



HIGH SILICON CAST IRON ANODE PLATE



50 YEARS EXPERIENCE IN CATHODIC PROTECTION

J
JENNINGS ANODES

HIGH SILICON CAST IRON ANODE PLATE

DATA SHEET



Having previously manufactured Durichlor-51 anodes in vast quantities, we have been supplying high silicon cast iron anodes for over 50 years. Our high silicon cast iron stick anode is manufactured by "chill" casting method using gravity to feed the metal mold, which guarantees a rapid solidification of the molten metal. This plate-shaped high silicon cast iron anode is specially designed to replace the sled anode used for protecting the sub-sea steel structures. It increases the discharge surface and changes the current path to improve the uniformity of discharge.

■ Centrifugal Casting Process

Our solid high silicon cast iron anodes are centrifugal chill cast. The casting mold rotates at over 1000rpm producing a g-force that eliminates any trapped gas from silicon iron and throws any impurities to the inside bore of the anode where they do not hinder anode performance. Hence, the metal matrix is tight and dense, increasing the life of the anode.

■ Compact Structure

Due to the consistent weight and greater density of the anode, there is less flake grain boundaries and lower chemical segregation. No gas porosity, no internal shrinkage and no non-metallic inclusions.



CHEMICAL COMPOSITION

Element \ Standard	ASTM A518/A518M Grade 1	ASTM A518 / A518M Grade 3	BS 1591 1975
Silicon (Si)	14.2% ~ 14.75%	14.2% ~ 14.75%	14.25% ~ 15.25%
Chromium (Cr)	0.5% max.	3.25% ~ 5%	0.5% max.
Manganese (Mn)	1.5% max.	1.5% max.	0.5% max.
Copper (Cu)	0.5% max.	0.5% max.	—
Molybdenum (Mo)	0.5% max.	0.2% max.	—
Carbon (C)	0.65% ~ 1.1%	0.7% ~ 1.1%	1.4% max.
Phosphorus (P)	—	—	0.25% max.
Sulphur (S)	—	—	0.1% max.
Iron (Fe)	Remainder	Remainder	Remainder

ELECTROCHEMICAL PROPERTIES

Technical Measurement	Performance
Current Density	1 ~ 5 A/ft ² (10 ~ 50 A/m ²)
Consumption Rate	0.7 ~ 1 lbs/A.y (0.3 ~ 0.5 kg/A.y)

Notes: All dimensions and weights are nominal. The parameter provided is subject to variation in material compositions and Jennings Anodes foundry tolerance.

SPECIFICATIONS

Item No.	JA-PSA-2000
Diameter	78.7" (2000 mm)
Height	3.15" (80 mm)

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TESTING DETAILS

We employ ISO 9001:2015 quality management system and rigorous internal testing standards to ensure the optimum lifespan and performance of our anodes. Each anode is labelled with a unique serial number for quality tracking.

Technical Measurement	Chemical Composition	Electrochemical Performance	Physical Properties
Testing Standard	ASTM E350	ASTM E186/E446	Foundry ITP
Testing Content	Chemical Analysis	Current Efficiency Connection Resistance	Dimension & Weight Surface Finish Cable Connection Epoxy Resin Sealing
Equipment	Optical Emission Spectrometer Labspark 750A / Thermoscientific Niton XL2-980	Electrochemical Analyzer EPI 200	Calibrated Digital Measuring Devices

* Third party testing is conducted by customer's special request at extra charge.



Worldwide Service Network

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