

# 挤压阳极——热水器用镁阳极棒与铝阳极棒

Extrusion Anode ——Magnesium Anode Rod and Aluminum Anode Rod for Water Heater

热水器用的棒状阳极有挤压与铸造二种，依照中国国标GB/T1773-2015标准，挤压阳极棒是通过挤压机模具将不锈钢丝或碳钢丝挤入阳极中间，生产牌号AZ31B、MIC、AZ63B或澳大利亚AS2239-2003标准、美规8020牌号等产品，对热水器的搪瓷内胆进行阴极保护。

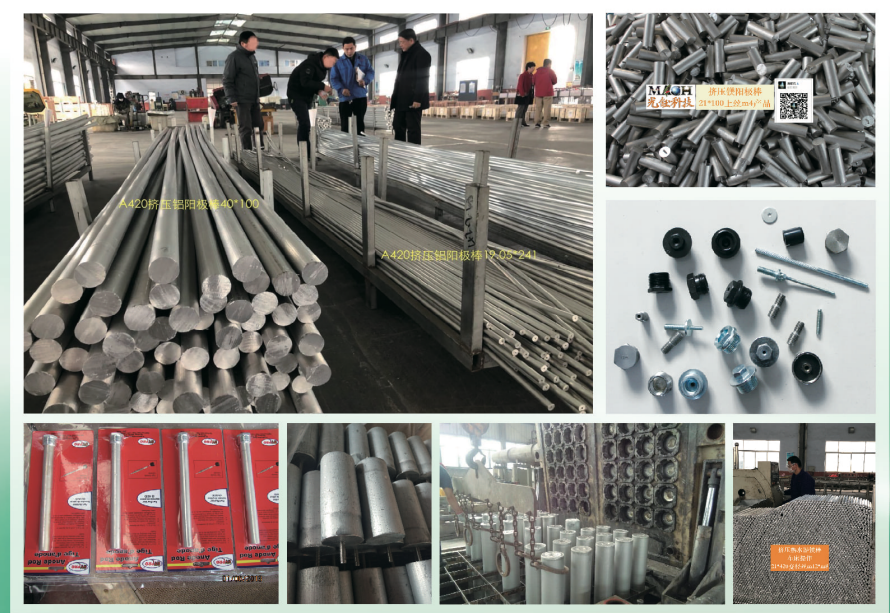
光钰公司从挤压坯料的熔铸工艺源头做起，进行坯料净化与浇注控制，并在炉前进行成分与夹杂的双重检测；挤压时对挤压筒、模具、坯料预热，挤压阳极圆棒状阳极长度偏差、同心度、曲度、化学成分、电化性能、表面质量、钢芯(澳洲:冷拔钢丝)、接触电阻都符合要求。基体合金与中间铁芯接触界面无缝隙、不偏心；成品率高、缺陷少，使用寿命长。

新型热水器用铝合金阳极，必须通过「合金化」方法，在冶炼过程中添加合金元素，促进铝合金表面的活化溶解、抑制自腐蚀析氢，使添加合金元素取代铝晶格上的铝原子，使铝的氧化膜不完整，在淡水中易活化、高温不钝化，从而更具有更负电位及更高电流效率，作为替代热水器镁阳极棒之用。

There are two kinds of rod-shaped anodes for water heaters: extrusion and casting. According to the Chinese national standard GB / T 1773-2015, extruded anode rod is to squeeze stainless steel wire or carbon steel wire into the middle of the anode through extrusion die to produce AZ31B, MIC, AZ63B, as2239-2003 standard of Australia, 8020 of American standard, etc., to provide cathodic protection for enamel liner of water heater.

MACH company starts from the source of casting process of extrusion blank, and carries out billet purification and pouring control. The contact interface between the base alloy and the middle iron core is seamless and non eccentric, with high yield, few defects and long service life.

The aluminum alloy anode used in new water heater must be "alloyed" to add alloy elements in the smelting process to promote the activation and dissolution of the aluminum alloy surface, inhibit the self decomposition and hydrogen evolution, and make the addition of alloy elements to replace the aluminum atoms on the aluminum lattice, so that the aluminum oxide film is incomplete, easy to be activated in fresh water and not passivated at high temperature, so it has more negative potential and higher current efficiency, As a substitute for magnesium anode rod of water heater.



## 技术要求

Technical Requirement And Standards

执行标准: GB/T 17731  
AS2239  
ASTM B843

化学成分 Chemical composition										
牌号 Type	合金元素 Alloying elements				杂质元素(不大于)Impurity elements (max)					
	Al%	Zn%	Mn%	Mg%	Fe%	Cu%	Ni%	Si%	其他元素 Other elements 第一-Each 总计 Total	
MGAZ63B	5.3~6.7	2.5~3.5	0.15~0.60	Balance	0.003	0.01	0.001	0.08	-	0.30
MGAZ31B	2.7~3.5	0.6~1.4	0.2~1.0	Balance	0.003	0.01	0.001	0.08	0.05	0.30
MGMIC	≤0.01	-	0.5~1.3	Balance	0.01	0.01	0.001	0.05	0.05	0.30

挤压棒形阳极规格 Specification of extuded anode bar			
阳极直径 Anode Dia(mm)	钢芯直径 Core Dia(mm)	螺丝 Thread	单重 Unit weight(g/cm)
φ 13.97	φ 2.0	NPT-ASTM/BSP/G/R	2.83
φ 19.05	φ 3.4	NPT-ASTM/BSP/G/R	5.66
φ 21.34	φ 3.4	NPT-ASTM/BSP/G/R	6.85
φ 26.67	φ 3.4	NPT-ASTM/BSP/G/R	10.42
φ 33.40	φ 3.4	NPT-ASTM/BSP/G/R	16.08
φ 39.65	φ 4.8	NPT-ASTM/BSP/G/R	23.07
φ 51.40	φ 4.8	NPT-ASTM/BSP/G/R	37.96



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