

## MIDALLOY ER316/316H BARE WIRE

### CLASSIFICATION

- AWS 5.9 Class ER316/ER316H / ASME SFA 5.9 Class ER316/ER316H
- UNS# S31680 A#8 F#6

### DESCRIPTION

- MIDALLOY ER316/ER316H stainless steel wire is used for GMAW, GTAW, and SAW welding.

### APPLICATIONS

- MIDALLOY ER316/ER316H is used for joining type 316 and similar alloys.
- The presence of molybdenum provides crevice resistance at elevated temperatures and pitting resistance in a halide atmosphere.
- Rapid corrosion of ER316 weld metal may occur when three factors co-exist:
  1. The presence of a continuous or semi-continuous network of ferrite in the weld metal microstructure.
  2. A composition balance of the weld metal giving a chromium-molybdenum ratio of less than 8.2 to 1.
  3. Immersion of the weld metal in a corrosive medium.

### TYPICAL CHEMISTRY

C	Mn	Si	Cr	Ni	Mo	S	P	N	Cu
.055	1.65	.40	19.0	12.0	2.50	.009	.015	.05	.05

### TYPICAL MECHANICAL PROPERTIES

TENSILE STRENGTH	88,500 PSI
YIELD STRENGTH	58,500 PSI
ELONGATION IN 2"	34%

### RECOMMENDED WELDING PARAMETERS

PROCESS	DIAMETER	VOLTAGE	AMPERAGE	GAS/FLUX*
TIG (GTAW)	1/16"	14-18	90-130	100% Ar
	3/32"	15-20	120-175	100% Ar
	1/8"	15-20	150-220	100% Ar
MIG (GMAW)	.035" SHORT ARC	16-26	70-160	69%Ar-30%He-1%O <sub>2</sub>
	.035" SPRAY ARC	26-31	150-230	92%Ar-8%Co <sub>2</sub> or
	.045" SPRAY ARC	28-32	180-280	98%Ar-2%O <sub>2</sub>
SUB-ARC (SAW)	3/32"	28-30	275-350	Record IN or
	1/8"	29-32	350-450	Record IND 24

### STANDARD PACKAGING

- Tig 10 Lb. Tube / 60 Lb. Carton
- Mig 30 Lb. Spool
- Sub-Arc 60 Lb. Coil

09/19/11

*The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.*

Office and Corporate Warehouse  
 630 Axminister Drive  
 St. Louis, MO 63026 • 636-349-6000 • 800-776-3300  
 Fax 636-349-2240

