

GOLF CART BATTERIES Range



SEC golf cart battery can be used for all electrically powered industrial trucks, cleaning machines, lifting platforms, AVG systems. They are particularly indispensable in sensitive areas like hospital and food market. Due to improved resistance to low temperatures, SEC golf cart battery is also superior to conventional lead acid batteries in cold areas such as cold stores. SEC golf cart battery have a long service life and more economical.

Telecom Applications

RV
Boat
Solar
Marine
Scraper
Golf cart
Wheelchairs
Electric Forklift
Electric Scooter
Electric Resort Car
Medical Application
Electric Utility Vehicle

Key Features

Longer service life.
Excellent deep cycle property.
Special separator in nano grade.
Higher capacity and higher energy density.
Wider operation temperature, safe and reliable.
Advanced TTP welding and heat sealing technology.
Unique alloy and paste recipe for deep cycle application.
Containers and lids are impact resistant and made of polypropylene(PP).
Refilling plugs with special construction guarantee less water consumption.
Terminals with high conductivity are very good at high current discharging.

Manufacturing Standards



VRLA-GEL BATTERIES

What is gel?

Gel is usually produced by homogeneous dispersion of pyrogenic silica in a diluted sulfuric acid. Pyrogenic silica is a powder of very fine dispersed SiO_2 which can absorb more than 10 times of its weight liquids, producing gel. Because of the thixotropic properties of gel (liquid by stirring and solid by resting), after a certain gelling time, the agglomerates are connecting themselves together to form a network which kept the liquid inside and gives the gel structure. This form can be again broken by stirring to single agglomerates giving again a liquid form.

MAIN DIFFERENCE FROM FLOODED BATTERIES

Using gel SOL as electrolyte.

Using the extra microporous separator which can: reduces the depolarization of the negative electrode and avoids the PCL.

3 effect (premature capacity loss due to negative plate sulphation); significantly decreases thermal runaway; during deep discharge or pole reversal, helps to prevent short circuits by dendrite growth between the plates.

Plate thickness tolerance is not critical since the high compression of plate group assembly is not required.

More electrolytes for better contact with plates and active materials and container walls, good for releasing internal heat and cooling battery temperature.

Better vent valve design to lower gassing rate and water losing rate to extend battery lifetime.

Maintenance free, not need check the height of electrolyte periodically and add distilled water.

ADVANTAGES OF TUBULAR GEL BATTERIES

No electrolyte adjustment needed.

No periodical recharging is needed during storage because of low self discharge.

Do not need quick recharging after discharging.

Deep discharging resistance.

No antimony poisoning by overcharging.

Extremely low gas extrication during charging.

High float-and cycle-life because of using gel and tubular plates.

High energy at low temperatures.

Can be stored and used in any position as there is no electrolyte spilling.

The concept of gel can be used by tubular plates (AGM is not easy).

No pollution problems if container is damaged.

Approved for air Transport (IATA).

No Acid Stratification (segregation).

No thermo-runaway-effect.

Deep discharge properties are much less in case of gel than by AGM.



SEC golf cart batteries GCB Range

FLOODED FLAT PLATE

Type	Voltage (V)	Performance Averages after 15 Cycles				Terminal Type
		Ampere Hour Capacity(Ah)		Capacity ^C (Min)		
		20HR ^A	5HR ^B	@25Amps	@75Amps	
GCB606	6	210	175	380	105	WNT,LPT
GCB106	6	225	185	445	115	WNT,LPT
GCB126	6	240	195	485	130	WNT,LPT
GCB146	6	260	215	530	145	WNT,LPT
GCB866	8	150	125	225	E	WNT,LPT
GCB876	8	170	145	295	F	WNT,LPT
GCB896	8	190	155	340	G	WNT,LPT
GCB1275	12	150	120	280	H	WNT,LPT

- A 20 hour rate is a BCI sanctioned rating expressing ampere hours required to achieve an end voltage of 1.75V/cell at 27°C(80°F)and represents the batteries maximum capacity.
- B 5 hour rate is based on IEC (International Electrotechnical Commission) temperature standard of 30°C(86°F).
- C Reserve Capacity of Capacity – the number of minutes a battery can be discharged at 25 or 75 amps (56 amps for 8 volt batteries) at 27°C(80°F)and a voltage above 1.75V/cell.

