

# Tubular Gel VRLA Battery

## ETERNIA series

12volts Monoblock

**MICROTEX**  
Since 1969



In 12volts 40Ah  
In 12volts 65Ah  
In 12volts 75Ah  
In 12volts 100Ah  
In 12volts 120Ah  
In 12volts 135Ah  
In 12volts 160Ah

Microtex is a leading manufacturer of Industrial Batteries in Bangalore, India. The factory has a covered area of 26,700 Sq ft on 5 acres of land, with 300 committed people. Established 1969, it is a company well known for its high quality. Microtex produces in house, the specially designed lead alloys, lead oxides, grid castings, pasted plates, injection molded containers, multi-tubular gauntlets, PVC separators and produces the complete battery using state of the art industry standard battery making machinery.

The ETERNIA series 12volts Monoblock Tubular Gel battery technology with improved Features for various applications.

Service life reliability of a flooded battery with the performance energy density of a maintenance free valve regulated Tubular Gel battery, Microtex has developed the ETERNIA TGEL batteries which are in high in power density provides for a 15 + year designed life.

The ETERNIA TGEL battery yields good electrical energy and manufacture in an environmentally friendly plant.

#### APPLICATIONS

- Solar Photovoltaic
- Wind Hybrid Systems
- Off Grid/Solar
- Renewable Energy
- Communications
- Grid scale energy storage
- Railway Signal
- Office Automation Equipment's
- Emergency Backup Power Supply
- Aircraft Signal-DC Power Supply
- Electrical Power Systems (EPS)
- Medical Equipment's, Electronic Apparatus and Emergency Light-DC power supply

#### FEATURES & BENEFITS

- 12volts Monoblock for ease of installation and stacking flexibility.
- Space saving design for the highest amount of power in a small footprint
- Available in a wide range to meet customer requirements.
- Terminal Post Design - Strong posts with good conductivity and mechanical strength. Threaded Lead Tin coated copper/brass inserts gives better conductivity and increased high- rate performance.
- Lead Tin coated copper alloy connectors minimize maintenance
- Low internal resistance values for each cell.
- In house manufactured PVC Separators for extra strength, ultra-low float current - increases service life.
- Thicker spines positive grids and Tin Calcium Alloys cast at 150 bars pressure ensures better compression and packing of lead ensuring increased higher cycle life.
  - Robust polypropylene co polymer monobloc container and cover – enhances product quality and improves strength of materials for safe operation. Excellent jar to Lid heat sealing with 100% leak testing.
  - High performing vent plugs with built-in flame arrestor with consistent opening and closing of valves (Throughout the life of the battery) ensures the cells do not fail due to dry out.

#### PROCESSES

- Advanced Nano Carbon Technology - proprietary active material mix for high utilization during its life ensures consistent high energy density and low float current.
- Balanced active materials leading to excellent charge acceptance.
- Advanced formation process results in a narrow float voltage, rendering on-site float matching unnecessary.
- Highly controlled manufacturing processes for exceptional and consistent plate and cell quality

#### SERVICE LIFE & WARRANTY

- The cell design and manufacturing processes provide for a 15+ year design life
- Microtex Tubular Gel VRLA batteries have been in service Since 2005.

#### EXPERIENCE

- Established 1969 - over 50 years of experience in the Battery industry
- The company produces in house the complete battery and its components

### SPECIFICATIONS AND CHARACTERISTICS

Battery, Voltage per Unit	6 cells monobloc, 12V DC
Optimum Energy Saving Operating Temperature	+27°C (+80.6°F)
Connection Torque	Initial: 107 in-lbs (12 N-m), Re-torque: 125 in-lbs (14 N-m)
Recommended Float Charging Voltage	13.38 - 13.50 volts per cell average @ +27°C (+80.6°F)
Recommended Boost Charging Voltage	13.80 – 14.10 volts per cell average @ +27°C (+80.6°F)
Maximum Float Charging Current	0.2 C of rated capacity at 10 Hour @ +27°C (+80.6°F)
Maximum Boost Charging Current	0.3 C of rated capacity at 10 Hour @ +27°C (+80.6°F)

