609), DB (43.132.82), CE