

MIDALLOY ER409Cb BARE WIRE

CLASSIFICATION

- AWS 5.9 Class ER409Cb / ASME SFA 5.9 Class ER409Cb (UNS S40940)

DESCRIPTION

- MIDALLOY ER409Cb bare welding wire is a ferritic stainless steel. The addition of niobium forms carbides to improve corrosion resistance, increase strength at high temperatures, and promote ferritic microstructure.

APPLICATIONS

- MIDALLOY ER409Cb can be used to join matching or dissimilar base metals.
- MIDALLOY ER409Cb is used extensively in the automotive industry where thin stock is fabricated into exhaust system components.

TYPICAL CHEMISTRY

C	Mn	Si	Cr	Ni	Mo	Cu	S	P	Nb	Fe
.03	.52	.51	11.3	.31	.02	.03	.003	.02	.48	BAL.

TYPICAL MECHANICAL PROPERTIES*

TENSILE STRENGTH	67,000 PSI
YIELD STRENGTH	50,500 PSI
ELONGATION IN 2"	26%

*Note: Mechanical properties listed reflect a post weld heat treatment @ 1400°F to 1450°F, hold for 2 hours, furnace cool at rate not exceeding 100°F per hour to 1100°F and air cool to ambient.

WELDING PARAMETERS (See Page 2)

STANDARD PACKAGING

- TIG 10 lb. tube / 60 lb. carton
- MIG 30 lb. spool
- SAW 60 lb coils

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Midalloy

**TYPICAL WELDING PARAMETERS FOR ER409Cb STAINLESS STEEL ALLOYS
AWS 5.9 CLASSIFICATION ER409Cb**

GMAW (SHORT CIRCUITING MODE)

WIRE DIA.	AMPERAGE	VOLTAGE	WIRE SPEED, IN./MIN.	JOINT THICKNESS IN.	GAS
.030"	70-90	18-24	150-200	.050-3/16	90He/7.5Ar/2.5Co2
.035"	70-90	17-20	150-200	.050-3/16	90He/7.5Ar/2.5Co2
			150-200	.050-3/16	69Ar/30He/1Co2
.045"	75-160	19-22	175-225	1/8-3/4	75Ar/25He
	75-160	19-22	175-225	1/8-3/4	90He/7.5Ar/2.5Co2
	75-160	18-22	175-225	1/8-3/4	69Ar/30He/1Co2

GMAW (SPRAY TRANSFER MODE)

.035"	145-200	25-29	225-350	3/8 and UP	100Ar or
.045"	190-250	30-32	300-350		97%Ar 3%CO2or
.062"	220-300	28-32	330-400		98%Ar -2%CO2or 98%AR-2%O2

GMAW (PULSED CURRENT MODE)

.035" peak	120-150 250-300	18-20	175-225	1/8-3/4	75Ar/25He, Ar or 69Ar/30He/1Co2
.045" peak	120-150 250-300	18-20	175-225	1/8-3/4	75Ar/25He, Ar or 69Ar/30He/1Co2

GTAW (TIG)

JOINT THICKNESS IN.	TUNGSTEN ELECTRODE DIA. IN.	FILLER WIRE DIA. IN.	AMPERAGE	VOLTAGE	GAS
.030 to 1/16	1/16	1/16	35-90	10-14	100Ar
1/16 to 1/8	1/16 to 3/32	1/16 or 3/32	90-150	12-16	100Ar
1/8 to 1/4	3/32 or 1/8	3/32 or 1/8	150-150	10-18	100Ar
1/4 and up	3/32 or 1/8	3/32 or 1/8	95-220	10-18	100Ar

SAW (SUBMERGED ARC)

WIRE DIA.	AMPERAGE	VOLTAGE	
3/32"	275-350	28-30	Suitable flux
1/8"	350-450	29-32	Suitable flux

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