



GB/T 13814 —

AWS A5.14 ERNiCrMoWNb-1

EN ISO 14172 —

AK ERNiCrMoWNb-1

Description: ERNiCrMoWNb-1 is a nickel-chromium-molybdenum-tungsten-niobium filler metal classified under AWS A5.14 and associated with INCONEL Filler Metal 680. It is designed to deliver high as-welded yield strength, good sub-zero toughness, strong crack resistance, and better crevice-corrosion resistance than 625 in demanding service conditions.

Application: ERNiCrMoWNb-1 is suitable for joining X-70 and some X-80 pipe strings, subsea and land-based ID pipe overlays, valve and ring groove overlays, ball valve overlays, riser connections, tie-backs, manifold fabrication, and refurbishment of frac valves or drill collars where strength, toughness, and corrosion resistance are all important.

Typical Chemical Composition(%):

	C	Mn	Fe	P	S	Si	Cu	Ni	Co
Requirement	0.030	—	0.50	0.020	0.015	0.10	—	56.0-65.0	1.0
Actual Result	0.010	—	0.20	0.010	0.002	0.03	—	59.65	0.60
	Al	Ti	Cr	Nb+Ta	Mo	V	W	Zr	B
Requirement	0.50	1.20-3.0	17.0-23.0	3.0-5.0	5.0-8.0	—	4.0-8.0	—	—
Actual Result	0.20	2.20	19.52	4.26	6.58	—	6.52	—	—

Typical Mechanical Properties:

	Tensile Strength (MPa)	Yield Stress (MPa)	Elongation (%)	Impact Values (J)
Requirement	≥900			
Actual Result	1020			