Unibraze 347Si

CLASSIFICATIONS: AWS A5.9/ASME SFA 5.9 Class ER347Si UNS S34788

DESCRIPTION: Unibraze 347Si is a Nb stabilized austenitic stainless steel used to weld 347 and 321. The Nb improves the resistance to chromium carbide precipitation and intergranular corrosion and the increased silicon improves the usability at temperatures greater than 750°F. If the dilution by the base metal produces a low ferrite or fully austenitic weld, the crack sensitivity of the weld is somewhat higher than that of the lower silicon weld metal (ER347).

CHEMICAL COMPOSITION OF WELD METAL (%)

	C	Cr	Ni	Mo	Mn	Si	P	S	Cu	Nb
AWS/ASME	.08 max	19.0 – 21.5	9.0 – 11.0	.75 max	1.0 – 2.5	.65 – 1.0	.03 max	.03 max	.75 max	10xC – 1.0
TYPICAL	.03	19.24	9.65	.15	1.33	89	.021	.013	.181	.489

TYPICAL MECHANICAL PROPERTIES:

Tensile Strength	89,900 psi (620MPa)
Yield Strength	61,000 psi (420MPa)
Elongation	39%

TYPICAL WELDING PARAMETERS:

	Shielding Gas	Gas Flow	Diameter	Voltage	Amperage
MIG	98/99% Ar +2/1% O_2 97%Ar + 3% CO_2	30 to 50 CFH	.035” (.9mm) .045” (1.14mm) .062” (1.6mm)	26-29 28-32 29-33	160 /210 180/250 200/280
TIG	100% Ar		1/16” (1.6mm) 3/32” (2.4mm) 1/8” (3.2mm)	14-18 15-20 15-20	90/130 120/175 150/220