ICAL®

DEEP CYCLE
GELLED SERIES

The ICAL gelled battery uses the seated gel technology and is designed for high reliable, maintenance-free power for renewable energy applications. Depending on the advantage gel technology, optimum grid and plate design, the ICAL gel battery offers highest power and reliability for your equipments.

APPLICATIONS

1. Water Pumpling
2. Wind Generation
3. Cathodic Protection
4. Communications
5. Solar System
6. Electric Powered Vehicles
7. Golf cars
8. Commercial deep cycle applications
9. Power plant
10. UPS system

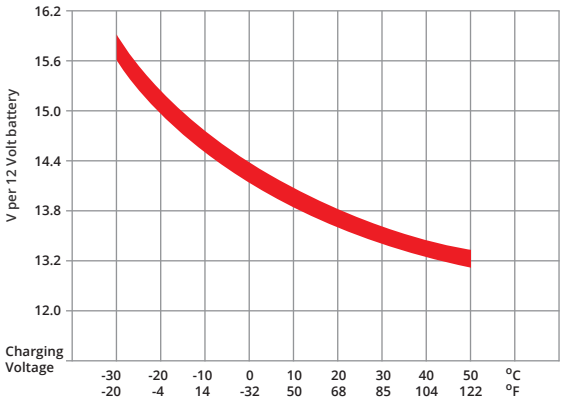
CHARGING

While the ICAL gelled battery will accept a charge extremely well due to its low internal resistance. For using the sealed design, over-charging will dry out the electrolyte by driving the oxygen and hydrogen out of the battery, through the safety valves. Capacity is reduced and life is shortened if a battery is continually under-charged, a power robbing layer of sulfate will build up on the plates. Battery performance is reduce, life is reduced.

So what is important for gelled battery that is: charge at least 2.30V/Cell volts but no more than 2.35V/Cell volts at 68^{O}F (20^{O}C). Constant current chargers should never be used on gelled battery.

Constant charging voltage: Shown is the constant charging voltage in relation to the ambient temperature. The bandwidth shows a tolerance of 30mV/Cell> This constant voltage is suitable for continuing charging and cyclic operation. In a parallel standby mode it always keeps battery in a fully charged state; in a cyclic mode, it provide for a rapidly recharging and highly cyclic performance.

Constant Charging Voltage



DISCHARGE & CYCLING ABILITY

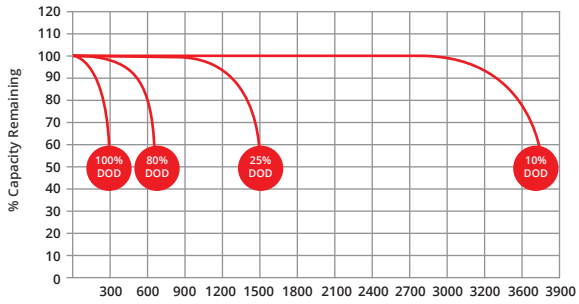
Battery discharge capacity and cyclic life are depended on the depth of discharge (DOD), and the ambient temperature.

The ICAL gelled battery is designed to the "acid limited. "This means that the power in the acid is used before the power in the plates. This design prevents the plates from ultra-deep discharges. Ultra-deep discharging is what causes life-shorting plates shedding and accelerates positive grid corrosion which destroy a battery.

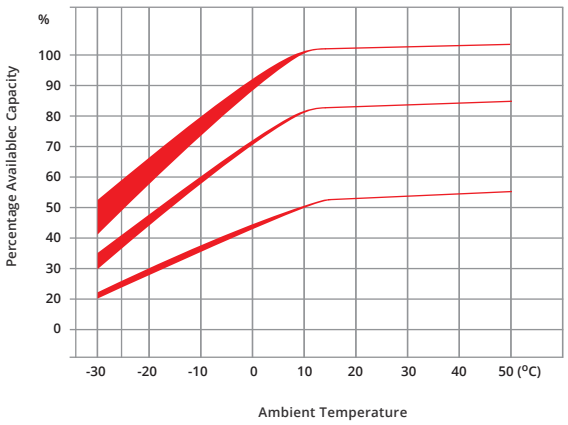
Capacity vs. operating temperatures: shown are the changes in capacity for a wider ambient temperature range, giving the available capacity, as a percentage of the rated capacity, at different ambient temperatures, for 3 different load examples, with uninterrupted discharge to the appropriate discharge cut-off voltage.

The values for the upper edge of the curves were obtained from charging at an ambient temperature of +20^{O}C with a voltage limit to 2.30V/Cell. For the lower edge, charging was carried out at the specified ambient temperature. The curves show the behavior of battery after a number of cycle.

Cycling Ability



Capacity VS. Operating Temperature



GELLED BATTERY SERIES SPECIFICATIONS

Model	Nominal Voltage (V)	Capacity (Ah)	Internal Resistance (M)	Dimensions								Terminal		Weight (Kg)
				Length		Width		Height		Total Height		Type	Position	
				Mm	In	Mm	In	Mm	In	Mm	In			
LIP1250G	12	50	8.2	229	9	138	5.4	208	8.2	230/211	9.1/8.3	T5/T9	C	16.5
LIP1255G	12	55	6.5	229	9	138	5.4	208	8.2	230/211	9.1/8.3	T5/T9	C	17.3
LIP1270G	12	70	7	260	10	168	6.6	215	8.5	215	8.4	T9	C	24
LIP1275G	12	75	6.5	260	10	168	6.6	211	8.3	233/214	9.2/8.4	T5/T9	C	23
LIP1280G	12	80	6.5	306	12	169	6.6	214	8.4	214	8.4	T9	C	27.5
LIP12100G	12	100	5	330	13	171	6.7	214	8.4	220	8.7	T9	C	32
LIP12120G	12	120	4.4	409	16	176	6.9	225	8.9	225	8.9	T11	C	37
LIP12150G	12	150	4.2	485	19	172	6.8	240	9.4	240	9.4	T11	C	44
LIP12200G	12	200	3.3	522	21	238	9.4	222	8.7	222	8.7	T11	E	66