

RAYLITE™

M-Solar Cells



ISO 14001:2004
ISO 9001:2000
ISO/TS 16949:2002
Complies with SABS IEC 60254-1,2



Positive Plate

The tubular plate construction incorporates low antimony lead alloy spines in complete contact with the active material, which is retained by an outer gauntlet. This enables the electrolyte to penetrate freely, ensuring a high power output per unit volume.

Negative Plate

The negative plate is of a highly porous paste on a lead alloy grid. This complements the positive plate construction, providing a balanced performance and superior life.

Mud Trap

Prevents possible shorting between plates due to active material shedding during the life of the cell.

Container and Lid

The lid is heat-sealed to the container ensuring an excellent bond. This is vital to mechanical strength and safety.

Vent Cap
Bolt-on Post

Negative Plate

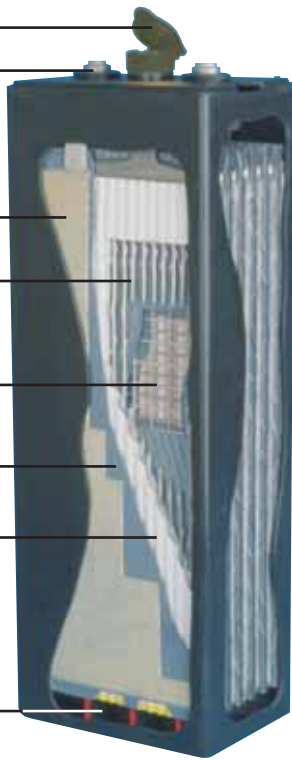
Positive Spines

Negative Grid

Separator

Positive in gauntlet

Mud Trap



Wrap-around Sleeve Separator

Microporous polyethylene is specially calendered with ribs. Fully enclosed plates cannot develop "mossing" or shorts between the plates. Extended battery life is achieved using sleeved plates.



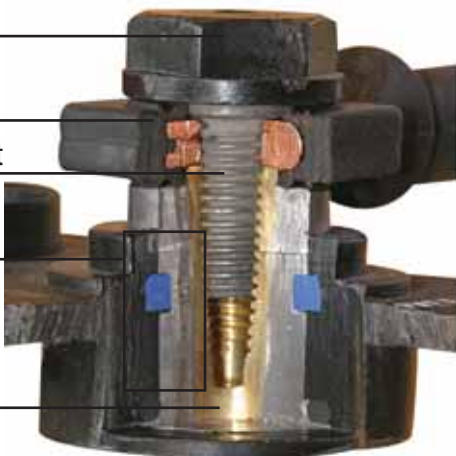
Connector Cap

Injection Moulded Connector Head

Stainless Steel Bolt

Perfect Seal[®]

Threaded Brass Insert: Maximises terminal connector conductivity



Perfect Seal[®] Bolt-On Connector

Injection Moulded Connector Head

The bolt-on connector facilitates easy cell replacement. Acid resistant, totally enclosed terminal post, maximum safety.

Perfect Seal[®]

A polypropylene pressure bushing seated on a rubber "O" ring, locked in place by a poly-carbonate ring. The cell lid is welded to the container, and polypropylene is injection moulded into the post to lid cavity. This design eliminates acid leaks through the post assembly.

Float Level Indicator

Max / Min Mark

Clearly visible and simple to read.

Closed Cell Float

Ensures consistent accuracy over cell life.

