



Unibraze 316/316H

CLASSIFICATIONS: AWS A5.9/ASME SFA 5.9 Class ER316/316H UNS S31680

DESCRIPTION: Unibraze 316 is used to weld wrought and cast forms of similar composition. The presence of molybdenum increases creep resistance at elevated temperatures. The higher carbon content provides higher strength at high temperatures. When a lower ferrite level of this nominal composition is achieved, it reduces the rate of corrosion in certain media and is suitable for cryogenic temperatures.

TYPICAL CHEMISTRY:

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
.04- .08	18.0- 20.0	11.0- 14.0	2.0- 3.0	1.0- 2.5	.30- .65	.03 max	.03 max	.75 max

TYPICAL MECHANICAL PROPERTIES:

Tensile Strength	88,500 psi (610 MPa)
Yield Strength	59,000 psi (410 MPa)
Elongation	35%

TYPICAL WELDING PARAMETERS:

	Shielding Gas	Gas Flow	Diameter	Voltage	Amperage
MIG	98/99% Ar +2/1% O 97%Ar + 3% CO ₂	30 to 50 CFH	.035" (.9mm)	26-29	160 /210
			.045" (1.14mm)	28-32	180/250
			.062" (1.6mm)	29-33	200/280
TIG	100% Ar		1/16" (1.6mm)	14-18	90/130
			3/32" (2.4mm)	15-20	120/175
			1/8" (3.2mm)	15-20	150/220
SUBARC	Suitable Flux		3/32" (2.4mm)	28-33	275/350
			1/8" (3.2mm)	29-32	350/450

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.