



Unibrazed 410NiMo (G 13 4)

CLASSIFICATIONS: AWS A5.9 2017 / ASME SFA 5.9 ER410NiMo (G 13 4)

DESCRIPTION: Unibrazed 410NiMo is a 12Cr/4.5Ni/.55Mo (nominal composition) stainless steel wire. The all-weld metal microstructure is nearly fully martensitic. It is primarily designed for welding ASTM CA6NM castings or similar material, as well as light-gauge 410, 410S or 405 base metals. Filler metal of this classification is MODIFIED to contain less Cr and more Ni to eliminate ferrite in the microstructure as it has a deleterious effect on mechanical properties. Final post weld heat treatment should not exceed 1150°F, as higher temperatures may result in rehardening due to untempered martensite in the microstructure after cooling at room temperature. Refer to AWS A5.9 2017 page 5 and 24.

CHEMICAL COMPOSITION REQUIREMENTS:

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
.05 max	11.0 – 14.0	3.0 – 5.0	.40 – 1.0	1.0 Max	1.0 max	.03 max	.02 max	.50 max

**Composition designation for new classification imported from ISO 14343: 2009
Not found in AWS A5.9/5.9M 2012*

TYPICAL MECHANICAL PROPERTIES

Tensile Strength	118,500 psi (820 MPa)
Yield Strength	92,000 psi (630 MPa)
Elongation	20%

TYPICAL WELDING PARAMETERS (DCEP)

	Diameter	Voltage	Amperage	Shielding Gas
MIG	.035" (.9mm)	29-33	160-180	99% Ar+1% CO ₂
	.045" (1.14mm)	29-33	180-220	
	.062" (1.6mm)	29-33	210-250	
TIG	1/16" (1.6mm)	14-18	90-130	Argon (100%)
	3/32" (2.4mm)	15-20	120-175	
	1/8" (3.2mm)	15-20	150-220	
SUBARC	3/32" (2.4mm)	28-30	275-350	Suitable Flux
	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 guaranteed for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.