弯曲电池简介
Introduction to Curved Battery

广东国光电子有限公司
AEC

概述Outline

- ✓应用领域 Applications
- ✓量产产品介绍 MP Products Details
- ✓弯曲电池工艺流程Processes of Curved Battery
- ✓弯曲电池性能 Performance of Curved Battery

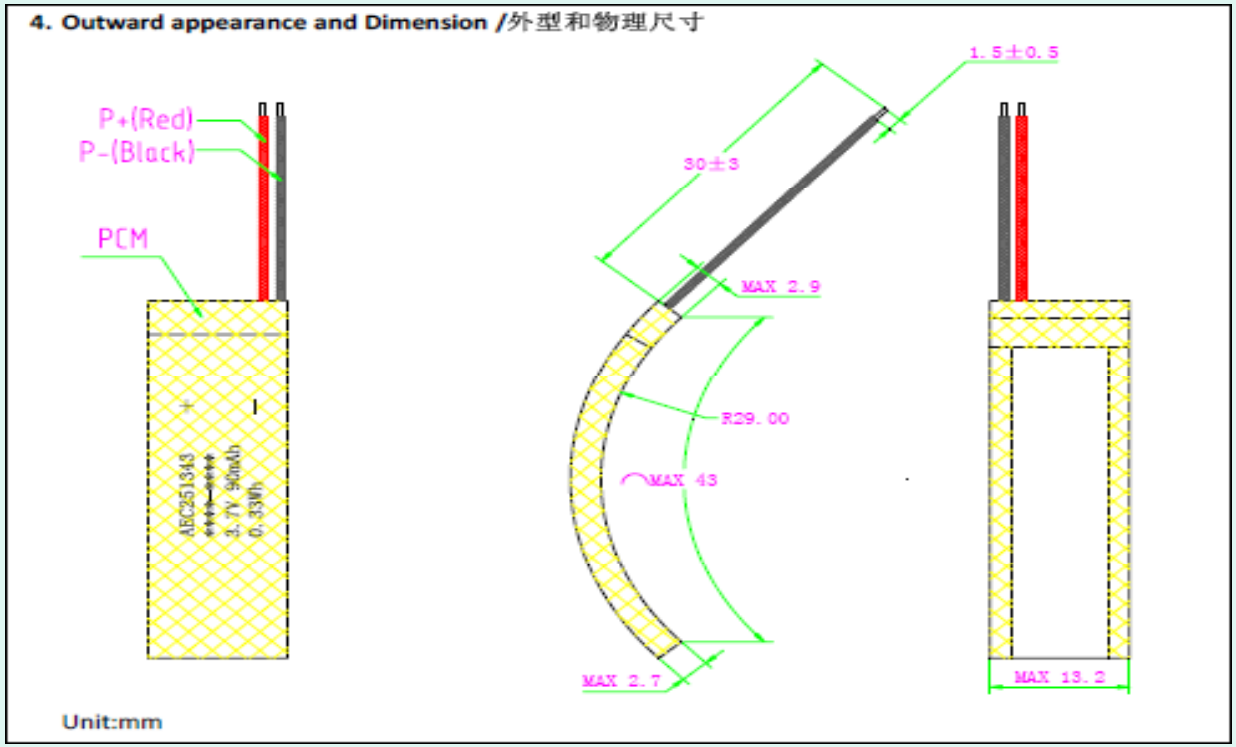
一、应用领域Applications

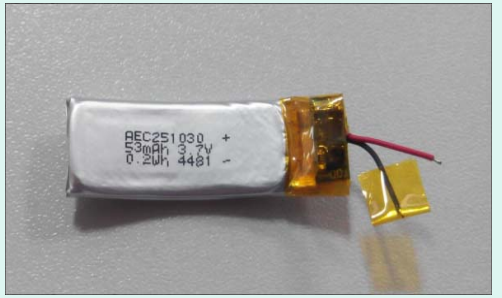
穿戴式产品市场近年来大幅增长，其对电池要求也越来越高，如更轻、更薄、可弯曲等。
The market of intelligent wearable products keeps growing recently, which demands batteries to be lighter, thinner and more flexible.

