



# Unibraze 312

**CLASSIFICATIONS:** AWS A5.9/ASME SFA 5.9 Class ER312    UNS S31380

**DESCRIPTION:** Unibraze 312 is used for cast alloys of similar composition. It is also used to weld dissimilar metals such as carbon steel to stainless, particularly those grades high in Ni and for weld overlays. Unibraze 312 also gives a very high ferrite. When welding similar cast alloys, limit welding to 2 to 3 layers only.

**TYPICAL CHEMISTRY:**

C	Cr	Ni	Mo	Mn	Si	P	S	Cu	FN (WRC)
.15 max	28.0-32.0	8.0-10.5	.75 max	1.0-2.5	.30-.65	.03 max	.03 max	.75 max	30 min

**TYPICAL MECHANICAL PROPERTIES:**

Tensile Strength	109,500psi (760MPa)
Yield Strength	78,500 psi (540 MPa)
Elongation	25%

**TYPICAL WELDING PARAMETERS:**

	Shielding Gas	Gas Flow	Diameter	Voltage	Amperage
MIG	98/99% Ar +2/1% O 97%Ar + 3% CO <sub>2</sub>	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

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.