

## **DEEP-CYCLE GEL BATTERIES**

for Renewable Energy and Backup Power Applications

### PRODUCT LINE SHEET



# BATTERY:VRLA GELDIMENSIONS:inches (mm)COLOR:Maroon (case) Grey (cover)MATERIAL:Polypropylene

Trojan's deep-cycle gel batteries are sealed, maintenance-free batteries that deliver superior power in demanding renewable energy applications. Engineered for rugged durability, outstanding performance and long battery life, Trojan's deep-cycle gel batteries feature a number of important design characteristics that provide significant advantages over competing gel products. The gelled electrolyte is a proprietary formulation that delivers consistent performance and dramatically extends the battery's cycle life. Lead alloy grids provide longer shelf life and superior corrosion resistance as well as deliver more concentrated energy to the terminals. Its premium grade, double-insulated separators allow maximum charge flow between the plates for optimum performance.

#### ENERGY DIMENSIONS<sup>B</sup> Inches (mm) CAPACITY <sup>A</sup> Amp-Hours (AH) BCI GROUP (kWh) TERMINAL WEIGHT lbs. TYPE VOLTAGE Type<sup>\*</sup> (kg) 2-Hr 5-Hr 10-Hi 48-Hr 72-Hr 100-Hr 100-Hr SI7F 20-Hr Length Width Height <sup>C</sup> Rate Rate Rate Rate Rate Rate Rate Rate **DEEP-CYCLE GEL BATTERIES** 24-GEL 77 1.02 12 VOLT 6-9/16 (167) 9-5/16 (236) 24 52 66 72 82 84 85 6 10-7/8 (276) 52 (24) 12 VOLT 9-1/4 (234) 27 27-GEL 60 76 84 91 97 99 100 1.20 7 12-13/16 (326) 6-3/4 (171) 63 (29) 31 31-GEL 66 85 94 102 105 107 108 1.30 12 VOLT 7 12-15/16 (329) 6-3/4 (171) 9-5/8 (245) 70 (32) 12 VOLT DIN 5SHP-GFI 115 5 13-9/16 (345) 6-3/4 (171) 11-1/8 (283) 85 (39) 81 110 125 133 136 137 1.64 GC2 6V-GEL 123 167 189 196 198 1.19 6 VOLT 6 21-1/16 (534) 11 (279) 10-13/16 (233) 68 (31) 154 192 6 VOLT 10-7/8 (276) 69 (31) DIN TE35-GEL 137 180 192 210 216 218 220 1.32 5 10-1/4 (260) 7-1/8 (181) 8D 8D-GEL 146 12 VOLT 9-5/8 (244) 7-1/2 (190) 10-5/8 (270) 157 (71) 188 207 225 240 255 265 3.18

#### **PRODUCT SPECIFICATION**

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 77°F (25°C) and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.

B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal.

C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal. \* Additional terminals available

Trojan's battery testing procedures adhere to both BCI and IEC test standards.

#### **CHARGING INSTRUCTIONS**

C	CHARGER VOLTAGE SETTINGS (AT 77°F/25°C)							
System Voltage	12V	24V	36V	48V				
Absorption	14.1 - 14.4	28.2 - 28.8	42.3 - 43.2	56.4 - 57.6				
Float	13.5	27	40.5	54				

Do not install or charge batteries in a sealed or non-ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.

#### **CHARGING TEMPERATURE COMPENSATION**

**OPERATIONAL DATA** 

OPERATING TEMPERATURE		SELF DISCHARGE		
	-4°F to 113°F (-20°C to +45°C). At temperatures below 32°F (0°C) maintain a state of charge greater than 60%.	Less than 3% per month depending on storage temperature conditions.		

.028 VPC for every 10°F (5.55°C) above or below 77°F (25°C) (add .028 VPC for every 10°F (5.55°C) below 77°F and subtract .028 VPC for every 10°C above 77°F).

#### **EXPECTED LIFE VS. TEMPERATURE**

Chemical reactions internal to the battery are driven by voltage and temperature. The higher the battery temperature, the faster chemical reactions will occur. While higher temperatures can provide improved discharge performance the increased rate of chemical reactions will result in a corresponding loss of battery life. As a rule of thumb, for every 10°C increase in temperature the reaction rate doubles. Thus, a month of operation at 35°C is equivalent in battery life to two months at 25°C. Heat is an enemy of all lead acid batteries, FLA, AGM and gel alike and even small increases in temperature will have a major influence on battery life.

**TYPICAL CYCLE LIFE IN A STATIONARY APPLICATION** 





#### **TERMINAL CONFIGURATIONS**

5 LT	L-Terminal	6 DT	Automotive Post & Stud Terminal	7	UT	Universal Terminal
	<b>Terminal Height Inches (mm)</b> 1-3/4 (43) <b>Torque Values in-Ib (Nm)</b> 100 – 120 (11 – 14) <b>Through-hole Diameter (mm)</b> 3/8 (10)	A.	Terminal Height Inches (mm) 29/32 (20) Torque Values in-Ib (Nm) AP: 50 – 70 (6 – 8) ST: 120 – 180 (14 – 20) Bolt Size 5/16 – 18		C	Terminal Height Inches (mm) 1-1/8 (28) Torque Values in-Ib (Nm) 95 – 105 (11 – 12) Through-hole Diameter (mm) 5/8 (9.5)



Trojan batteries are available worldwide. We offer outstanding technical support, provided by full-time application engineers. call 800.423.6569 or + 1.562.236.3000 or visit www.trojanbatteryRE.com

12380 Clark Street, Santa Fe Springs, CA 90670 • USA or email re@trojanbattery.com

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