



GB/T 13814 —

AWS A5.11 ENiCr-4

EN ISO 14172 —

# AK ENiCr-4

**Description:** ENiCr-4 is a nickel-chromium welding electrode developed for severe high-temperature duty. It provides strong resistance to oxidation, hot corrosion, and sulfur-bearing atmospheres, while producing durable, crack-resistant weld metal for components exposed to prolonged thermal and corrosive stress.

**Application:** It is commonly used for furnaces, oil-fired boilers, reformer towers, heat exchangers, tube hangers, supports, dampers, and spacers in refinery, petrochemical, marine, and power plant service. It is also suitable for joining or overlaying Ni-Cr and Ni-Fe-Cr components working at elevated temperatures.

## Typical Chemical Composition(%):

|               | C    | Mn   | Fe        | P       | S     | Si   | Cu   | Ni   | Co  |
|---------------|------|------|-----------|---------|-------|------|------|------|-----|
| Requirement   | 0.10 | 1.50 | 1.0       | 0.020   | 0.020 | 1.0  | 0.25 | Rem. | --- |
| Actual Result | 0.04 | 1.33 | 0.62      | 0.015   | 0.015 | 0.71 | 0.20 | Rem. | --- |
|               | Al   | Ti   | Cr        | Nb+Ta   | Mo    | V    | W    | La   | B   |
| Requirement   | ---  | ---  | 48.0-52.0 | 1.0-2.5 | ---   | ---  | ---  | ---  | --- |
| Actual Result | ---  | ---  | 50.36     | 1.68    | ---   | ---  | ---  | ---  | --- |

## Typical Mechanical Properties:

|               | Tensile Strength (MPa) | Yield Stress (MPa) | Elongation (%) | Impact Values ( J ) |
|---------------|------------------------|--------------------|----------------|---------------------|
| Requirement   | ≥760                   |                    |                |                     |
| Actual Result | 825                    |                    |                |                     |