

LIFELINE

...the heart of your system[®]

Long lasting batteries from the AGM pioneers.

Accept nothing less for your fleet.



- ✓ Class leading cranking amps
- ✓ Rapid recharging
- ✓ Ultra low self-discharge rates
- ✓ Unmatched life-cycles
- ✓ Reliable under harsh vibration

LIFELINE

...the heart of your system[®]

Fully sealed, maintenance free, AGM technology.

Every Lifeline battery is expertly hand built to military specifications.

New Zealand Distributor



Quality
Excellence
Integrity
People



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Premium Sealed Marine & RV Batteries.

Precision Engineered for Maximum Performance.

The company behind Lifeline

The Concorde Battery Corporation was founded in 1977, and originally produced dry charged and gelled electrolyte lead acid batteries. In 1985 Concorde began development of valve regulated, absorbent glass mat [AGM] technology for use in demanding aircraft applications.

Today, Concorde is the largest manufacturer of valve regulated lead acid batteries for both commercial and military aircraft.

During 1986, Concorde further developed the AGM technology for deep cycle applications. This provided higher energy density (higher capacity) and better cycle life than its gelled electrolyte battery. Concorde soon discontinued the gel product line and concentrated all engineering developments on AGM technology.

Advanced Lifeline AGM Technology

Lifeline AGM batteries are valve-regulated, recombinant gas, absorbed electrolyte, lead acid batteries.

The cells are sealed with a pressure relief valve that prevents gases within the battery from escaping. The positive and negative plates are sandwiched between layers of glass mat consisting of a blend of glass micro fibers of varying length and diameter. This blend features superior wicking characteristics and promotes maximum retention of the electrolyte.

An envelope of micro-porous polyethylene surrounds each wrap of glass mat to further protect the plates from shorting. Electrolyte is absorbed and held in place by the capillary action between the fluid and the glass mat fibers. The mat is over 90% saturated with the electrolyte. By design it is not totally saturated with electrolyte, a portion is filled with gas. This void space provides the channels by which oxygen travels from the positive to the negative plates during charging. When the oxygen gas reaches the negative plate, it reacts with lead to form lead oxide and water.

This reaction at the negative plate suppresses the generation of hydrogen that otherwise would come off the negative plate. In this manner, virtually all of the gas is "recombined" inside the cell, eliminating the need to add water, resulting in "maintenance free" operation. Furthermore, since the acid electrolyte is fully absorbed in the AGM separator, the battery is non-spillable even when turned upside down.



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Construction Process - By Hand !

Lifeline batteries are unique, they are hand assembly from start to finish to meet strict quality standards.

Throughout the process - from the first stages of casting, to the final forming of the batteries, all materials are carefully handled at each phase and expertly inspected to ensure a long life of flawless operation.

Careful selection of the highest quality metals, glass matting, separators, epoxies and patented case construction are a few of the quality fundamentals that go into a Lifeline battery to create the world's most effective AGM products.



Superior Intercell Connections

Massive 'Over the partition' fusion welds provide extremely strong intercell connections. This minimizes the possibility of open welds and provides a low resistance connection between cells. Other manufacturers may use 'Through the partition' spot welds that insert a weak point into the assembly due to the small cross sectional area available to make a reliable weld and leak proof construction.

Grids with Special Metals

The negative grid is made from pure lead calcium alloy. The positive grid is extra thick and made from a proprietary pure lead/tin/calcium/alloy with special grain refiners. These materials enhance corrosion resistance and offer excellent cycling capability and float life.

Plates with Special Paste

The grids are pasted on advanced pasting machines to provide the highest quality plates with tightly controlled weight and thickness tolerances. The lead oxide paste used to make the positive plates is a special high density formula. With time and use, the active material tends to soften and gives less discharge capacity. The special Lifeline high density paste retards the active material softening and extends battery life.

Advanced AGM Separator

The AGM (Absorbent Glass Mat) specified is a premium blend of glass micro-fibers with an optimum ratio of fine and extra fine fibers. This blend provides superior wicking characteristics and promotes maximum retention of the electrolyte. The AGM layer is squeezed to an optimum level of compression during assembly to provide consistent contact with the surface of the plate over the life of the battery. This compression also promotes reliable retention of the active material if the battery is exposed to harsh shock or vibration conditions.

