

## OPzV Tubular Plate Gel Battery Elevator/Railway applications/The train lighting/Air conditioning battery/Railway signalling battery

GPGATE® OPzV tubular plate gel batteries outperform traditional batteries and are a resilient battery solution for railway applications, the train lighting and air conditioning battery and railway signalling battery. The batteries exceed rigorous safety tests and incorporate design features that adhere to discharge performance, wide operating temperatures and long duration cyclic current draws.

MECHANICAL SPECIFICATIONS		
Industry Reference	ISO9001	
Length A (in/mm)	13.4	340
Width B (in/mm)	8.3	210
Height C (in/mm)	25.4	646
Total Height D (in/mm)	26.7	678.5
Weight (lbs/kgs)	112.5	248.0
Terminal *	GFM-28	
Technology	GEL	

ELECTRICAL SPECIFICATIONS		
Voltage (V)	2	
Internal Resistance (mΩ)	0.45	
Short Circuit (A) (20°C / 68°F)	4500	
Self-Discharge (20°C / 68°F)	2-3% per month	
Charge Temperature	Min: -10°C (14°F)   Max: 50°C (122°F)	
Storage Temperature	Min: -10°C (14°F)   Max: 50°C (122°F)	
Amp Hours (AH)	10 HR	1500
	20 HR	1650

- NOTE 1:** Dimensions have a  $\pm 2$  mm (0.08 in) tolerance. Weights may vary.
- NOTE 2:** Refer to terminal guide on website for torque values.
- NOTE 3:** Extra considerations must be given when designing systems for use at maximum temperatures.
- NOTE 4:** Internal Resistance is approximate.

## FEATURES

Material safety: positive and negative electrodes, separators, electrolytes and other materials are fire-proof and explosion-proof; EMS intelligent control management: ensure that the battery temperature rise does not exceed 40 °C, and it will not be thermally out of control. High and low temperature suitability from -40°C – 60 °C. Proof against deep discharge according to DIN 43539 T5

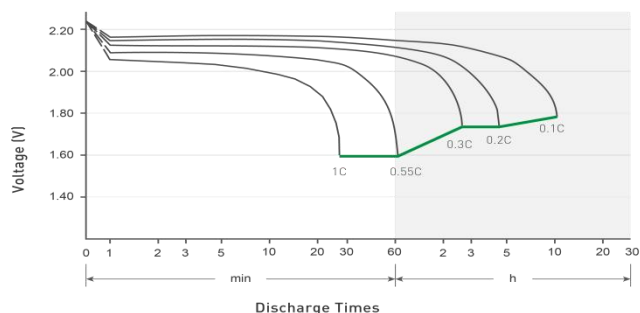
1. Environmentally friendly regeneration
2. Manufacturing process, waste water, waste gas, waste residue, etc. 0 discharge;
3. Waste batteries are 100% recyclable.
4. High efficiency and good profit
5. Low cost per kilowatt hour, long life, 20 years design life;

## Compliant Standards:

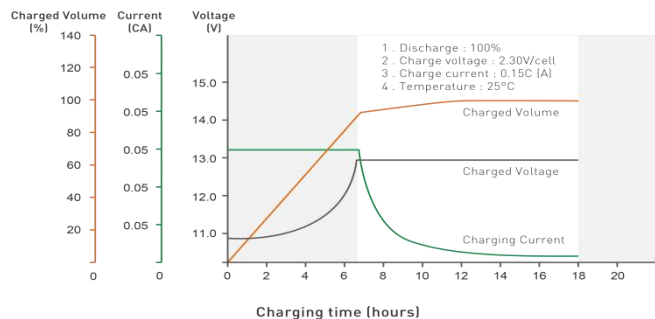
GB/T 22199-2008 、GB/T18332.1-2009 ; Passed ISO9001、ISO14001、ISO18001、CE certificate

## BATTERY CHARACTERISTICS

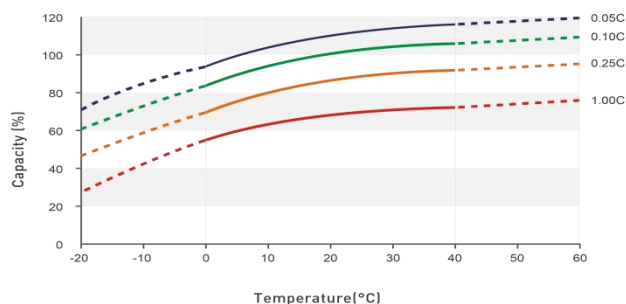
### Charge Characteristics



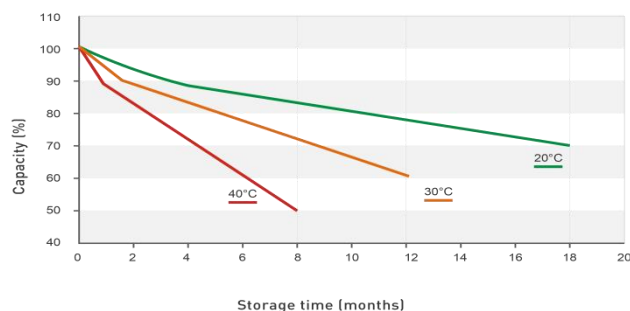
### Charging Characteristics(25°C)



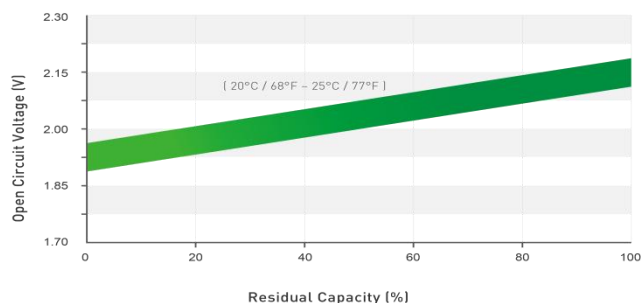
### Effect Of Temperature On Capacity



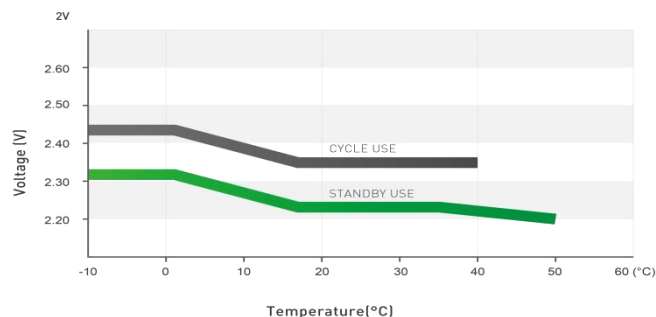
### Self-Discharge Characteristics



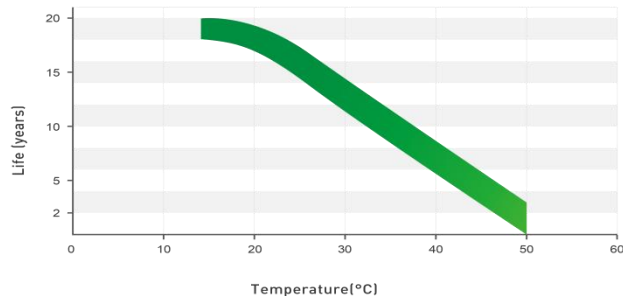
### The Relationship For Open Circuit Voltage And Residual Capacity (25°C)



### The Relationship For Charging Voltage And Temperature



### Effect Of Temperature On Long Life



### Cycle Life On D.O.D(25°C)

