

## 公司简介

扬州宏远电子有限公司成立于 1995 年，于 2018 年 10 月 29 日更名为扬州宏远电子股份有限公司。厂址位于中国江苏省高邮市，占地面积 14 万 m<sup>2</sup>，主要产品为铝电解电容器用腐蚀箔和化成箔，现有腐蚀生产线 50 条、化成生产线 78 条，年生产能力为 1800 万 m<sup>2</sup>，年销售额 8.8 亿元人民币，折合 1.28 亿美元。

扬州宏远电子股份有限公司是国家高新技术企业。公司拥有一批高素质的管理人才和专业技术人才，建立了研究开发、生产制造、技术保证、品质服务、环境建设等一整套科学的管理体系，拥有自主开发的高水平腐蚀、化成箔制造技术，具有独立的设备开发和制造能力。通过了 ISO9001：2015 版质量管理体系认证和 ISO14001：2015 版环境管理体系再认证。同时拥有多项发明专利。

追求卓越品质，提供满意产品，本公司愿与广大客户一起为成为一家充满魅力、富有竞争力的国际化企业而努力！

## COMPANY INTRODUCTION

YANGZHOU HONGYUAN ELECTRONIC CO., LTD. was founded in 1995. It is located in Gaoyou city Jiangsu province, China. Covering an area of 140000m<sup>2</sup>, Major products are etched foil and formed foil which applied to aluminum capacitors. The company is running 50 etched product lines and 78 formed product lines at present. The yearly output of Yangzhou HONGYUAN is 18 million square meters, and RMB 880 million (about USD 128 million) annual sales now.

YANGZHOU HONGYUAN was appointed as the "HIGH AND NEW TECHNOLOGY ENTERPRISES OF CHINA". Benefiting from its excellent professionals of management and technology, Yangzhou HONGYUAN has formed a set of scientific management systems including research & development, manufacture, technology, quality services and environment protection. Moreover, Yangzhou HONGYUAN possesses its own top-ranking etching and forming foil production technology, has the independent ability of equipment development and manufacture. Our company obtained quality management system certificate of ISO9001:2015 and environment management system certificate of ISO14001:2015. meantime, the company also owes lots of inventions.

Pursuing super excellent quality and providing perfect products are the goal of our company, together with our clients, YANGZHOU HONGYUAN would like to dedicate to be an international competitive enterprises.



## 1.1 Definitions of Technical Terms 术语定义

Technical Terms 术语	Code 代码	Definitions 定义
Formation 化成处理	—	Process for depositing dielectric aluminum oxide film ( $Al_2O_3$ ) on the surface of the foil by anodic oxidation 箔表面进行阳极氧化生成介质铝氧化膜 ( $Al_2O_3$ ) 的过程
Formed Foil 化成箔	—	Foils treated by formation process 表面经过化成处理的箔
Etched Foil 腐蚀箔	—	Foils treated by etching process before formation process 化成处理前经过腐蚀扩面处理的箔
Foil for Anode 阳极箔	—	Foils used as an anode of a capacitor 电容器阳极用箔
Foil for Cathode 阴极箔	—	Foils used as an cathode of a capacitor 电容器阴极用箔
Voltage across Terminals 化成电压	Vfe	Final voltage applied during formation process 未化成箔在化成处理时所加的最终电压
Dielectric Withstanding Voltage 氧化膜耐压	Vt	Voltage of formed foil measure 3 minutes after reaching rise time ( $Tr$ ) 到达升压时间 ( $Tr$ ) 3 分钟后化成箔的电压值
Nominal Formation Voltage 额定化成电压	Vf	Nominal value of dielectric withstanding voltage 氧化膜的额定耐压值
Rise Time 升压时间	Tr	Time at which the applied voltage reaches 90% of nominal formation voltage( $Vf$ ), with a specified electric current applied to formed foil 对化成箔按指定电流升压到额定化成电压 ( $Vf$ ) 90% 的值时所用的时间
Hydration Process 水和处理	—	Immersion of foil in deionized water at high temperature for specified time 按指定时间将箔浸入高温纯水中煮沸处理
Hydration Resistance Test 耐水和性试验	—	Test to evaluate foil stability after hydration process 评估箔在进行水和处理后的稳定性的试验
Rise Time after Hydration Process 水和处理后的升压时间	Tr60	Time at which the applied voltage reaches 90% of nominal formation voltage( $Vf$ ), with a specified electric current applied to hydrated formed foil 水和处理后的化成箔按指定电流升压到额定化成电压 ( $Vf$ ) 90% 的值时所用的时间
Dielectric Withstanding Voltage after Hydration Process 水和处理后的氧化膜耐压	Vt60	Voltage of formed foil after hydration process measured 3 minutes after rise time ( $Tr60$ ) 水和处理后的化成箔到达升压时间 ( $Tr60$ ) 3 分钟后氧化膜的耐压

Note: Tr60 & Vt60 indicate hydration time of 60 minutes. 备注: Tr60和Vt60所指的水煮时间为60分钟



