firefly® international energy

OASIS™

OASIS MCF G31

(VRLA AGM GEL) BATTERY

Developed by scientists at Firefly Energy, Microcell™ Carbon Foam is a material that's revolutionizing the battery industry. Compared to lead plates — one of the main components of all lead acid batteries, carbon foam delivers longer service life, increased energy efficiency and better performance under extreme conditions. That's why we used it to create our revolutionary Firefly MCF battery.

Firefly carbon foam design resists sulfation and corrosion (two of the primary causes of failure in lead-acid batteries), while dramatically increasing the surface area within the battery, resulting in greater energy capacity, faster recharges, and deeper discharge capability.

SALIENT FEATURES

- Sealed-requires no maintenance
- More than 3-4 times cycle life compared to flooded gel & AGM VRLA batteries at 50%
- DOD Lower cost per kWh delivered compared to premium VRLA batteries
- Unmatched ability to recover from extended storage in discharged state
- Throughput efficiency greater than 90%
- Improved high/low temperature performance
- Superior protection against corrosion and sulfation related problems
- Lowest Cost of ownership and Industry leading warranty
- Compatible with existing lead acid battery recycling infrastructure
- Outstanding long life even under partial state of charge operation

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Partial state of charge cycling Efficiency	Ampere-hour >97% & watt hour >90%
Nominal Voltage	12V
Maximum charge voltage	14.40V
Maximum charge current	Up to 1C
Internal resistance	< 4 mΩ
Shelf life@25°C(77°F)	2 years
Self- Discharge	< 3 % per month
CCA	720 Amps

Temperature	Low	High
Operation	-20°C/-4°F	50°C/122°F
Storage	-30°C/-22°F	60°C/140°F

Weights & Dimensions	
Length	13.4 in/340 mm
Width	6.8 in/172 mm
Height	9.4 in/238 mm
Weight	76 lbs / 34.5 kgs
Volume	856.5 Cu.in/13.9 liters
Construction	
Terminal configuration	3/8 "-16 UNC
Case/Cover	Poly propylene-Co polymer
Racks	Available upon request along with BEMS

*Discharge Rates to 1.75V Per Cell**

Hours	Amps	Ah	Kwh
0.25	180	45	0.54
1	68	68	0.82
3	29.3	87.9	1.05
5	19.2	96	1.15
10	11	110	1.32
20	5.8	116	1.39

*Battery Life **

DOD(%)	CYCLES
30	9000-13500
50	3600-4200
65	1800-2400
80	1000-1300
100	600-800

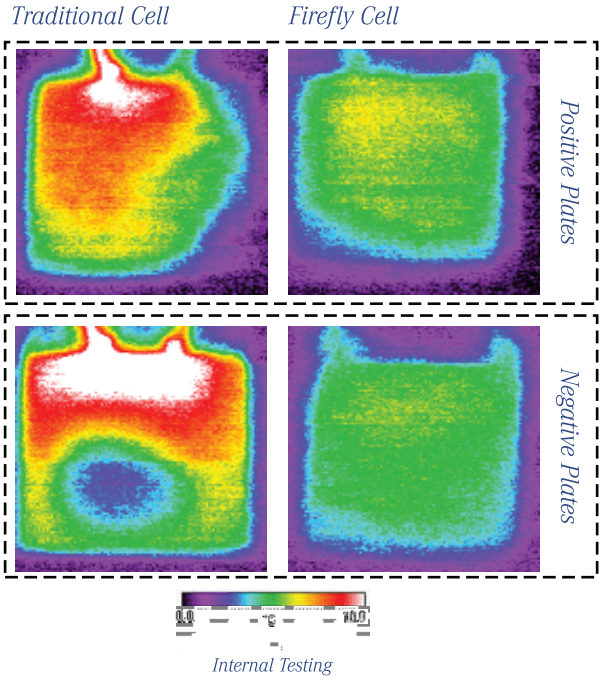
* All above are at 25°C/77°F

International Compliance

· IS 15549:2005
· ISO 9001:2008

Charge Temperature Compensation

Operating Temperature	°C	-20	25	40	50
	°F	-4	77	104	131
Absorption Charge Voltage	V	15.6	14.4	14.1	13.98



Infrared thermal images snapped at the end of a 5C (12 minute) discharge of both a Firefly 3D cell and a Traditional cell.

More uniform temperature distribution, as the Carbon Foam is thermally conductive, results in

- Uniform current density distribution.
- Higher overall active material utilization.
- Less localized positive grid corrosion.
- Less localized positive active material wear out.

CONNECT WITH US

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