

## MIDALLOY ERNiCrMo-10 (FM622) BARE WIRE

### CLASSIFICATION

- AWS 5.14 Class ERNiCrMo-10 / ASME SFA 5.14 Class ERNiCrMo-10

### DESCRIPTION

- MIDALLOY ERNiCrMo-10 nickel alloy bare wire is used for GMAW, GTAW, and SAW welding.

### APPLICATIONS

- MIDALLOY ERNiCrMo-10 nickel alloy bare wire is used to weld alloys of similar composition, as well as dissimilar materials such as nickel-chromium-molybdenum alloys to stainless steel or low alloy steels.
- Because of its excellent corrosion resistance in oxidizing as well as reducing media, and its outstanding resistance to stress corrosion cracking, pitting, and crevice corrosion, this alloy is often chosen for cladding.

### TYPICAL CHEMISTRY

<b>C</b>	<b>Mn</b>	<b>Fe</b>	<b>P</b>	<b>S</b>	<b>Si</b>	<b>Cu</b>
.005	.20	2.60	.007	.001	.06	.09
<b>Ni</b>	<b>Cr</b>	<b>Mo</b>	<b>V</b>	<b>W</b>	<b>Co</b>	
Balance	20.25	14.13	.03	3.01	.06	

### TYPICAL MECHANICAL PROPERTIES

<b>TENSILE STRENGTH</b>	114,000 PSI
<b>YIELD STRENGTH</b>	82,000 PSI
<b>ELONGATION</b>	38%

### RECOMMENDED WELDING PARAMETERS

(See attached)

### STANDARD PACKAGING

- TIG 10 lb. tube / 60 lb. carton
- MIG 30 lb. spool
- SUB-ARC 60 lb. coil

10-15-2010

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TYPICAL WELDING PARAMETERS FOR NICKEL ALLOYS

**GMAW (SHORT CIRCUITING MODE)**

WIRE DIA.	AMPERAGE	VOLTAGE	WIRE SPEED, IN./MIN.	JOINT THICKNESS IN.	GAS
.035"	70-90	18-20	150-200	.050-3/16	75Ar/25He
	70-90	17-20	150-200	.050-3/16	90He/7.5Ar/2.5Co2
	70-90	17-20	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)**

.045"	190-250	30-32	300-350	3/8 and UP	100Ar
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**GMAW (PULSED CURRENT MODE)**

.045" peak	120-150 250-300	18-20	175-225	1/8-3/4	75Ar/25He
peak	120-150 250-300	18-20	175-225	1/8-3/4	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	35-60	9-12	100Ar
1/16 to 1/8	1/16 to 3/32	1/16 or 3/32	50-95	9-12	100Ar
1/8 to 1/4	3/32 or 1/8	3/32 or 1/8	75-150	10-13	100Ar
1/4 and up	3/32 or 1/8	3/32 or 1/8	95-200	10-13	100Ar

**SAW (SUBMERGED ARC)**

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

**SMAW (COATED ELECTRODES)**

DIA. & LENGTH	AMPERAGE/FLAT	AMPERAGE/ VERT. & OVERHEAD	VOLTAGE
3/32" x 12"	70-85	65-75	24-28
1/8" x 14"	85-110	80-90	26-30
5/32" x 14"	110-140	100-120	28-32
3/16" x 14"	120-160	110-130	28-32

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