

MIDALLOY ER120S-1 WELDING WIRE

CLASSIFICATION

- AWS 5.28 Class ER120S-1 / ASME SFA 5.28 Class ER120S-1
- ASME Section IX F#6 / A#10

DESCRIPTION

- MIDALLOY ER120S-1 is a low-alloy, bare welding wire suited for MIG or TIG welding.

APPLICATIONS

- MIDALLOY ER120S-1 is used to weld HY100 and other similar steels.
- Welds exhibit high strength as well as low temperature toughness down to -60°F.
- Good resistance to cold cracking.
- Used for joining large vehicle and crane manufacturing.
- For welding high strength pressure vessels and some heat treatable steels.

TYPICAL CHEMISTRY

C	Mn	Si	P	S	Ni	Cr	Mo	V	Ti	Zr	Al	Cu
.08	1.7	.45	.005	.005	2.0	.07	.50	.01	.003	.003	.003	.18

TYPICAL MECHANICAL PROPERTIES*

	GMAW	GTAW
TENSILE STRENGTH	125,000 PSI	121,800 PSI
YIELD STRENGTH	115,000 PSI	110,500 PSI
ELONGATION IN 2"	16%	20%
CHARPY V NOTCH @ -60°F	≥ 50 FT-LBS	≥ 50 FT-LBS

*Mechanical properties are greatly influenced by preheat, interpass temperature, and post-weld heat treatment.

RECOMMENDED WELDING PARAMETERS

PROCESS	DIA. OF WIRE	AMPERAGE	VOLTAGE	GAS/FLUX
GMAW (MIG) SHORT ARC	.035"	100 - 140	22 - 25	100% CO ₂
	.045"	120 - 150	23 - 26	75% Ar / 25% CO ₂
GMAW (MIG) SPRAY TRANSFER	.035"	160 - 200	28 - 32	98% Ar / 2% O ₂
	.045"	180 - 220	30 - 34	75% Ar / 25% CO ₂
	1/16"	280 - 350	28 - 32	98% Ar / 2% O ₂
GTAW (TIG)	1/16"	50 - 120	7 - 13	100% Ar
	3/32"	120 - 200	10 - 16	100% Ar
	1/8"	150 - 220	12 - 18	100% Ar

STANDARD PACKAGING

- MIG: 33 lb. Spool
- TIG: 10 lb. Tube / 60 lb. Carton

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