

MIDALLOY 300 SERIES HIGH SILICON, HIGH TENSILE MATTE (HTM) MIG WIRES

CLASSIFICATION

- AWS 5.9 Classes, ER308LSi (UNS# S30888), ER309LSi (UNS# S30988), ER316LSi (UNS# S31688)
- ASME SFA 5.9 Classes, ER308LSi, ER309LSi, ER316LSi.
- A#8 F#6

DESCRIPTION

- Midalloy 300 Series High Silicon, High Tensile Matte (HTM) MIG Wires are manufactured to our specifications to give consistent, dependable welds with the lowest levels of carbon, sulfur, and phosphorous. The increased silicon content assures better arc stability with excellent wash and wetting behavior resulting in a smooth bead appearance, uniform penetration, less porosity, and less spatter. The wire has the best feeding characteristics possible. To accomplish this, we made two basic design changes to our standard MIG wire:

1) Tensile Strength:

We increased the tensile strength of our wire substantially to improve columnar strength and lower the co-efficient of friction within the liner.

Diameters	Standard MIG Wire	Midalloy HTM MIG Wire
.030" - .035" - .045"	158,000 PSI – 171,000 PSI	210,000 PSI – 239,000 PSI

2) Matte Finish:

We changed the standard, mechanically cleaned bright finish to a gas-cleaned matte finish. The matte finish has two advantages over the bright finish. The feed roles tend to grip better, creating less birdnesting and the wire can pick up a lubricant easier, thus giving less friction through the liner and better contact with the contact tip.

APPLICATIONS

- Midalloy HTM wires are used for a variety of applications where matching filler metals are required for various 300 series base materials.
- These products are also used for overlay welding, as well as certain dissimilar welds of carbon steel to stainless steel.

TYPICAL CHEMISTRY

GRADE	C	Si	MN	S	P	Ni	Cr	Mo	Cu	Fer (DeLong)
308LSi	.01	.85	1.86	.010	.015	10.7	20.0	.06	.05	9.4
309LSi	.01	.87	1.90	.010	.015	13.7	23.5	.06	.05	13.1
316LSi	.01	.87	1.86	.010	.015	12.3	18.5	2.55	.05	8.3

Other grades available upon request

WELDING PARAMETERS

SHORT ARC – (with Tri-Mix – 90% Helium, 7½% Argon, 2 ½% CO₂ Shielding gas)

Diameters	Current, Amps (D.C.R.P.)	Open Circuit Voltage	Power Source Type
.030"	50 – 145	17 – 22	CP
.035"	65 – 175	17 – 22	CP
.045"	100 – 225	17 – 22	CP

SPRAY ARC – (with Argon and 1% to 5% Oxygen Shielding gases)

Diameters	Current, Amps (D.C.R.P.)	Open Circuit Voltage	Power Source Type
.030"	160 – 210	24 - 28	CP or CC with voltage sensing type wire feeder
.035"	180 – 300	24 - 28	
.045"	200 – 375	24 - 28	

STANDARD PACKAGING

- All spools are Level Layer wound
 - 12" 30 lb. baskets or plastic spools; 1890 lb. pallet weight
 - 10" 10 lb. plastic spools; Individual cartons
 - 4" 2 lb. plastic spool; 36 lbs./carton

4/5/16

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