ISO 9001:2015 and ISO 14001:2015 certified

### TECHNICAL DATA - MICROTEX 12volts Monobloc Tubular GEL VRLA Batteries

Battery Type	Material of Container	Capacity in Ah at 27°C 10Hr	Capacity in Ah at 27°C 20Hr	Overall Dimension in mm			Battery Weight
				L ±5 mm	W ±5 mm	H ±10 mm	With Gel (appx.) Kgs.
GEL ST 40	PPCP	40	50	355	170	230	23
GEL ST 65	PPCP	65	75	355	170	230	27
GEL ST 75	PPCP	75	90	508	223	257	39
GEL ST 100	PPCP	100	120	508	223	257	45
GEL ST 120	PPCP	120	145	508	223	257	49
GEL TT 75	PPCP	75	95	500	187	430	66
GEL TT 100	PPCP	100	120	500	187	430	71
GEL TT 120	PPCP	120	150	500	187	430	73
GEL TT 135	PPCP	135	165	500	187	430	77
GEL TT 160	PPCP	160	200	500	187	430	86

Note

PPCP- Poly Propylene Copolymer

All TGEL Monoblock Batteries are supplied in factory charged condition only

The electrical characteristics are nominal indicative value and can vary within ±5.0%.

Float Charging: Constant Voltage Charging Method 13.5V per battery at 27 deg C.

Boost Charging: Constant Voltage Charging Method 13.8V per battery at 27 deg C. Current Maximum 30% of the Rated Capacity.

Recommended Maximum Storage Period before Freshening Charge at 27 deg C : 06 months from the date of Invoice .

Compliance to Specifications: BS 6290 Part IV, IEC60896-Part 21&22 IEC61427

Self-discharge	:	Less than 1% per week
Shelf life without re-charge	:	May be stored up to 6 Months*
Operating conditions	:	-40°C to + 55°C
Design Float Life	:	Up to 15 + Year
Design Cycle Life	:	5200 Cycles at 20% Depth of Discharge 3000 Cycles at 50% Depth of Discharge 1800 Cycles at 80% Depth of Discharge

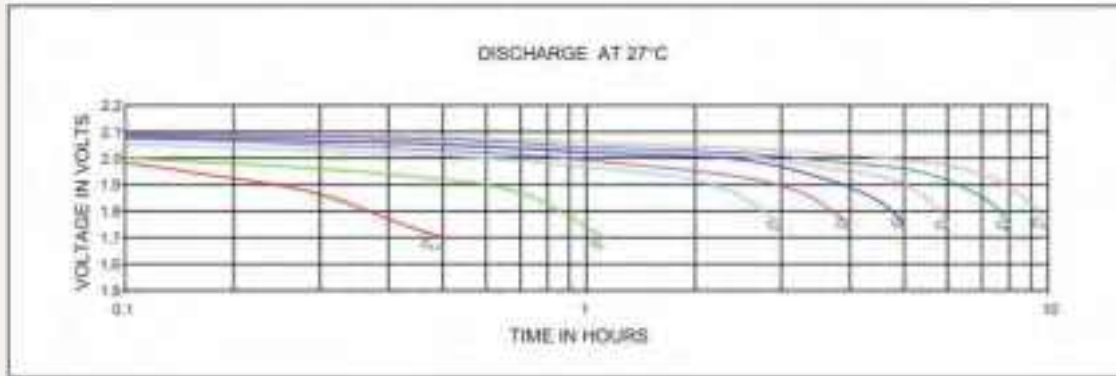
Note: All values are rated at 27°C. Charging parameters at 27°C

\*Please refer to Instruction manual for storage requirements.

