



Long Life Tubular Monoblock Battery

Comparison Of Battery Characteristics

(Golf Car, Sweeper, Electric Cart)



Manufactured by
UKB(UNIKOR BATTERY) CO., LTD.
www.ukbkorea.com

Distributed by
MF AUTO (THAILAND) CO., LTD.
www.thaipuma.com



The new manufacture of long life lead-acid tubular positive monoblock type deep discharge batteries for electrical traction

Advantage of Tubular Monoblock Deep Cycle Batteries

ITEM			UKB's tubular Monoblock Deep cycle	General Deep Cycle (T-Model)	Modified Automotive (GC-Model)
Mfg. Plates	Type	Pos.(+)	Tubular(Clad)	Pasted	Pasted
		Neg.(-)	Pasted	Pasted	Pasted
	Thickness	Pos.(+)	6 mm	2.3 mm	1.8 mm
		Neg.(-)	2.3 mm	1.8 mm	1.5 mm
	Lead Alloy	Pos.(+)	Low Antimony	Antimony	Antimony
		Neg.(-)	Calcium	Antimony	Antimony
Casting Method		Extrude (90 – 120kg/Cm ²)	Gravity Casting	Expended or Gravity	
Separator			PE Envelope	Leaf Type PE	PE Envelope
Container & Cover			PP	PP	PP
Type of Terminal			Bolt & Nut	Stud Type	Stud Type
	Anti-corrosive		Excellent	Good	No Good
	High Temperature		Excellent	Good	No Good
	Absorption of Shock &Vibration		Excellent	Good	Good
Safety	Gas Generation		Low	High	High
	Anti-explosion		Excellent	No Good	No Good
Electrolyte	Water Loss		Low	High	High
	Check Level		2 weeks	1 week	1 week
Self Discharge Rate			Very Low	High	High
Operating Temperature			-20 – 50 °C	-18 – 45 °C	-18 – 45 °C
Discharge Performance			Deep Cycle Use	General	Starter
Life Cycle (Deep Cycle)			1250 Cycle (80 % D.O.D)	754 Cycle	400 Cycle
Guarantee			1 year	-	-
Standard of Performance Application			JIS D 5303 Traction Battery	BCI Series	JIS D 5301 Automotive Battery



The aim for replacing with the tubular type positive plates of deep discharge batteries is to increase the battery life

The tubular type positive plate construction which incorporates lead alloy spines in complete contact with active material has more excellent ability to retain active material as well as to help enable the electrolyte to penetrate freely and well, ensuring the tight structure of spines. This advantages with lead to anti corrosion and increased battery life result from extrusion moulding(90 – 120/cm²) system of manufacturing the spines of the tubular type plates unlike the general gravity moulding system for past type positive plates.

The measurement of active material of is subject to change depending on the variation in the charge and discharge as follows.

The variation causes particles of the active materials to become fine and therefore its cohesive power weakens or detachment accelerates.

Item	Lead Acid Battery				
	Positive Plate		Negative Plate		Electrolyte
	Measurements	Molecular Formula	Measurements	Molecular Formula	
Charge	100	PbO ₂	100	Pb	2H ₂ SO ₄
Discharge	196	PbSO ₄	266	PbSO ₄	2H ₂ O

This change in the measurement can increase the number of holes within the plates and the surface area in contact with the electrolyte to some extent.

However, the continuing variation tends to weaken cohesive power between the spine and active materials. And besides, active materials detached from the plates short-circuit the negative plates in the side or lower part of the plate group.

The deactivation like this can cause the deterioration of battery performance and leads to the end of battery life.

Another reason of shortening the battery life is largely due to the oxidation which occurs in case of charging the batteries.