弯曲电池广泛应用于穿戴类智能手环、手表、耳机等产品。
The curved batteries are widely applied to intelligent wearable products, such bracelets, watches and earphones.

二、量产产品介绍 Details of MP Products

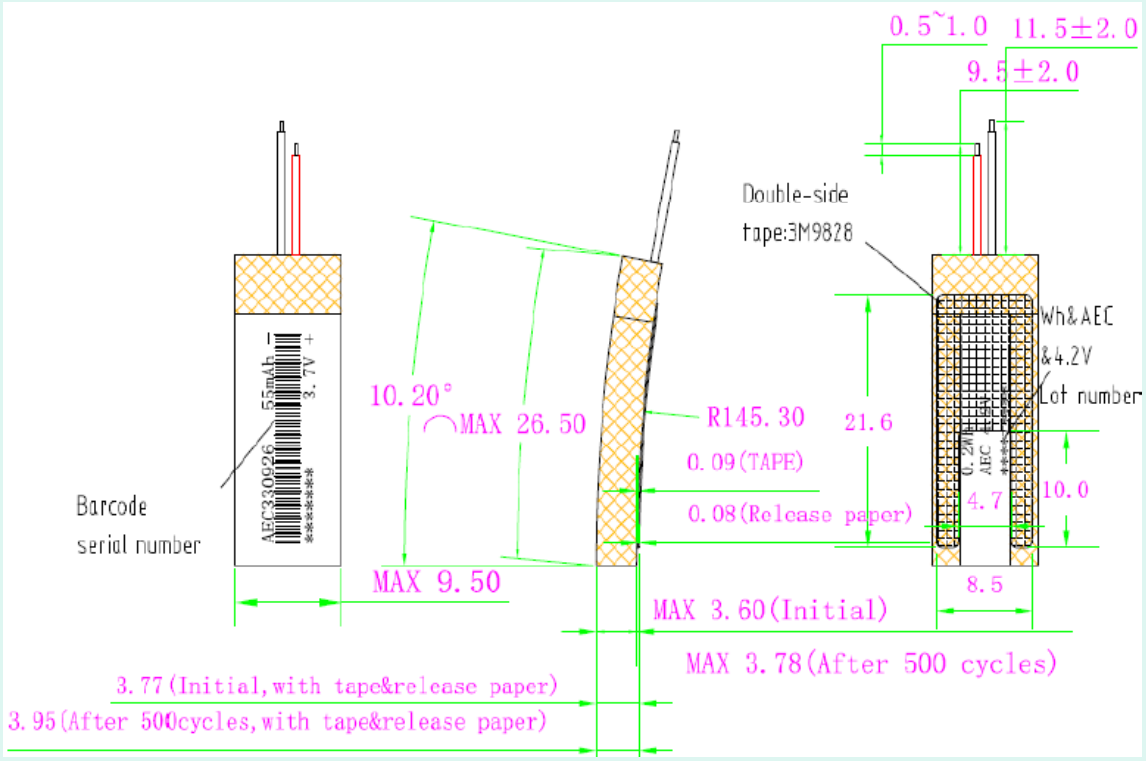
1、251343：
厚*宽*长 = 2.7 * 13.2 * 43.0mm （内弧长含CPP ）,内弧半径29.0mm,容量90mAh
Thickness*Width*Length= 2.7 * 13.2 * 43.0mm (CPP is included), radius of the inner arc=29.0mm, capacity= 90mAh





