

# Techalloy® 316/316L

AWS ER316L



## CONFORMANCES

- AWS A5.9 ER316L
- UNS S31683
- UNS S31680
- ISO 14343:2009 (19 12 3 L)

**Techalloy® 316/316L** - For welding 316L base metals. The 2-3% molybdenum in the electrode improves pitting corrosion resistance of the weld deposit. Low carbon content reduces the possibility of carbide precipitation and intergranular corrosion.

Applications: Power Generation, Chemical and Petrochemical Processing

## DIAMETERS / PACKAGING

Diameter in (mm)	MIG WIRE 33 lb (14.9 kg) Wire Basket		TIG 10 lb (4.5 kg) Tube 30 lb (13.6 kg) Master Carton		SAW WIRE 55 lb (25 kg) Coil
	0.030 (0.8)	MG316L030667			
0.035 (0.9)	MG316L035667				
*0.045 (1.2)	MG316L045667				
1/16 (1.6)	MG316L062667		TG316L062638		
3/32 (2.4)			TG316L093638		SA316L093726
1/8 (3.2)			TG316L125638		SA316L125726
5/32 (4.0)			TG316L156638		SA316L156726

\*Bulk packages available - Contact Lincoln Electric

**DEPOSIT COMPOSITION**

	%C	%Cr	%Ni	%Mo	%Mn
<b>Requirements</b> AWS ER316L	0.03 max.	18.0 - 20.0	11.0 - 14.0	2.0 - 3.0	1.0 - 2.5
<b>Typical Performance</b> Techalloy® 316/316L	0.01	18.5	12.1	2.4	1.6
	%Si	%P	%S	%Cu	FN
<b>Requirements</b> AWS ER316L	0.30 - 0.65	0.03 max.	0.03 max.	0.75 max.	Not Required
<b>Typical Performance</b> Techalloy® 316/316L	0.36	0.02	0.01	0.09	6 - 12

**TYPICAL OPERATING PROCEDURES**

Process	Diameter in (mm)	Voltage (volts)	Amperage	Gas Flow	Gas
MIG	0.030 (0.8)	26-29 28-32 29-33	160-210 180-250 200-280	30-50 CFH	98/99% Argon + 2/1% Oxygen 97% Argon + 3% CO <sub>2</sub>
	0.035 (0.9)				
	0.045 (1.2)				
	1/16 (1.6)				
TIG	1/16 (1.6)	90-130 120-175 150-220 160-230	20-40 CFH	100% Argon	
	3/32 (2.4)				
	1/8 (3.2)				
	5/32 (4.0)				
SAW	3/32 (2.4)	28-33 29-32 30-33	275-350 350-450 400-550	Lincolnweld® P2007	
	1/8 (3.2)				
	5/32 (4.0)				

Material Safety Data Sheets (MSDS) are available on our website at [www.techalloy.com](http://www.techalloy.com)

**TEST RESULTS**

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

**CUSTOMER ASSISTANCE POLICY**

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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