

Aluminum Bracelet Anode

Aluminum bracelet anode (Al-Zn-In series) is a split ring-shaped anode that "clamps" around the outer wall of pipes or piles, forming a galvanic couple with the steel structure through reliable electrical contact. In electrolytes such as seawater or sea mud, aluminum has a more negative potential, dissolves preferentially, and delivers protective current to the steel surface, polarizing the steel structure into a safe potential range, thereby inhibiting corrosion (sacrificial anode method, no external power required). Its ring-shaped arrangement enables approximately 360° uniform current distribution. It features high current output per unit weight, light weight, and moderate driving voltage. It is mainly used for cathodic protection of the fully immersed external surfaces of submarine/crossing oil-gas-water pipelines, risers and manifolds, wharf steel piles/jacket structures, etc., and can be custom-fabricated in segmented clamp-on sections according to pipe diameter and design life.



KEY FEATURES

1. Highest current output per unit weight
2. Lightweight, ideal for large marine structures
3. Moderate driving voltage, safer operation
4. Relatively controllable cost, suitable for mass production of large castings
5. Stable potential in seawater and brine

APPLICATIONS

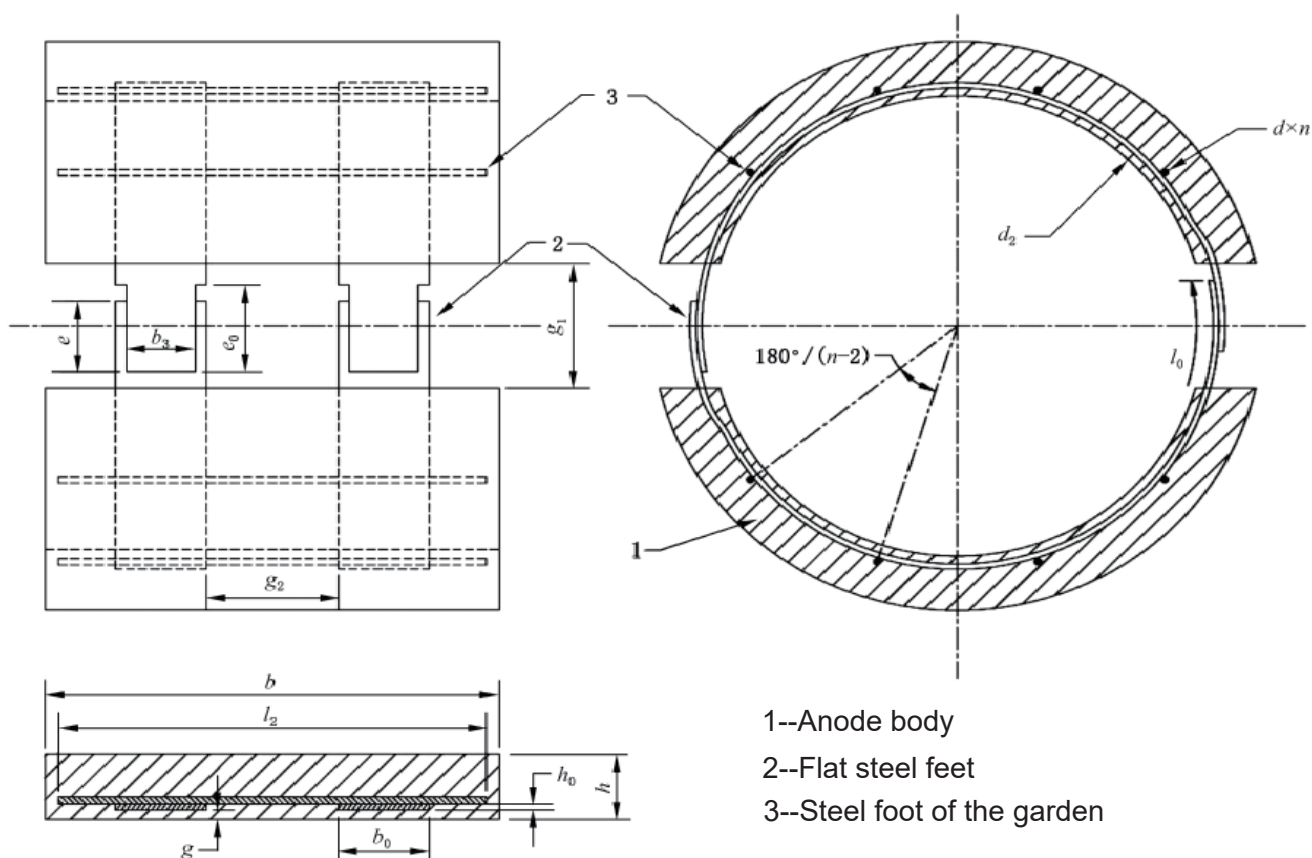
1. Ship hull plating, ballast tanks, and seawater cooling systems
2. wharf steel piles, jacket structures, and mooring structures
3. internal water zone of storage tanks
4. submarine pipelines

PRODUCT SPECIFICATIONS

Chemical Composition(%)			
Executive Standard	DNV RP B401	GB/T4948-2025:A21	BS EN12496-2013: A3
Zn	2.5-5.75	4.0-7.0	4.75-5.75
In	0.015-0.040	0.020-0.050	0.016-0.020
Cd	≤0.002	/	≤0.002
Si	≤0.12	≤0.10	0.08-0.12
Cu	≤0.003	≤0.01	≤0.003
Fe	≤0.09	≤0.15	≤0.06
Mg	/	0.50-1.50	/
Ti	/	0.01-0.08	/
Other	≤0.10	/	/
Each Impurity	/	/	≤0.02
Total Impurity	/	/	≤0.05
Al	Remainder	Remainder	Remainder

Electrochemical Property			
Executive Standard	DNV RP B401	GB/T4948-2025:A21	BS EN12496-2013:A3
Open Potential(-V,vs SCE)	/	1.10-1.18	/
Closed Potential(-V,vs SCE)	≥1.05	1.05-1.12	1.05-1.12
Actual Capacitance(A·h/kg)	≥2500	≥2600	≥2500
Current Efficiency(%)	/	≥90	/

PRODUCT GUIDE



Type	Anode body size/mm	Size of iron feet/mm											N.W.	G.W.
	$d_2 \times b \times h \times g_1$	l_0	b_0	h_0	g	g_2	b_3	e	e_0	r	l_1	n	kg	kg
PZ-01	1034×516×115×120	1760	100	6	10	120	70	80	90	9	416	12	527.3	562.8
PZ-02	1034×520×65×120	1760	80	6	10	160	50	000	90	9	420	12	283.0	311.9
PZ-03	1034×516×45×120	1760	50	6	10	270	35	000	90	6	470	12	191.0	209.0
PZ-04	569×500×76×80	980	60	5	10	280	50	50	60	6	450	8	190.5	200.5
PZ-05	569×500×57×80	980	60	5	10	280	50	50	60	6	450	8	137.5	147.5
PZ-06	569×500×38×80	980	60	5	10	280	50	50	60	6	450	8	87.6	97.5
PZ-07	518×500×38×80	905	60	5	10	280	50	50	60	6	450	8	79.5	88.8
PZ-08	467×450×38×80	820	60	5	10	230	50	50	60	6	400	8	64.1	72.5
PZ-09	416×400×38×80	745	60	5	10	180	50	50	60	6	350	8	50.3	47.9
PZ-10	374×480×34×80	675	60	5	10	260	50	50	60	6	430	8	47.9	55.0
PZ-11	342×450×34×80	625	60	5	10	230	50	50	60	6	350	8	40.8	47.3