二、量产产品介绍Details of MP Products

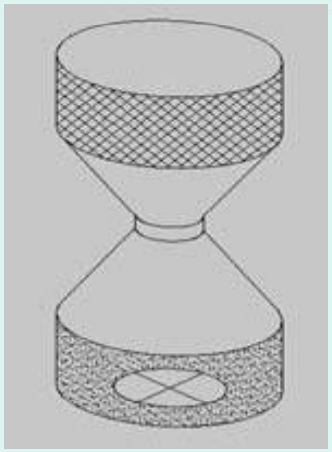
2、330926：
厚*宽*长= 3.60 * 9.50 * 26.50mm（内弧长含CPP）,内弧半径145.3mm,容量55mAh
Thickness*Width*Length= 3.60 * 9.50 * 26.50mm (CPP is included), radius of the inner arc=145.3 mm, capacity= 55mAh



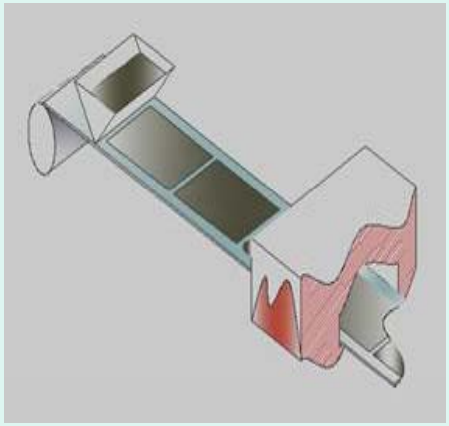
二、量产产品介绍Details of MP Products

3、 AEC弯曲电池尺寸加工范围Dimension ranges of the AEC curved battery ：
电池厚度2.0~5.0mm，宽度9~40mm，长度25~60mm，弧度半径范围在25~150mm
Thickness range: 2.0~5.0mm
Width range: 9~40mm
Length range: 25~60mm
Radius range of the curved battery: 25~150mm.

