

Pure Iron Anode

Pure Iron Anode is a sacrificial anode material made from industrial pure iron or mild steel. With a relatively negative open circuit potential (approx. -0.60 to -0.75 V vs SCE), it preferentially dissolves in the electrolyte solution. Through electrochemical reactions, it continuously releases electrons to the protected metal (such as water heater liners or copper alloy piping), polarizing it to a corrosion-resistant potential. Its working principle is based on the galvanic cell effect: the pure iron serves as the anode undergoing oxidation, while electrons flow through the conductor to the cathode, thereby inhibiting corrosion of the cathodic metal. Pure iron anodes are widely used for internal corrosion protection of storage water heaters, solar water tanks, and small industrial tanks, especially in high-resistivity freshwater environments, offering the advantages of low cost and high current efficiency.



KEY FEATURES

1. Cost-Effective: Low raw material cost with abundant supply.
2. High Efficiency: Excellent current output in fresh water environments.
3. Easy Installation: Simple thread-in design for quick replacement.
4. Safe Composition: Contains no toxic heavy metals; suitable for domestic water tanks.

PRODUCT SPECIFICATIONS

Material: Pure Iron

Thread Type: 3/4" BSPT

Accessory: Purple copper gasket

Chemical Composition: $C \leq 0.003\%$, $Si \leq 0.01\%$, $Mn \leq 0.09\%$, $S \leq 0.009\%$, $P \leq 0.008\%$, $Cu \leq 0.01\%$, $Al: 0.03\%$, $Fe: \text{remainder}$

Open Potential: Approximately $-0.60V$ to $-0.75V$ (vs SCE)

Closed Potential: Approximately $-0.65V$ to $-0.80V$ (vs SCE)

Current Efficiency: $\geq 90\%$

APPLICATIONS

1. Storage water heater
2. Solar water tank
3. Small industrial tank