SEC golf cart batteries GCG Range

FLAT PLATE GEL

Model	Voltage (V)	Normal Capacity C ₅ (Ah)	Normal Capacity C ₂₀ (Ah)	CA 25A(min)
GCG6180	6	145	180	375
GCG8155	8	125	155	300
GCG12135	12	110	135	255

SEC golf cart batteries GCF Range

FLOODED TUBULAR

Model	Voltage (V)	Normal Capacity C ₅ (Ah)	Normal Capacity C ₂₀ (Ah)	CA 25A(min)
GCF6210	6	180	210	420
GCF8140	8	120	140	270
GCF12140	12	120	140	270

SEC golf cart batteries GCTG Range

TUBULAR GEL

Model	Voltage (V)	Normal Capacity C ₅ (Ah)	Normal Capacity C ₂₀ (Ah)	CA 25A(min)
GCTG6180	6	150	180	375
GCTG8120	8	100	120	225
GCTG12120	12	100	120	225



SEC golf cart batteries GCB Bloc Data & Dimensions

FLOODED FLAT PLATE

Type	Maximum Overall Dimensions ^D mm (inches)				Approx. Weight
	L	W	H	TH	KG(Lbs.)
GCB606	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	27.6(60.8)
GCB106	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	28.5(62.8)
GCB126	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	29.5(65.0)
GCB146	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	30.4(67.0)
GCB866	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	30.6(67.5)
GCB876	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	31.6(69.7)
GCB896	260 (10 1/4)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	32.8(72.2)
GCB1275	328 (12 7/8)	180 (7 1/8)	247 (9 3/4)	289 (11 3/8)	40.5(89.2)

D All dimensions taken from bottom of battery to top of terminal heights may vary according to type of terminals specified.

SEC golf cart batteries GCG Bloc Data & Dimensions

FLAT PLATE GEL

Model	Approx Dimension(mm)				Approx Weight(Kg)	
	L	W	H	TH	Dry	Wet
GCG6180	260	180	248	287	21	29.4
GCG8155	260	180	248	287	25.3	32.8
GCG12135	330	182	248	288	32.2	42

SEC golf cart batteries GCF Bloc Data & Dimensions

FLOODED TUBULAR

Model	Approx Dimension(mm)				Approx Weight(Kg)	
	L	W	H	TH	Dry	Wet
GCF6210	260	180	248	288	21.6	29.4
GCF8140	260	180	248	288	20.0	27.5
GCF12140	328	180	248	288	28.6	40.1

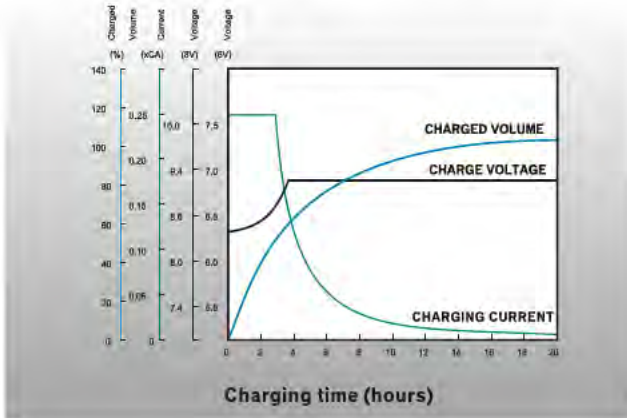
SEC golf cart batteries GCTG Bloc Data & Dimensions

TUBULAR GEL

Model	Approx Dimension(mm)				Approx Weight(Kg)	
	L	W	H	TH	Dry	Wet
GCTG6180	260	180	248	288	22.6	30.0
GCTG8120	260	180	248	288	20.7	28.0
GCTG12120	328	180	248	288	30.0	40.9

GCB Charge / Discharge Tables & Graphs

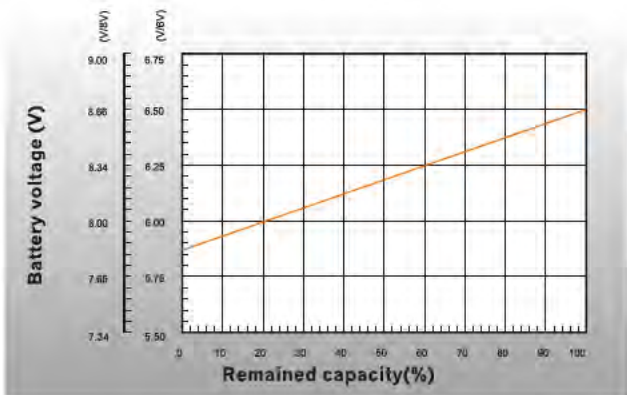
Constant voltage charging characteristic (0.25CA, 25°C, 77°F)



