



GB/T 13814 —

AWS A5.14 ERNiFeCr-1

EN ISO 14172 —

AK ERNiFeCr-1

Description: ERNiFeCr-1 is a nickel-iron-chromium welding alloy mainly used for joining Alloy 825 and similar Ni-Cr-Mo-Cu alloys. It offers excellent corrosion resistance, good weldability, and stable austenitic weld metal, especially in chloride-bearing and reducing chemical environments.

Application: ERNiFeCr-1 is widely used in chemical processing, petrochemical, marine, paper, and power industries for welding Alloy 825, related corrosion-resistant alloys, and for overlay cladding. It is suitable for heat exchangers, piping, pressure vessels, and equipment exposed to sulfuric or phosphoric acid service.

Typical Chemical Composition(%):

	C	Si	Mn	S	P	Cr	Ni	Cu	Ti
Requirement	0.05	0.50	1.0	0.030	0.030	19.5-23.5	38.0-46.0	1.50-3.0	0.60-1.20
Actual Result	0.01	0.25	0.42	0.001	0.001	21.30	44.60	2.0	1.15
	N	Fe	Al	Nb+Ta	Mo	B	Zr	Co	W
Requirement	—	≥22.0	0.20	—	2.50-3.50	—	—	—	—
Actual Result	—	25.20	0.10	—	3.04	—	—	—	—

Typical Mechanical Properties:

	Tensile Strength (MPa)	Yield Stress (MPa)	Elongation (%)	Impact Values (J)
Requirement	≥550			
Actual Result	605			