

Description

SFA 316LSI is a G 19 12 3 LSi/ER 316LSi type solid MAG welding wire, supplied precision layer wound, depositing a low C-19Cr12Ni2.5Mo weld metal. Suitable for use with Ar+2%O₂ or Ar+0.5...5%CO₂ mixed shielding gases. SFA 316LSI is used for welding of 316 and 316L grade stainless steels, in a wide range of applications including the fabrication of pipe and plate. The higher Si level results in a smooth weld bead shape and even appearance with excellent toe blending particularly in fillet welds. The weld metal has a high resistance to pitting and crevice corrosion by non-oxidizing acids. Used for applications with service temperatures <400°C. Precision layer winding technologies ensure smooth, virtually trouble-free feeding.

Materials to be welded

1.4401 (X4CrNiMo17-12-2), 1.4435 (X2CrNiMo18-14-3), AISI 316L
1.4571 (X6CrNiMoTi17-12-2), 1.4583 (X10CrNiMoNb18-12)

Classification

AWS A 5.9 : ER 316LSi
EN ISO 14343 : G 19 12 3 L Si

Typical weld metal chemical composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P
0,030 max.	1,60 – 2,50	0,65 – 1,00	18,00 – 20,00	11,00 – 14,00	2,00 – 3,00	0,75 max.	0,03 max.	0,03 max.

All weld metal mechanical properties (typical)

Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Impact energy ISO-V(J) 20°C
≥350	≥510	≥30%	≥80

The chemistry and all weld mechanical properties will vary with the type of shielding gas used. Recommended shielding gas is EN ISO 14175 : Ar+0.5%≤O₂≤3%, Ar+0.5≤CO₂≤5.

Welding directions

MIG welding can be performed as short, spray or pulsed arc. Short arc is preferably used for thin gauges, both for horizontal and positional welding. Spray arc increases the deposition rate. Welding with pulsed arc gives excellent possibilities for a good result in varying plate thicknesses in all positions. The highest flexibility using pulsed arc is achieved with 1.20 mm.

Current conditions

DC (+)

Storage

Keep dry and avoid condensation

Recommended welding data

Operating range		Diameter (mm)		
		0.8	1.0	1.2
Ar+1~2%CO ₂	Amp	40~120	80~160	100~210
	Volt	15~20	16~22	17~22
Ar+1~2%O ₂	Amp	160~210	180~280	200~300
	Volt	24~28	24~30	24~30

Packing data

Size (mm)	0.60	0.80	0.90	1.00	1.10	1.20	1.60
Weight (kg)	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00

Welding positions