Min

Max

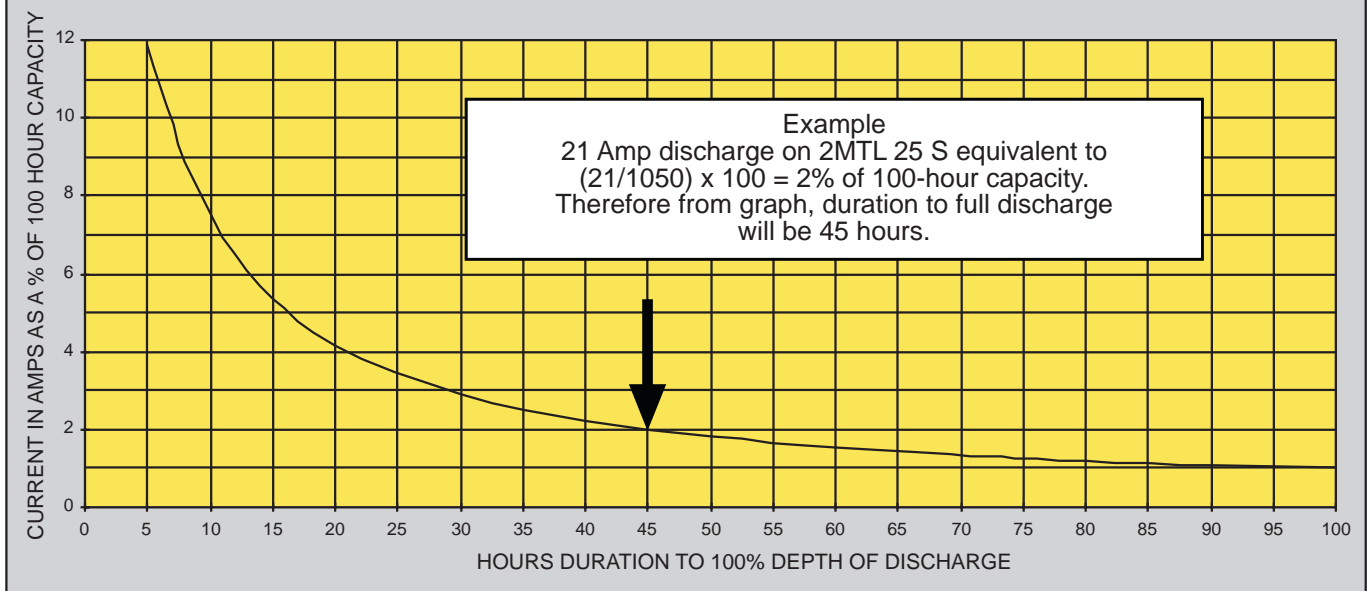
Closed Cell Float



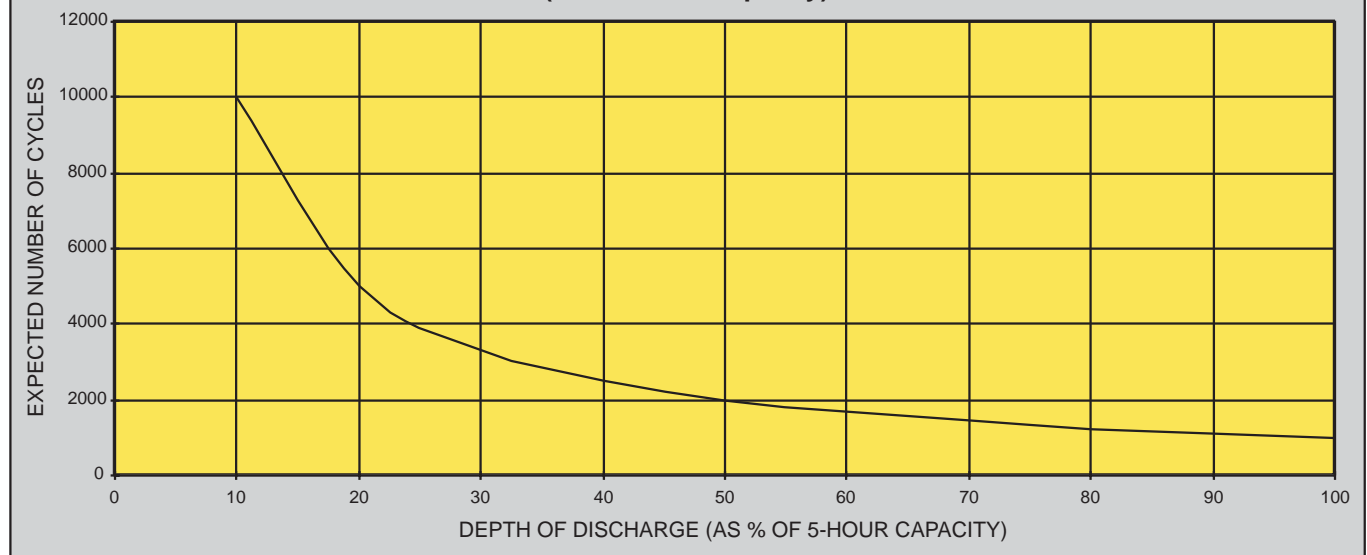
Battery Specifications

Cell Type	Battery Voltage (volts)	Capacity @ 25°C C ₁₀₀ (Ah)	Battery Dimensions (mm)			Approx Battery Mass (kg)	Acid Volume Per Cell (litres)
			Length	Width	Height		
3 MIL 15 S	6	530	585	182	460	80	5.6
3 MIL 17 S	6	600	585	198	460	91	6.3
3 MIL 21 S	6	750	585	230	460	116	8.0
3 MIL 25 S	6	900	585	262	460	133	8.2
2 MTL 25 S	4	1050	411	262	530	97	10.7
2 MTE 21 S	4	1380	415	230	740	127	14.0
2 MTE 25 S	4	1660	415	262	740	145	15.0

