

# EXIDE GEL

## THE BATTERY FOR EXTREME CYCLING REQUIREMENTS

EXIDE EQUIPMENT GEL is designed for use in highly demanding applications such as ambulances, police cars/boats, campervans, pleasure boats and buses containing a lot of electrical equipment (AC, GPS, two-way radios, card terminals, TV, video, etc). This series of batteries is true gel technology. The battery acid has the consistency of a gel, which provides considerably improved tolerance to deep discharging and vibration. In addition, the batteries have extremely low self-discharge due to the lead/calcium alloy in the plates. Gel batteries don't require any fluid level checks or distilled water refills. The recombination technology means that only small volumes of gas develop if any over-charging should occur. So very low level of ventilation is required.



### PROPERTIES



No check on fluid level. No topping-up with distilled water. The battery does not need to be installed into a specific place.



Stands up to repeated deep discharges. You can therefore use batteries with fewer amp-hours than equivalent standard batteries and still have access to the same amount of power.



The battery can be installed and used in various positions. Even if the battery is turned upside-down, no acid will leak out.



The battery acid is combined in gel form – no risk of acid leakage



The plate packages are compact and in-built in the cells and the plates sit firmly anchored in the gel. Gel batteries are therefore able to withstand severe vibration.



Extremely low level of self-discharge. A gel battery can be stored at +20 degrees C for approx 2 years and still have 50% of its original capacity left.

### TECHNICAL PROPERTIES

Valve-controlled recombination battery

Lead/calcium alloys in both positive and negative electrodes

Thick plates with mechanical strengthening of the positive mass.

Acid in gel form

Robust design

### ADVANTAGES

100% maintenance-free  
Clean –no oxidation on the poles  
No emissions of battery acid  
Extremely low gas development

Always constant cold start properties  
Minimal self-discharge

Withstands constant deep discharges

Leak-proof.  
Permits installation of battery at various angles  
Robust against deep discharges  
No acid leakage

Withstands extreme vibrations

### RELIABLE RESULTS

No topping up with water, no maintenance costs  
Higher power reserves than ordinary standard batteries  
Safe use in poorly ventilated spaces

Reliable starting  
Perfect for vehicles that in seasonal use and are stationary for long periods

Long useful life – even in the case of repeated deep discharges  
Works in extreme situations

No acid leakage even if there are holes in the battery compartment  
Deep-discharged batteries can be re-charged  
Can be connected for solar panel operation

For agricultural and construction machinery

# TECHNICAL SPECIFICATION FOR EXIDE EQUIPMENT GEL

| CODE         | PERFORMANCE |                   |            |          | DIMENSIONS** |        |        | TECHNICAL CHARACTERISTICS |                    |             |     |           |
|--------------|-------------|-------------------|------------|----------|--------------|--------|--------|---------------------------|--------------------|-------------|-----|-----------|
|              | Wh*         | Capacity Ah (20h) | CCA A (EN) | Volt (V) | L (mm)       | W (mm) | H (mm) | Polarity                  | Terminal           | Weight (kg) | Box | Hold down |
| G14<br>80014 | -           | 14                | 150        | 12       | 150          | 87     | 145    | 1                         | Screw terminal M6  | 5.1         | C56 | -         |
| G16<br>80016 | -           | 16                | 100        | 12       | 180          | 75     | 165    | 0                         | M11                | 6.5         | C64 | -         |
| G19<br>80019 | -           | 19                | 170        | 12       | 185          | 80     | 170    | 0                         | M11                | 6.5         | C66 | -         |
| ES 290       | 290         | 25                | 240        | 12       | 165          | 175    | 125    | 0                         | M5                 | 10          | P24 | -         |
| G30<br>80030 | -           | 30                | 180        | 12       | 197          | 132    | 186    | 1                         | 19                 | 12          | U01 | -         |
| ES 450       | 450         | 40                | 280        | 12       | 210          | 175    | 175    | 0                         | 19                 | 15          | LB1 | B4        |
| ES 650       | 650         | 56                | 460        | 12       | 278          | 175    | 190    | 0                         | 1                  | 21          | L03 | B13       |
| ES 900       | 900         | 80                | 540        | 12       | 353          | 175    | 190    | 0                         | 1                  | 27          | L05 | B13       |
| ES 950       | 950         | 85                | 460        | 12       | 350          | 175    | 235    | 1                         | 1                  | 30          | D02 | -         |
| ES1200       | 1200        | 110               | 760        | 12       | 286          | 270    | 230    | 2                         | 1                  | 39          | D07 | -         |
| ES1300       | 1300        | 120               | 750        | 12       | 350          | 175    | 290    | 0                         | 1                  | 39          | D03 | -         |
| ES1350       | 1350        | 120               | 760        | 12       | 515          | 190    | 225    | 3                         | 1                  | 40          | D04 | -         |
| ES1600       | 1600        | 140               | 900        | 12       | 515          | 225    | 225    | 3                         | 1                  | 47          | D05 | -         |
| ES2400       | 2400        | 210               | 1030       | 12       | 520          | 280    | 240    | 3                         | 1                  | 67          | D06 | -         |
| ES1000-6     | 1000        | 195               | 900        | 6        | 245          | 190    | 275    | 0                         | 1                  | 29          | GC2 | -         |
| ES1100-6     | 1100        | 200               | 950        | 6        | 245          | 190    | 275    | 0                         | Screw terminal M10 | 32          | GC2 | -         |

