

Description

SFA 307 is a G 18 8 Mn/ER 307 (similar) type solid MAG welding wire, supplied precision layer wound, depositing a C-18Cr8Ni6Mn weld metal. Suitable for use with Ar+2%O₂ or Ar+0.5...5%CO₂ mixed shielding gases. SFA 307 is suitable for welding dissimilar steels between unalloyed steels, austenitic stainless steels or heat resisting steels, also used for welding of hardening and tempering steels, such as ballistic steels. The increased silicon content promotes weld pool fluidity to give a smooth deposit appearance.

Materials to be welded

Difficult-to-weld steels
 Ferrite-Austenite heterogeneous joints ("Black-White"), X120Mn12 (1.3401); Armour plate.

Classification

AWS A 5.9: ER 307

EN ISO 14343 - A: G 18 8 Mn

Typical weld metal chemical composition (%)

C	Mn	Si	Cr.	Ni	Mo	Cu	S	P
0,020 max.	5,00 – 8,00	1,20 max.	17,00 – 20,00	7,00 – 10,00	0,30 max.	0,30 max.	0,03 max.	0,03 max.

All weld metal mechanical properties (typical)

Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	El A5 (%)	Impact energy ISO – V (J) 20° C
≥420	≥590	>40	≥100

Shielding gas

EN ISO 14175: M12, M13, M20, M21

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

Applications

Suitable for steel construction and production of machinery. Welding of ships, boilers, pipes, etc.

Recommended welding data

Operating range		Diameter (mm)		
		0.8	1.0	1.2
Ar+1~2%CO2	Amp	40~120	80~160	100~210
	Volt	15~20	16~22	17~22
Ar+1~2%O2	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) SD300/BS300	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

