

**MIDALLOY ER90S-B3 / EB3 WELDING WIRE**

**CLASSIFICATION**

- AWS 5.28 Class ER90S-B3 / ASME SFA 5.28 Class ER90S-B3
- AWS 5.23 Class EB3 / ASME SFA 5.23 Class EB3

**DESCRIPTION**

- MIDALLOY ER90S-B3 & EB3 welding wire is a bare wire used for GMAW, GTAW, and SAW welding.

**APPLICATION**

- MIDALLOY ER90S-B3 is designed for gas metal arc welding of 2¼ Cr / 1 Mo steels, which are used for high temperature applications.
- A preheat and interpass temperature of not less than 350°F should be maintained during welding.

**TYPICAL CHEMISTRY**

C	Mn	Si	Cr	Mo	P	S	Cu
.10	.62	.48	2.55	1.08	.009	.006	.12

NOTE: Silicon .20 in SAW

**TYPICAL MECHANICAL PROPERTIES**

TENSILE STRENGTH 650 MPA	94,500 PSI
YIELD STRENGTH 550 MPA	80,500 PSI
ELONGATION IN 2"	19%
IMPACT STRENGTH @ 68° F	80 ft. lbs

NOTE: Mechanical properties listed reflect utilization of a post-weld heat treatment between 1250°F and 1300°F for one hour.

**RECOMMENDED WELDING PARAMETERS**

PROCESS	DIA. OF WIRE	AMPERAGE	VOLTAGE	GAS/FLUX
GTAW (TIG)	1/16"	50-120	7-13	Ar
	3/32"	120-200	10-16	Ar
	1/8"	150-220	12-18	Ar
GMAW (MIG) SHORT ARC	.035"	90-160	14-20	Co <sub>2</sub>
	.045"	120-200	16-20	CO <sub>2</sub> or 75 Ar/25 CO <sub>2</sub>
	1/16"	-	-	CO <sub>2</sub> or 75 Ar/25 CO <sub>2</sub>
GMAW (MIG) SPRAY TRANSFER	.035"	180-230	25-28	98 Ar/2 O <sub>2</sub>
	.045"	250-350	25-30	75 Ar/25 CO <sub>2</sub>
	1/16"	280-400	26-36	75 Ar/25 CO <sub>2</sub>
SUBMERGED ARC	3/32"	250-400	28-32	UV420TTR
	1/8"	400-600	30-34	UV420TTR

**STANDARD PACKAGING**

- TIG 50 lb. carton
- MIG 33 lb. spool
- SUB-ARC 55 lb. coil

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