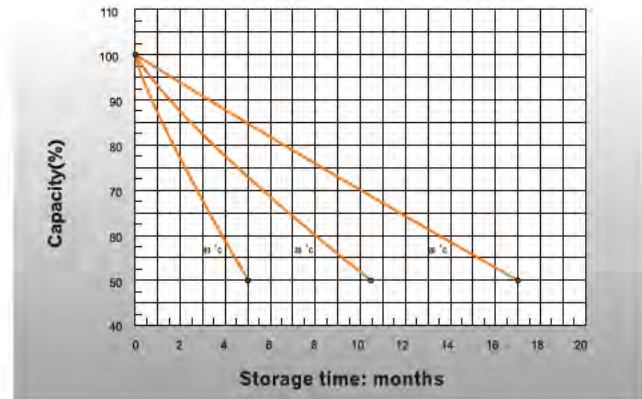
Cycle life in relation to depth of discharge



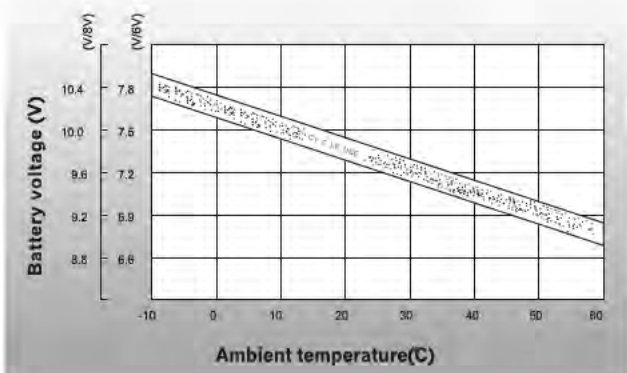
Relationship of OCV and state of charge (20°C)