\* Wh = Battery's available power. The power measured over 20 hours' use that a battery can emit, without exceeding the recommended maximum discharge depth. Wh not indicated for MC-sized batteries

\*\* Tolerance approx 2 mm.

## CHARGING GEL BATTERIES

### SEPARATE CHARGING WITH EXTERNAL CHARGER

- We recommend chargers that can be set for charging AGM/gel batteries (valve-controlled batteries).
- We recommend the use of a charger with an output amps that is, a maximum, 25% of the battery's capacity (Ah figure).
- It is particularly important that the charger should have a voltage control that, except for during short periods, limits the charge voltage to approx 14.4V at room temperature.
- If the batteries are used at temperatures that deviate significantly from room temperature, the charger selected ought to possess temperature compensation for achieving correct charging.
- A constant voltage of 13.7V (6.9V for 6V batteries) is recommended. The batteries ought to be fully charged before being connected to trickle charging. Automatically controlled chargers give a normal indication once the battery is fully charged. When charging with a charger that is not automatically controlled, charging should last from 8 to 20 hours, depending on the battery's degree of discharge and the size of the battery, before trickle charging is connected.

### CHARGING VIA THE ELECTRICITY SYSTEM'S INBUILT GENERATOR

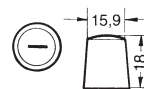
- A 7.2V control voltage is used for 6V systems
- A 14.4V control voltage is used for 12 V systems
- A 28.8V control voltage is used for 24 V systems

### FOR PHOTOVOLTAIC PANEL ARRAYS

- 14.2V constant - 12V array

### TERMINAL TYPES

Terminal 1



Terminal M5



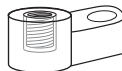
Terminal M11



Terminal 19



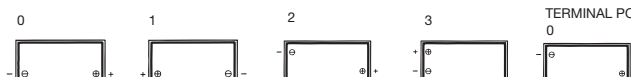
Screw terminal M10



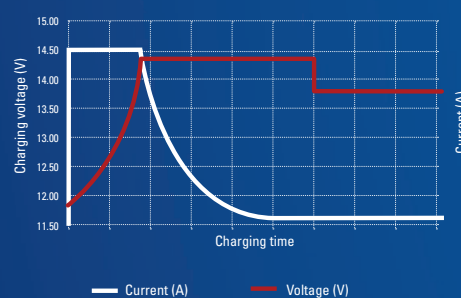
Screw terminal M6



### TERMINAL POSITIONS 12V



### CHARGING GRAPH FOR GEL 12V



# EXIDE

## BATTERIES

By Exide Technologies / [www.exide.com](http://www.exide.com)

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