Technical data sheet 011121MBA	Stainless steel filler metal – Solid wire # WA TSS/MSS 312	Welding Alloys

CLASSIFICATION

ASME IIC SFA 5.9 / AWS A 5.9:	ER312
EN ISO 14343-A:	W 29 9 / G 29 9
EN ISO 14343-B:	SS312
Equivalent material number:	1.4337
ASME IX Qualification	QW432 F-N° 6

DESCRIPTION

- GTAW rod / GMAW stainless steel solid wire
- 29% chromium - 9% nickel type
- Designed for difficult to weld steels and dissimilar joints

APPLICATIONS

Their high alloy content and high ferrite ratio allow WA TSS/MSS 312 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 WIRE ANALYSIS (weight %)

C	Mn	Si	Cr	Ni	S	P
0.1	1.7	0.4	30	9	0.008	0.015

Typical ferrite level: 50FN

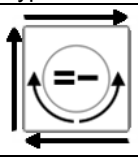
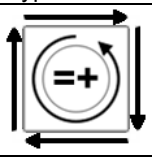
MINIMUM ALL-WELD METAL MECHANICAL PROPERTIES (GMAW)

Rm [MPa]	Rp0.2% [MPa]	A_5 [%]	CVN [J]
650	450	18	+ 20°C: 32

TYPICAL ALL-WELD METAL MECHANICAL PROPERTIES (GMAW)

Rm [MPa]	Rp0.2%[MPa]	A_5 [%]	CVN [J]
820	730	20	+ 20°C: 50

SHIELDING GAS – OPERATING CONDITIONS – WELDING POSITIONS

GTAW		GMAW	
Shielding gas according to EN ISO 14175	Welding positions Current type	Shielding gas according to EN ISO 14175	Welding positions Current type
I1 (100 % argon)		M12 mixed gas (Ar + 0.5-5% CO_2) M13 mixed gas (Ar + 0.5-3% O_2)	

PACKAGING

Spools	Ø mm	0.8	1.0	1.2	1.6
Rods	Ø x1000 mm	1.6	2.0	2.4	3.2

Other diameters are available on request