

Pre-wired High-Silicon Cast Iron Anode

The high-silicon cast iron anode is a core auxiliary component in impressed current cathodic protection (ICCP) systems. With a silicon content of 14% to 16%, it forms a dense SiO_2 passivation film on its surface, enabling long-term, stable current discharge at an extremely low consumption rate. During operation, the anode connects to the rectifier's positive terminal and releases electrons into the soil or seawater via electrochemical reactions. This polarizes the protected steel structures, such as pipelines and storage tanks, to a safe anti-corrosion potential range (-0.85V to -1.20V vs. CSE). Valued for its low cost and strong corrosion resistance, this material is widely used in long-distance pipelines, oil & gas storage tanks, and offshore engineering. It is often prefabricated as pre-wired units or packaged deep-well anodes. Note that the material is extremely brittle, requiring careful handling to avoid impact during installation.



KEY FEATURES

1. Rapid Installation & Deployment Efficiency
2. Lower & More Stable Groundbed Resistance
3. Extended Anode Service Life
4. Integrated Vent Pipe Eliminates "Gas Blockage" Risks
5. Ideal for Deep-Well Installations & High-Resistivity Soils

APPLICATIONS

1. Buried Long-Distance / Municipal Gas Pipelines
2. Storage Tank Bottoms (AGST / UST)
3. High Soil Resistivity Areas
4. Space-Constrained Sites

PRODUCT SPECIFICATIONS

Current Density: 5-80 A/m²

Consumption Rate: 0.1-1.0kg/A·a

Cable: XLPE/PVC or HMWPE/PVDF, 10/16/25mm², length can be customized.

Service Life: ≥20years

Anode Dimensions: Φ38/50/75/100/120×1500mm length

Chemical Composition(%)									
Executive standard	C	Si	Cr	Mn	P	S	Cu	Mo	Fe
BS 1591	≤1.40	14.25 -15.25	4.0-5.0	≤0.50	≤0.25	≤0.10	/	/	remainder
ASTM A518/519	0.70-1.10	14.20 -14.75	3.25-5.0	≤1.50	/	/	≤0.50	≤0.20	remainder