Robust Cover to Container Seal

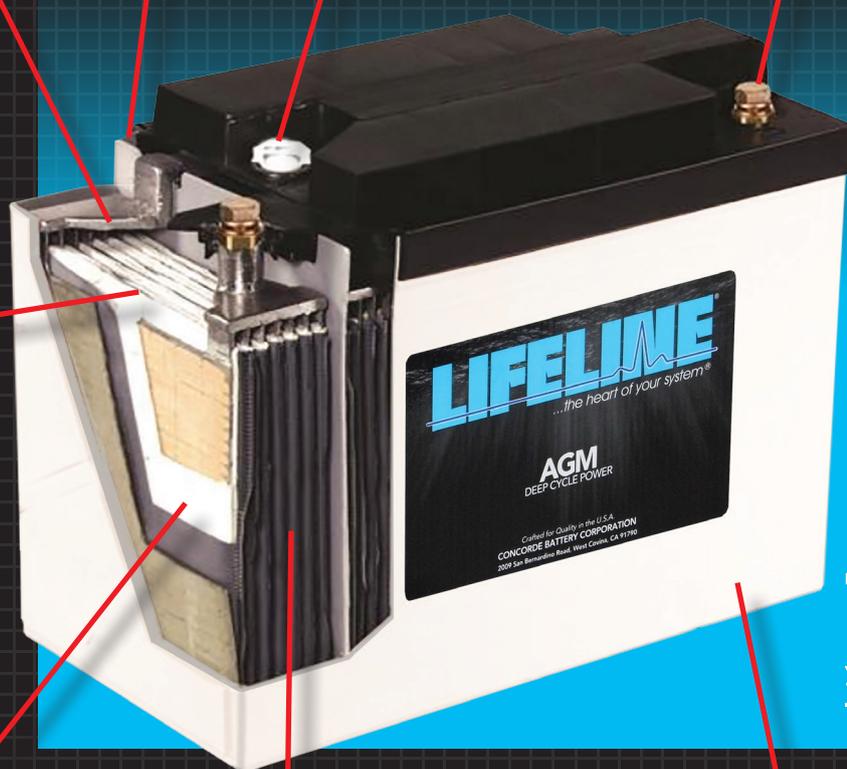
Lifeline batteries feature a solid epoxy-filled tongue and groove seal between the cover and container. Other manufacturers use heat seal. The epoxy-filled tongue and groove seal is a far stronger and more reliable advantage and will not separate in extreme high or low temperature applications.

Sealed Pressure Relief Safety Valves

Operates in any orientation without leaking. Maintenance free. Requires no water additions.

Copper Alloy Terminals

Corrosion resistant
No exposed lead
Low resistance connections
(Copper-to-Copper)



Unique Polyethylene Envelope

Lifeline is the only manufacturer to envelope the AGM separator with a thin layer of microporous polyethylene. This microporous layer is wrapped around the glass-matted plate and sealed to eliminate the possibility of shorts at the edges of the plate (a common failure mode). Microporous polyethylene is more durable and puncture resistant than the AGM material alone and significantly reduces the occurrence of plate-to-plate short circuit failures.

High Impact Housings

Reinforced Container and Cover. Lifeline containers and covers are made from thick walled polypropylene copolymer. This material provides superior impact resistance at extreme low temperatures and minimizes bulging at high temperatures.

New Zealand Distributor

HCB
TECHNOLOGIES



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- ✔ Ultra low self-discharge rates
- ✔ Unmatched life-cycles
- ✔ Reliable under harsh vibration



Mil-Spec - Lifeline batteries exceed military shock and vibration requirements.

Aircraft class cell constructions - Low internal resistance providing high repeated cranking current.

Unmatched Life Cycles - When discharged to the BCI recommended 50%, Lifeline batteries provide nearly 1000 life cycles. Other flooded and gelled technologies offer 300 to 450 life cycles at 50% discharges.

Rapid Recharge - Lifeline batteries facilitate a significant increase in recharge rate, with no current limitations when you properly regulate the charging voltage.

Low Self Discharge - Superior charge retention compared to flooded and gelled technologies, around 2% per month vs 10%.

Maintenance Free -With correct charging no maintenance is required, no adding water, no cleaning of corrosion.

Safety - During normal charging conditions there is no dangerous gassing.

Long Life - Lifeline batteries consistently provide 5 to 8 years of service.

Lifeline batteries carry a **2 Year Warranty**.

Lifeline - Starting Batteries

Code	Volt	Assy	Term	Length	Width	Box Height	CCA	MCA	A/Hrs	Kg
GPL-1400T	12	L	Socket M8	250	125	175	550	700	57	15
GPL-2400T	12	R	Socket M10 POS, M8 NEG	280	170	235	650	790	75	24
GPL-2700T	12	R	Socket M10 POS, M8 NEG	330	170	235	745	900	95	29
GPL-3100T	12	R	Socket M10 POS, M8 NEG	330	170	235	810	950	100	30

Lifeline - Deep Cycle Batteries

Code	Volt	Assy	Term	Length	Width	Box Height	CCA	MCA	A/Hrs	Kg
GPL-4CT-2V	2	R	Socket M8 x4	260	180	250	2025	2500	660	30
GPL-6CT-2V	2	R	Socket M8 x4	260	180	330	2500	2750	900	41
GPL-L16T-2V	2	R	Socket M8 x2	295	175	400	3645	4552	1200	54
GPL-31T-2V	2	R	Socket M8 x2, M10 x2	330	170	230	3240	4050	630	30
GPL-4CT	6	R	Socket M8	260	180	250	760	925	220	30
GPL-6CT	6	R	Socket M8	260	180	330	925	1025	300	41
GPL-L16T	6	R	Socket M8	295	175	400	1350	1675	400	54
GPL-U1T	12	R	Socket M6	195	135	175	215	275	33	11
GPL-24T	12	R	Socket M10 POS, M8 NEG	285	170	235	550	680	80	26
GPL-27T	12	R	Socket M10 POS, M8 NEG	330	170	235	575	715	100	28
GPL-30HT	12	R	Socket M8	340	170	305	700	850	150	44
GPL-31T	12	R	Socket M10 POS, M8 NEG	330	170	235	600	750	105	29
GPL-31XT	12	R	Socket M10 POS, M8 NEG	330	170	235	650	800	125	34
GPL-4DA	12	R	STD	530	220	220	1100	1360	210	56
GPL-4DL	12	L	Blade Terminal	530	220	220	1100	1360	210	56
GPL-8DA	12	R	STD	530	275	220	1350	1675	255	71
GPL-8DL	12	R	Blade Terminal	530	275	220	1350	1675	255	71



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Excellence
Integrity
People**



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