

## LEAD ACID BATTERIES VERSUS NICKEL CADMIUM BATTERIES

## COMPARISON CHART

PARAMETER PERFORMANCE	LEAD ACID		NICKEL CADMIUM		BEST	
	years	cycles	years	cycles		
Life (cycles):(years)	Flat Plate Tubular Plate Plante Plate	6 10 25	700 1500 1000	Pocket Plate	25 2500	NiCd
Capacity Retention after 6 months storage at 25°C	50 % remaining		80 % remaining		NiCd	
Ampere-hour efficiency	80% - 85 %		70 %		Lead	
Charge rate % of capacity rating	7 % - 14 %		33 %		NiCd	
Vibration Resistance	low vibration causes shadding and loss of capacity		high Steel cased cells can withstand shocks of 15G.		NiCd	
Temperature range	0°C to +40°C		- 40°C to + 55°C		NiCd	
High rate Discharge	Approx. 7 times capacity rating in Amperes for a 1 sec discharge		Approx 15-20 times capacity rating in amperes for a 1 sec discharge		NiCd	
Internal Resistance	1000-2000 mOhm		500 mOhm		NiCd	
Ability to Withstand Overcharge	moderate overscharge causes shadding and loss of capacity		very good overcharge does not cause shadding		NiCd	
Overdischarge Capability	poor lead acid batteries should not be left in a discharged state		very good NiCd batteries can be left in any state of charge		NiCd	
Maintenance Intervals	3 to 6 months		12 month		NiCd	
Ease	moderate		good		NiCd	
Reliability	moderate		high		NiCd	
Space saving, Polution	gives of acidic vapour, attacking metal, electronic components and has to be removed from human enviroment.		No corrosive vapours. No need for separate battery rooms hence reduced voltage losses in cables		NiCd	