Technical Publication for: 40-80x Series

ACC Extruded Magnesium Anodes

ACC 40-800

American Carbon Company's extruded magnesium anodes are available in both low potential (low potential rods have product code 40-90x) and high potential, ribbon and extruded rods. Rods can be any length from 6 inches to 40 feet long. Per the customer's request, the rod can have an exposed core, threads machined on the ends or caps added to the anodes.

Standard Sizes for Rods (see below for ribbon dimensions)*

Product Code	Diameter (inch)	Steel Core Diameter (inch)	Weight (lb/ft)
40-800	0.840	0.135	0.46
40-801	1.050	0.135	0.68
40-802	1.315	0.135	1.07
40-803	1.561	0.188	1.5
40-804	2.024	0.188	2.5
40-805	2.562	0.188	4.00
40-806	3.021	0.188	5.50
40-807	0.750	0.135	0.37
40-808	0.550	0.079	0.19

*Custom Rods with steel cores are available upon request. Extruded ribbon anodes are 3/4" x 3/8" x 1,000' coils (with or without wooden reels) and a 0.135 steel core (nominal weight is 0.24 LB/LF).

Chemical Composition

Chemical Composition	Low Potential (AZ31)	High Potential (HP)
Magnesium (Mg)	Balance	Balance
Aluminum (Al)	2.5 - 3.5	0.01 max
Manganese (Mn)	0.2 - 1.0	0.5 - 1.3
Zinc (Zn)	0.7 - 1.3	0
Calcium (Ca) (Max)	0.04	0
Silicon (Si) (Max)	0.05	0
Copper (Cu) (Max)	0.01	0.02
Iron (Fe) (Max)	0.003	0.003
Other Impurities (Max)	0.3	0.3

Electrochemical Properties

Electrochemical Properties	Low Potential (AZ31)	High Potential (HP)
Open Circuit Voltage (-V respect to $Cu/CuSO_4$)	1.54 - 1.61	1.70 - 1.76
Closed Circuit Voltage (-V respect to $Cu/CuSO_4$)	1.52 - 1.57	1.64 - 1.73
Actual Capacity (A•hr/lb)	≥ 501.7	≥ 500
Current Efficiency (%)	≥ 50	≥ 50

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