

Technical data sheet

011121MBA

**Cored welding wire
TUBE S 312-G****CLASSIFICATION**

ASME IIC SFA 5.9 / AWS A 5.9:	EC312
EN ISO 17633-A:	T 29 9 M M12 1
EN ISO 17633-B:	TS312-M M12 1
Equivalent Material number:	1.4337
ASME IX Qualification	QW432 F-N° 6 QW442 A-N° 8

DESCRIPTION

- Metal cored stainless steel wire for gas shielded arc welding
- 29% chromium - 9% nickel deposit
- Enhanced productivity, improved weldability, better wetting properties compared to solid wires
- Excellent weld metal quality and X-ray soundness

APPLICATIONS

Its high alloy content and high ferrite ratio allow Tube S 312-G to benefit from extreme tolerance to hot cracking and to dilution with a wide range of base materials. Preheat can often be avoided or minimised. The weld deposit workhardens and gives good wear and friction resistance.

Examples:

- Welding stainless steels of similar composition or ferritic stainless steels.
- Joining stainless steels to mild and low-alloyed steels.
- Buffer layers before hardsurfacing.
- Maintenance on « hard-to-weld steels ».
- Welding high carbon hardenable steels, of known or unknown composition and generally most of steels subject to cracking such as tool steels, manganese steels, spring steels and high-speed steels.

TYPICAL ALL-WELD METAL ANALYSIS

C	Mn	Si	Cr	Ni	Mo	S	P
0.03	1.50	0.55	28.5	9.00	0.40	0.008	0.015

Typical ferrite level: 35%

MINIMUM ALL-WELD METAL MECHANICAL PROPERTIES

Rm [MPa]	Rp0.2% [MPa]	As [%]	CVN [J]
660	450	15*	+20°C: 32

* 22 % elongation on A₄ as required by AWS is not obtained on all fabrications.

TYPICAL ALL-WELD METAL MECHANICAL PROPERTIES

Rm [MPa]	Rp0.2% [MPa]	As [%]	CVN [J]
800	610	25	+ 20°C: 40

SHIELDING GAS

EN ISO 14175:	M12	Ar + 0.5 % < CO ₂ ≤ 2.5 with or without Helium
	Z	Ar + CO ₂ ≤ 0.5 % or O ₂ ≤ 0.5 % with or without Helium
	M20	Ar + 5 % < CO ₂ ≤ 15
	I1	Ar
	M13	Ar + 0.5 % < O ₂ ≤ 3.0 with or without Helium

OPERATING CONDITIONS

Current type	Gas flow rate	Stick out	Recovery
DC (+) / pulsed	10 - 20 l/min.	12 - 25 mm	98 %

WELDING POSITIONS

EN ISO 6947: PA, PB
ASME IX: 1G, 1F, 2F

Tube S 312-G is primarily used in the flat and horizontal-vertical positions. However, welds in other positions are also possible using the short-circuiting or pulsed arc modes of transfer.

PACKAGING

Diameter	1.2 mm		1.6 mm
	EN ISO 544 – ASME II C SFA-5.2 M		
Spool type	S200	BS300	BS300
Weight	5 kg	15 kg	15 kg

Other packaging and other diameters: please consult us

Welding products and techniques evolve constantly. All descriptions, illustrations and properties given in this data sheet are subject to change without notice and can only be considered as suitable for general guidance. This document is intended to help the user make the correct choice of product. It is his responsibility to assess its suitability for his intended application.