



GB/T 13814 —

AWS A5.14 ERNiCoCrSi-1

EN ISO 14172 —

AK ERNiCoCrSi-1

Description: ERNiCoCrSi-1 is a nickel-cobalt-chromium-silicon filler metal classified in AWS A5.14, developed primarily for welding UNS N12160 / HAYNES HR-160 type alloys. It offers strong resistance to high-temperature corrosion, especially sulfidation and chloride attack in both reducing and oxidizing atmospheres, with reliable weldability in severe heat-service conditions.

Application: ERNiCoCrSi-1 is suitable for GTAW, GMAW, and PAW welding of Ni-Co-Cr-Si alloys to themselves, and is commonly used for components in waste incineration, chemical processing, coal gasification, industrial heating, and power plants. It is also used where oxidation, hot corrosion, and aggressive high-temperature atmospheres demand durable weld performance.

Typical Chemical Composition(%):

	C	Mn	Fe	P	S	Si	Cu	Ni	Co
Requirement	0.02-0.10	1.0	3.5	0.030	0.015	2.40-3.0	0.50	Rem.	27.0-32.0
Actual Result	0.06	0.52	1.65	0.015	0.002	2.78	0.20	Rem.	29.65
	Al	Ti	Cr	Nb+Ta	Mo	V	W	Zr	B
Requirement	0.40	0.20-0.60	26.0-29.0	0.30	0.70	—	0.50	—	—
Actual Result	0.20	0.26	27.85	0.10	0.30	—	0.20	—	—

Typical Mechanical Properties:

	Tensile Strength (MPa)	Yield Stress (MPa)	Elongation (%)	Impact Values (J)
Requirement	≥620			
Actual Result	695			