



Unibraze 630

CLASSIFICATIONS: AWS A5.9/ASME SFA 5.9 Class ER630 UNS S17480

DESCRIPTION: Unibraze 630 (17-4PH) is a precipitation hardening stainless steel used for welding of materials of similar chemical composition. Mechanical properties of Unibraze 630 are greatly influenced by heat treatment.

TYPICAL CHEMISTRY:

C	Cr	Ni	Mo	Mn	Si	P	S	Cu	Nb +Ta	FN (WRC)
.05 max	16.0-16.75	4.5-5.0	.75 max	.25-.75	.75 max	.03 max	.03 max	3.25-4.0	.15-.30	0

TYPICAL MECHANICAL PROPERTIES:

(Post weld heat treatment between 1875°F and 1925°F for 1 hour, followed by precipitation hardening between 1135°F and 1165°F for 4 hours.)

Tensile Strength	150,000 psi (10300 MPa)
Yield Strength	135,000 psi (930 MPa)
Elongation	10%

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 to 33	275/350
			1/8" (3.2mm)	29 to 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.