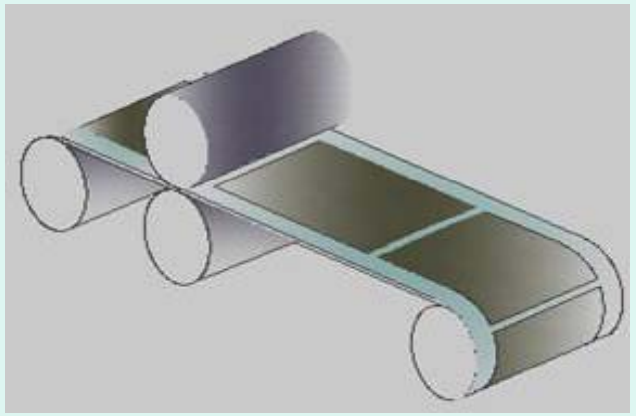
三、弯曲电池工艺流程 Processes of Curved Battery



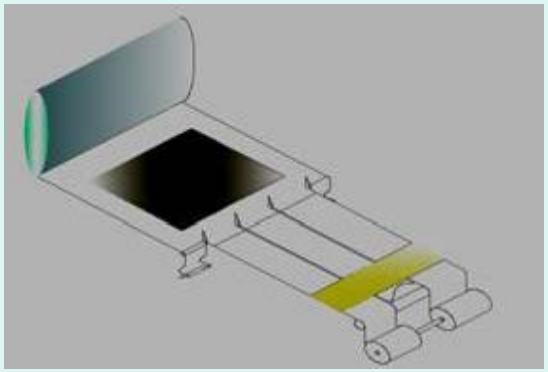
1. 混料 Mixing



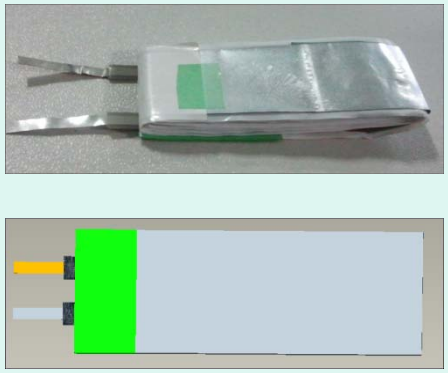
2.涂覆 Coating



3. 辊压 Pressing



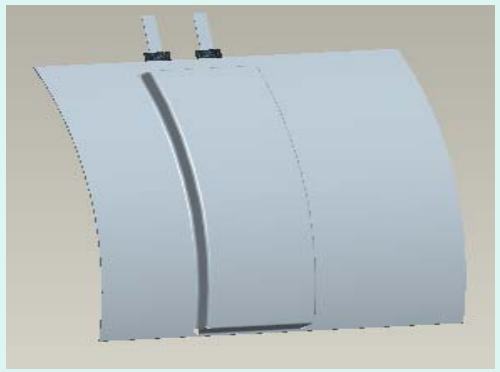
4. 分条 Sitting



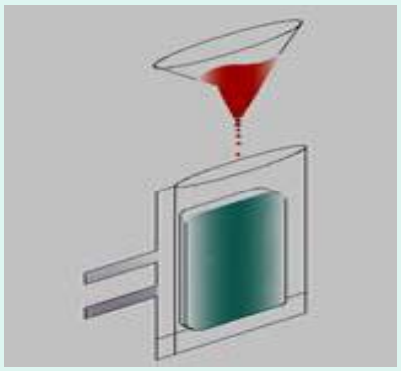
5. 卷绕和焊接 Winding and Welding

6. 冲盒Pouch

三、弯曲电池工艺流程 Processes of Curved Battery

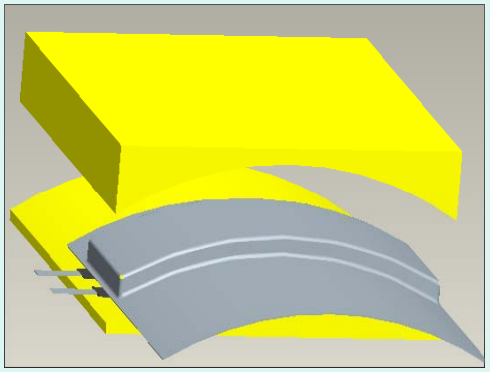


7. 顶侧封Top and side sealing

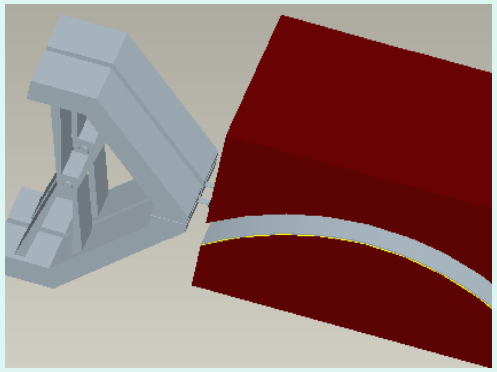


8. 注液

Electroylte Filling

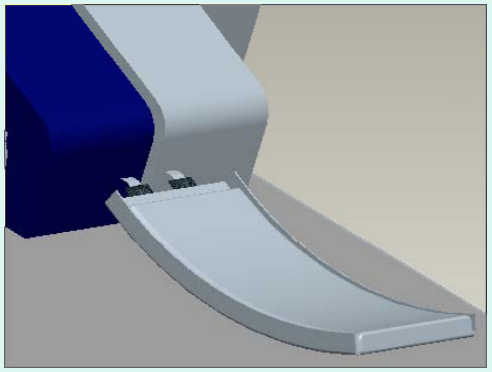


9. 热压Hot Pressing



10. 化成Formation

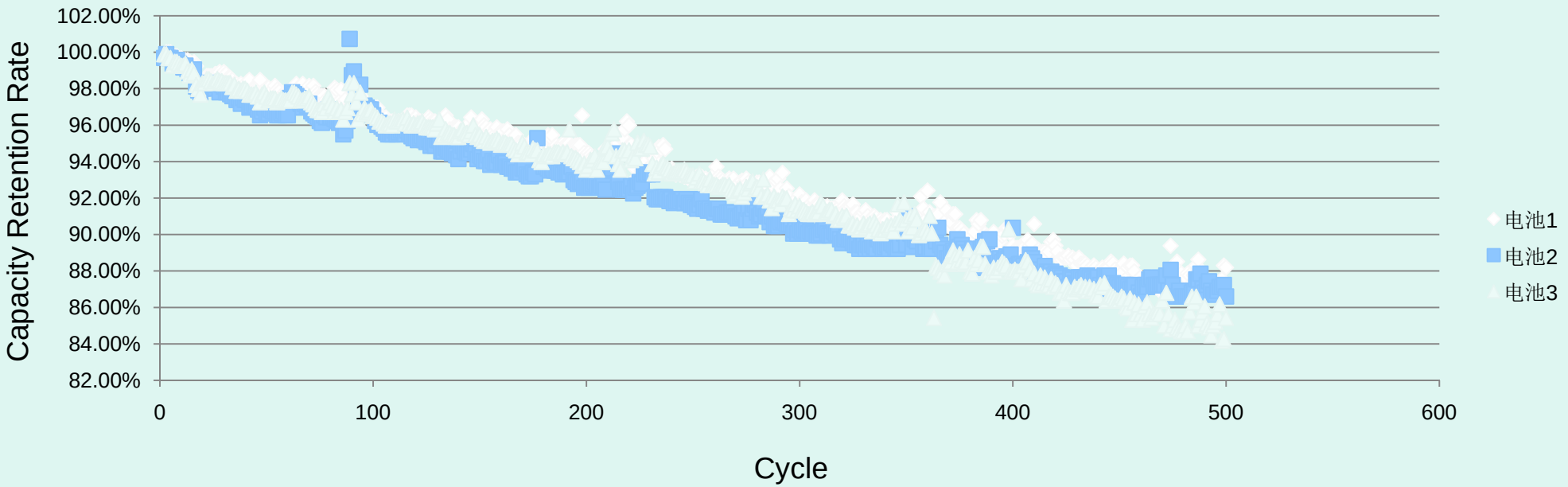
11. 真空除气Degassing



12. 分容和静置Capacity and Aging

四、弯曲电池性能 Performance of Curved Battery

1、循环曲线 Cycle Curve（RT-0.5C/0.5C）



2、高温短路 High Temperature Short-circuit Test

Samples	Initial Voltage/V	Impedance/Ω	Highest Temp./℃	Phenomena	Conclusion
13#	4.196	224	102	No fire or explosion	Pass
14#	4.199	217	108	No fire or explosion	Pass
