



GB/T 13814 —

AWS A5.14 ERNiCr-8

EN ISO 14172 —

# AK ERNiCr-8

**Description:** ERNiCr-8 is a nickel-chromium-based welding material characterized by excellent high-temperature strength, oxidation resistance, corrosion resistance, and resistance to hot cracking; it is suitable for welding dissimilar steels and heat-resistant alloys. This material maintains a stable microstructure and mechanical properties even in high-temperature environments, producing aesthetically pleasing weld beads with a stable arc and good operability. ERNiCr-8 is frequently utilized in applications where high demands are placed on joint heat resistance, fatigue resistance, and operational stability—particularly in industrial settings that require a balance between high-temperature performance and welding reliability.

**Application:** ERNiCr-8 is primarily utilized in high-temperature equipment, pressure vessels, petrochemical installations, heat treatment furnace components, power plant boilers, nuclear power-related equipment, and applications involving dissimilar metal joining; it is suitable for the welding or surfacing of nickel-based alloys with heat-resistant steels and stainless steels. It is commonly employed in operating environments requiring long-term resistance to high temperatures, cyclic thermal stresses, and corrosive media. Furthermore, it can be used in the fabrication or repair of high-temperature piping, furnace structural components, heat exchange equipment, and critical pressure-bearing parts, thereby helping to enhance the safety and service life of welded joints.

## Typical Chemical Composition(%):

	C	Si	Mn	S	P	Cr	Ni	Cu	Ti
Requirement	0.005-0.1	0.50	0.50	0.010	0.020	26.0-30.0	Rem.	0.50	0.60
Actual Result	0.010	0.32	0.35	0.008	0.010	27.5	Rem.	0.10	0.20
	N	Fe	Al	Nb+Ta	Mo	B	Zr		
Requirement	0.05	2.5	1.90-3.0	0.50	0.50	0.008	0.10		
Actual Result	0.02	1.68	2.25	0.30	0.30	0.001	0.01		

## Typical Mechanical Properties:

	Tensile Strength (MPa)	Yield Stress (MPa)	Elongation (%)	Impact Values ( J )
Requirement	≥610			
Actual Result	662			