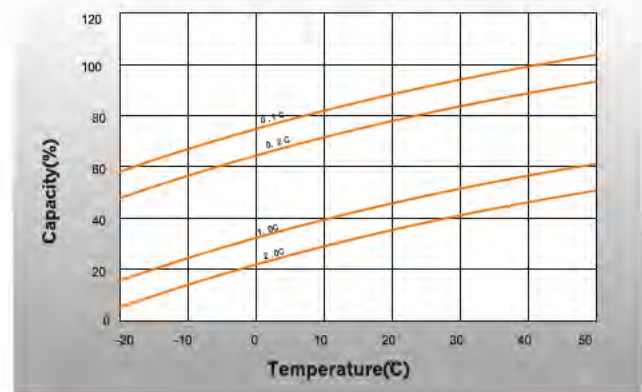
Self-discharge characteristic



Relationship between charging voltage and temperature

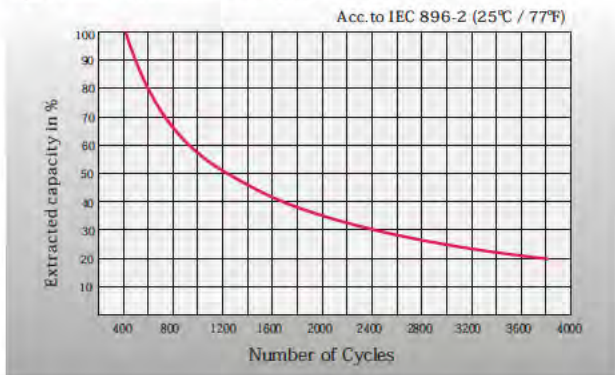


Temperature effects on capacity

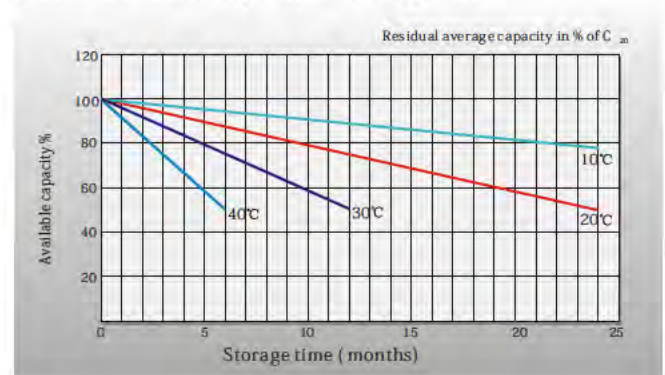


GCG Charge / Discharge Tables & Graphs

Cycle life in relation to depth of discharge

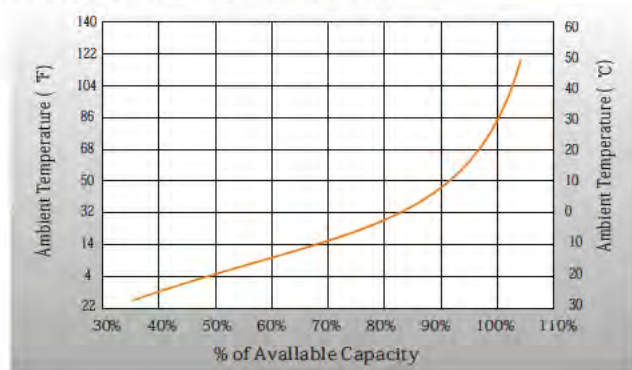


General relation of capacity vs. Storage time

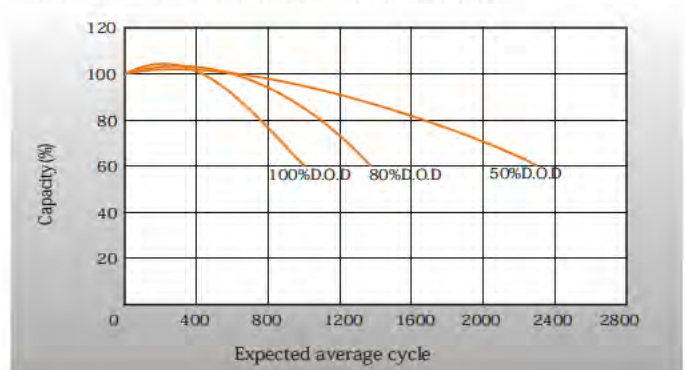


GCF Charge / Discharge Tables & Graphs

Operating Temperature vs. Capacity

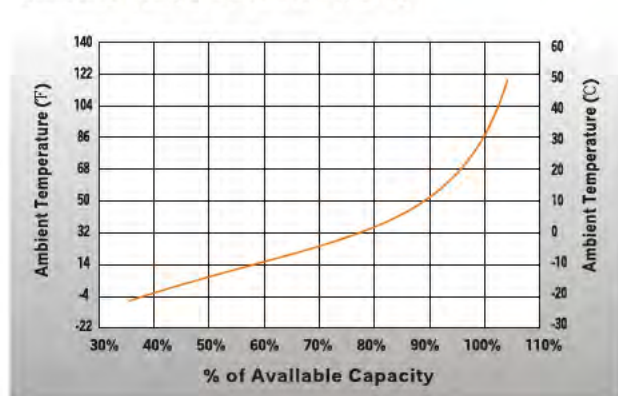


Cycle life in relation to depth of discharge

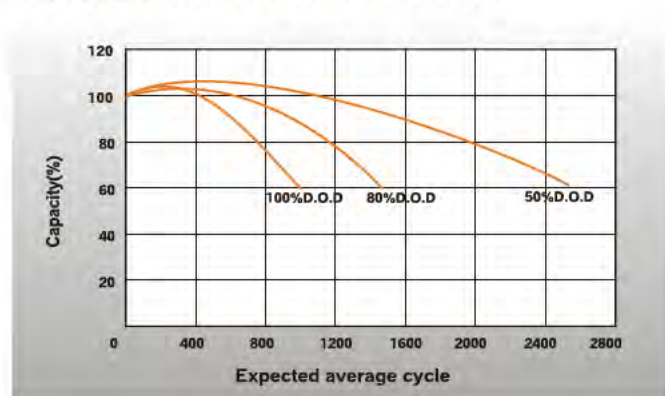


GCTG Charge / Discharge Tables & Graphs

Operating Temperature vs. Capacity



Cycle life in relation to depth of discharge



■ TERMINAL

WNT



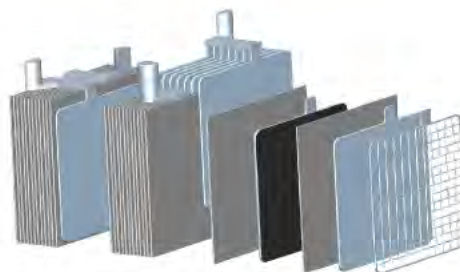
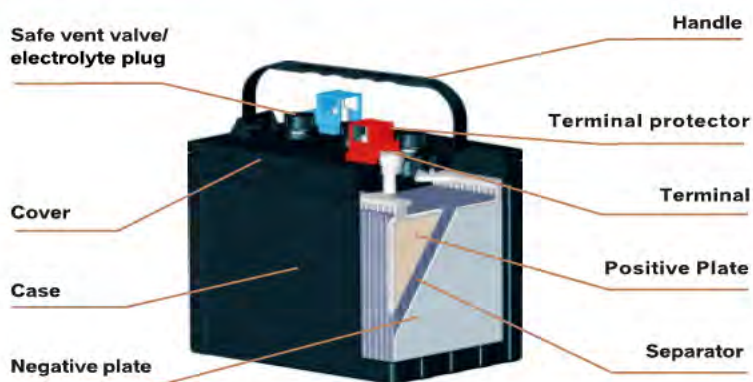
LPT-A



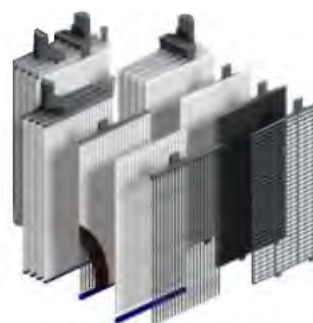
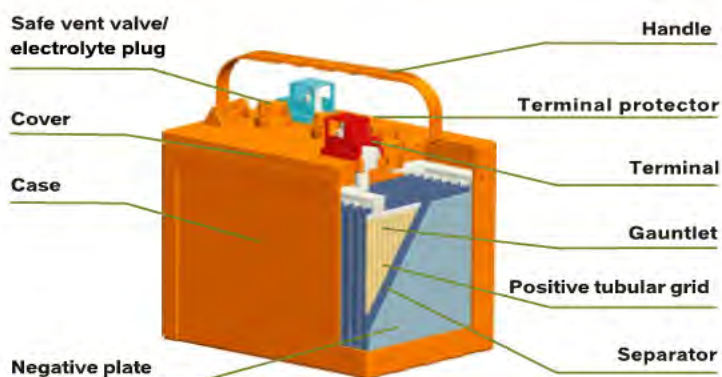
