

MIDALLOY ER312 BARE WIRE

CLASSIFICATION

- AWS A 5.9 Class ER312 / ASME SFA 5.9 Class ER312

DESCRIPTION

- Midalloy ER312 bare welding wire is used for GMAW and GTAW welding.

APPLICATIONS

- Midalloy ER312 bare welding wire is used for joining and overlaying a variety of metals; carbon steels, spring steels, tool and die steels, and various alloy steels.
- Midalloy ER312 bare welding wire is an excellent choice for dissimilar metals and for build-up of high alloy steels.
- Because of the high ferrite, limit welding to two or three layers only when welding similar cast alloys.

TYPICAL CHEMISTRY

C	Mn	Si	Cr	Ni	Mo	Cu	P	S	N
.100	1.75	.40	30.4	9.2	.20	.10	.02	.005	.035

TYPICAL MECHANICAL PROPERTIES

Tensile Strength	109,500 PSI
Yield Strength	78,500 PSI
Elongation in 2"	25%

RECOMMENDED WELDING PARAMETERS

PROCESS	WIRE DIAMETER	VOLTAGE	AMPERAGE	GAS
TIG	1/16"	14-18	90-130	100% ARGON
	3/32"	15-20	120-175	100% ARGON
	1/8"	15-20	150-220	100% ARGON
MIG	.035"	26-29	150-180	99% AR + 1% OXYGEN OR 97% AR + 3% CO ₂
	.045"	28-32	180-220	99% AR + 1% OXYGEN OR 97% AR + 3% CO ₂
	1/16"	29-33	200-250	99% AR + 1% OXYGEN OR 97% AR + 3% CO ₂

OTHER INFORMATION

- This alloy gives a two phase weld deposit with substantial percentages of ferrite in an austenite matrix. Even when considerable dilution by austenite-forming elements such as nickel, the microstructure remains two phase and thus highly resistant to weld metal cracks and fissures.

STANDARD PACKAGING

- Tig 10 lb. tube/60 lb. carton
1 lb. tube/10 lb. carton
- Mig 30 lb. spool

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