15#	4.195	221	107	No fire or explosion	Pass

3、重物冲击Impact

Samples	Initial Voltage/V	Impedance/Ω	Phenomena	Conclusion
16#	4.197	216	No fire or explosion	Pass
17#	4.198	219	No fire or explosion	Pass
18#	4.197	219	No fire or explosion	Pass

3、挤压Crash

Samples	Initial Voltage/V	Impedance/Ω	Phenomena	Conclusion
19#	4.195	215	No fire or explosion	Pass
20#	4.194	223	No fire or explosion	Pass
21#	4.192	221	No fire or explosion	Pass

4、热冲击Thermal abuse

Samples	Initial Voltage/V	Impedance/Ω	Phenomena	Conclusion
25#	4.197	215	No fire or explosion	Pass
26#	4.198	233	No fire or explosion	Pass
27#	4.198	226	No fire or explosion	Pass

5、恒定湿热Constant Temperature and Humidity Test

Samples	Height of the arc		
	Before(mm)	After(mm)	Change rate of the height
1#	7.89	7.93	0.51%
2#	7.92	7.95	0.38%
3#	7.91	7.99	1.01%

6、85℃ Storage Test

Samples	Height of the arc		
	Before (mm)	After(mm)	Change rate of the height
4#	7.91	7.97	0.76%
5#	7.94	8.01	0.88%
6#	7.90	7.95	0.63%