LPT



FLAT PLATE BATTERY CONSTRUCTION



TUBULAR BATTERY CONSTRUCTION



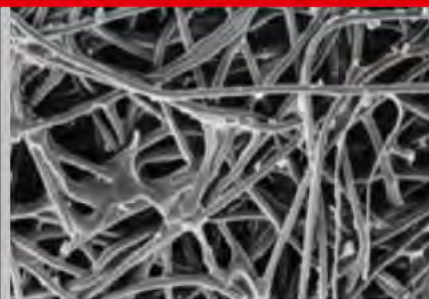
SiO₂PVC Separator

Nonwoven protective gauntlet

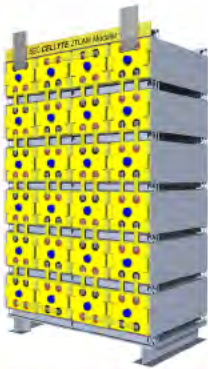
Micro Structure of gauntlet



Deep cycle batteries feature the SiO₂-PVC Separator Advanced Design Separator. Benefits include extended life, sustained performance, less water consumption and lower maintenance costs



SEC Industrial Battery Co. range of products

			
CELLYTE 2CMT/G Modular Steel Rack	CELLYTE 2TLM/G Tubular Steel Rack	CELLYTE 2CMT/G, CELLYTE 2TLM/G with Catalyst	
			
CELLYTE 12PLF & 12PLT Range	CELLYTE 12FTA/G Range	CELLYTE 6-12TUA Range	CELLYTE 6-12TSG Range
			
CELLYTE 6-12TLA Range	CELLYTE 6-12TLG Range	MICROLYTE +Plus Range	MICROLYTE Red Top Range
			
CELLYTE 2ETG OPzV Range Tubular Steel Rack	SEC Tubular OPzS Range	Nickel Cadmium Range Pocket Plate flooded and VR	Typical VRLA catalyst

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