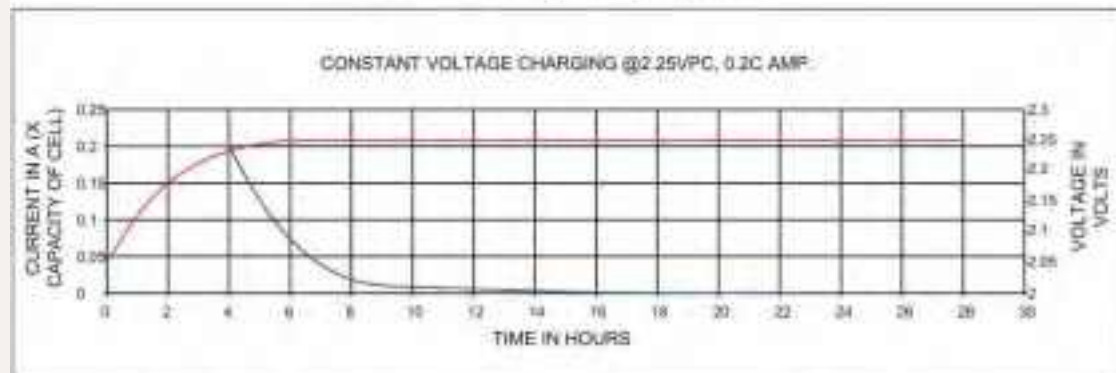
**The ETERNIA T Gel sealed battery is the environmentally friendly battery that saves you money in your operation.**

- Up to 65% to 75% lower float current
- Consumes about 70% less electricity
- Lower float current generates less heat
- Less heat generated reduces required air conditioning
- Less electricity consumed in float charging and air conditioning = reduced carbon emissions

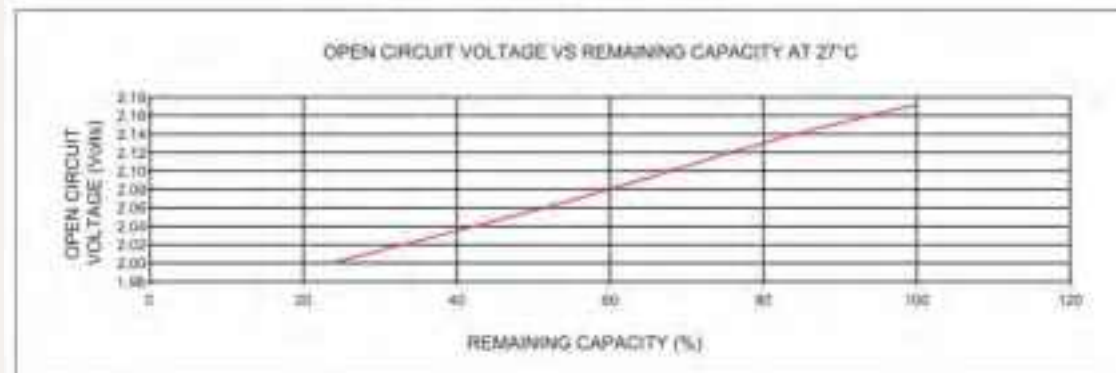
**Discharge Curves at Different Rates of Discharge**



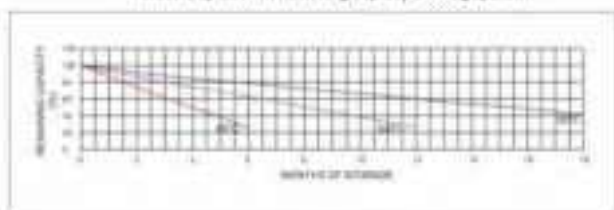
**Constant Voltage Charging Curve**



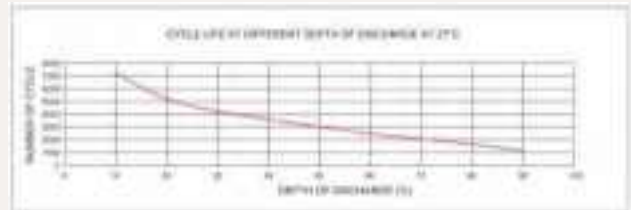
**Self-Discharge Characteristics**



Relationship Between Remaining Capacity & Storage period



CELL LIFE AT DIFFERENT DEPTH OF DISCHARGE AT 27°C



Proudly manufactured in India by:



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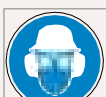
Read instruction Manual



Completely recyclable



Hand over to authorised MOEF recyclers



Protect eyes from electrolyte



Electrical Hazard

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