

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9
G 23 12 L Si	SS309LSi	ER309LSi

Characteristics and typical fields of application

Solid wire of G 23 12 L Si / ER309LSi type for joining unalloyed and low-alloyed steels and cast steel grades or stainless heat resistant Cr-steels to austenitic steels. Well-suited for depositing intermediate layers when welding clad materials. Favorably high Cr and Ni contents, low C content. For depositing intermediate layers when welding the side of plates clad with low-carbon unstabilized or stabilized austenitic CrNiMo(N) austenitic metals. Application temperature max. 300°C.

Base materials

Primarily used for surfacing (buffer layer) unalloyed or low-alloyed steels and when joining non-molybdenum-alloyed stainless and carbon steels. Joints and mixed joints between austenitic steels such as 1.4301 X5CrNi18-10, 1.4306 X2CrNi19-11, 1.4308 GX5CrNi19-10, 1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4408 GX5CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-12-3, 1.4541 X6CrNiTi18-10, 1.4550 X6CrNiNb18-10, 1.4552 GX5CrNiNb19-11, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2 1.4583 X10CrNiMoNb18-12, 1.4948 X6CrNi18-10

UNS S30400, S30403, S30809, S31600, S31603, S31635, S32100, S34700, S31640

AISI 304, 304L, 316, 316L, 316Ti, 321, 347 or mixed joints between austenitic and heat resistant steels such as: 1.4713 X10CrAlSi7, 1.4724 X10CrAlSi13, 1.4742 X10CrAlSi18, 1.4826

GX40CrNiSi22-10, 1.4828 X15CrNiSi20-12 1.4832 GX25CrNiSi20-14, 1.4837 GX40CrNiSi25-12 with ferritic steels to pressure boiler steels P295GH and fine grained structural steels to P355N, ship building steel grades A – E, AH 32 – EH 36, A40 – F40, etc.

Typical analysis of solid wire

	C	Si	Mn	Cr	Ni
wt-%	0.03	0.9	2.0	24.0	13.0

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 values ISO-V CVN J
	MPa	MPa	%	+20 °C
u	420 (≥ 320)	570 (≥ 520)	30 (≥ 25)	55 (≥ 32)

u unbehandelt, Schweißzustand – Schutzgas Ar + max. 2,5% CO₂

Operating data

	Polarity: DC +	Shielding gas: (EN ISO 14175) M12, M13	Ø mm 0.8 1.0 1.2 1.6	Spool: BS300 Drum: BASEdrum ECOdrum
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Approvals

TÜV (12312), DNV GL, NAKS, CE