DISCHARGE CURRENT vs TIME OF M-SOLAR CELLS TO 1.85 VOLTS



CYCLE LIFE vs DEPTH OF DISCHARGE OF M-SOLAR CELLS (% of 5-Hour Capacity)



FIRST NATIONAL BATTERY INDUSTRIAL PTY (LTD)

FIRST NATIONAL BATTERY INDUSTRIAL (PTY) LTD WAS ESTABLISHED AS A MARKETING ARM FOR TRAINLIGHTING, STANDBY, MINING MOTIVE POWER, MINELIGHTING, EMERGENCY POWER AND SOLAR BATTERIES MANUFACTURED BY FIRST NATIONAL BATTERY.

ESTABLISHED IN 1931, FIRST NATIONAL BATTERY IS A LEADING MANUFACTURER OF LEAD ACID BATTERIES IN SOUTH AFRICA.

THE COMPANY PRODUCES MORE THAN 2 000 000 BATTERIES ANNUALLY TO PROVIDE ELECTRICAL POWER FOR PASSENGER CARS, TRUCKS, TRACTORS, FORKLIFT TRUCKS, BOATS, RAILWAY LOCOMOTIVES AND COACHES, UNDERGROUND LOCOMOTIVES AND MINERS' CAP LAMPS, POWER STATIONS, SWITCH YARDS, FARM LIGHTING, SOLAR SYSTEMS, COMPUTERS, TELECOMMUNICATIONS EQUIPMENT ... AND A HOST OF OTHER USES.

FIRST NATIONAL BATTERY ACKNOWLEDGES THAT SUPERIOR TECHNOLOGY, CONSISTENT PRODUCT QUALITY AND DEDICATED CUSTOMER SERVICE ARE MINIMUM REQUIREMENTS TO ENABLE THE COMPANY TO MAINTAIN ITS POSITION AS AN INDUSTRY LEADER.

THE COMPANY'S VALUES ARE REPRESENTED BY ITS MOTTO: THROUGH CARING WE LEAD

PROOF OF THESE VALUES IS TO BE FOUND IN THE MANY PRODUCT AND SERVICE QUALITY AWARDS AND CERTIFICATES PRESENTED TO FIRST NATIONAL BATTERY OVER MANY YEARS OF SERVICE TO BATTERY USERS.

4 DEDICATED MANUFACTURING SITES

BUFFALO VIEW ROAD, EAST LONDON 6 000M² FACTORY

ISO 9001: 2000 AND ISO 14001:2004 CERTIFIED
INDUSTRIAL BATTERY MANUFACTURING
FORKTRUCK BATTERIES: STANDBY BATTERIES: MINING BATTERIES

FORT JACKSON 5 000M² FACTORY

ISO/TS 16949:2002 AND ISO 14001:2004 CERTIFIED
PLASTIC INJECTION MOULDING
50 TON-860 TON INJECTION MOULDING MACHINES
20 MILLION PIECES PER ANNUM
ALSO TOOLROOM

SETTLERS WAY, EAST LONDON 9 200M² FACTORY

ISO/TS 16949:2002 AND ISO 14001:2004 CERTIFIED
AUTOMOTIVE BATTERY MANUFACTURING
7 000 BATTERIES PER DAY
ALSO TECHNICAL CENTRE

LIVERPOOL ROAD BENONI

ISO/TS 16949:2002 AND ISO 14001:2004 CERTIFIED
LEAD SMELTER
10 000 TONS RECYCLED LEAD PER ANNUM
ALSO WAREHOUSING & DISTRIBUTION
FORMATION & FINISHING LINE
MARKETING & FINANCE DIVISIONS



WARRANTY

The manufacturer warrants to the original user that Raylite M-Solar Battery cells will be fit for the purposes for which it is intended to be used and will be free from defects in material and workmanship, under normal use and maintenance, for a period of five (5) years from date of commissioning subject to certain provisos and conditions which are more fully set out in the comprehensive Express Limited Warranty. The comprehensive Express Limited Warranty is also freely available from all suppliers of Raylite M-Solar Battery Cells.

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