## 1.2 How to Order 如何订购

Ordering Unit 订购计量单位	The ordering unit is based on square meters ( $m^2$ ) calculated by multiplying foil length(m) by foil width (m) 订购计量单位基于铝箔的长度(米)与宽度(米)的乘积, 即平方米
Minimum Ordering quantity 最小订购数量	The minimum ordering quantity is one small size roll of foil with the outside diameter measuring approximately 200mm 最小订购数量为一卷外径大约 200mm 的铝箔
Quantity Calculation 数量计算	Ordering One Roll: Calculate the foil area ( $m^2$ ) and round off to one decimal place. 订购一卷: 计算铝箔的面积(平方米)时请尽可能保留到一个小数位
	Ordering more than One Roll: Calculate the foil area ( $m^2$ ) for every roll. The total foil area is the total quantity of the order 订购多于一卷: 计算每卷铝箔的面积(平方米), 总面积就是定单的总数量

Information Required on Customer Order form 客户定单上应注明的资料	Date of Order 定单日期
	Your Purchase Order Number 定单号码
	Foil Part No.: Please be sure to specify “Nominal Formation Voltage” when ordering formed foil. When ordering etched foil, specify “Etched Foil” 铝箔的代码: 订购化成箔时请务必注明“额定化成电压”, 当订购腐蚀箔时请注明“腐蚀箔”
	Quantity of Foil: Use square meters ( $m^2$ ) to calculate quantity based on Nominal Length per Carton (m) 铝箔的数量: 在考虑到每箱的额定长度(米)的前提下, 使用平方米来计算所需要的数量
	Delivery Date 交货日期
	Delivery Terms 交货条款

## 1.3 Part Numbering System 产品代码

For example:      Y      100      LM01      21VF  
                         (1)      (2)      (3)      (4)

(1) Y: Low voltage 低压    YH: Middle to High voltage 中高压

(2) Thickness ( $\mu m$ ) 铝箔厚度

(3) Series number 铝箔系列序号

(4) Nominal Formation voltage (Blank for Etched Foil) 额定化成电压 (腐蚀箔不标注)



## 1.4 Nominal Formation Voltage Range 额定化成电压范围

Foil Category	Nominal Formation Voltage Range
Formed Foil, Extreme Low Voltage	$3.0 \leq V_f \leq 7.9$
Formed Foil, Low Voltage	$8.0 \leq V_f \leq 175$
Formed Foil, Middle to High Voltage	$176 \leq V_f \leq 880$

## 1.5 Specifications for Anode Foil Capacitance 阳极箔静电容量规范

Items 项目	Specifications 规范
Effective Width of Foil 铝箔的有效宽度	480mm (500mm wide roll less 10mm at each edge) (For reference only, please according to Data Sheet) 480mm (500mm 宽的铝箔两边各减去 10mm), 只供参考, 具体请以实际数据检验表为准
Average Capacitance 平均静电容量	As per Section 2. Specifications 按照第二章规范中列出的数值
Tolerance of Average Capacitance 平均静电容量偏差	As per Section 2. Specifications 按照第二章规范中列出的数值 (范围: -10%~+15%)
Calculation of Average Capacitance 平均静电容量的计算	A1, A2, A3: Measured capacitance values at outer side of a foil 从铝箔卷外端测量得的标准静电容量值 B1, B2, B3: Measured capacitance values at core side of a foil 从铝箔卷内端测量得的标准静电容量值 $X = (A \max + A \min + B \max + B \min) / 4$
Dispersion Range 离散范围	13% or less 小于 13%
Calculation of Dispersion Range 离散率的计算	A1, A2, A3: Measured capacitance values at outer side of a foil 从铝箔卷外端测量得的标准静电容量值 B1, B2, B3: Measured capacitance values at core side of a foil 从铝箔卷内端测量得的标准静电容量值 Dispersion Rate = $[(A \max \text{ or } B \max - A \min \text{ or } B \min) / \text{Average Capacitance}] \times 100\%$



## 1.6 Specifications for Residual Chloride Content 氯离子残留量规范

Items 项目	Specifications 规范
Residual Chloride Content 氯离子残留量	Low Voltage Etched Foils: 2.0mg/m <sup>2</sup> or less 低压腐蚀铝箔: 小于 2.0mg/m <sup>2</sup> All foils except the above foils: 1.0mg/m <sup>2</sup> or less 其他铝箔: 小于 1.0mg/m <sup>2</sup>
Test Methods to be Applied 参考测试方法	Test Method - Residual Chloride Content 氯离子残留量的测试方法

## 1.7 Specifications for Visual Appearance 外观规范

Items 项目	Specifications 规范
Visual Appearance 外观	<p>For both Etched and Formed Foils, the appearance of one roll may be slightly different from another. This may look different because of variances in raw foil, production process, etc. The following minor defects shall not be reasons for rejection as long as they are proven not to be harmful to the capacitor during process of production:</p> <p>对于腐蚀箔和化成箔，每一卷的外观都可能存在轻微的差异。这主要是由于原箔、制造过程等因素而造成的。即使铝箔上有以下的小瑕疵，只要对电容器制造过程没有不良影响就不应该作为投诉的理由。</p> <ol style="list-style-type: none"> <li>(1) Small speckles 小斑点</li> <li>(2) Wrinkles and marks or visible corrections of them 皱痕</li> <li>(3) Visible aluminum hydroxide on foil surface 表面的氢氧化铝粉末</li> <li>(4) Small pin-holes 小针孔</li> <li>(5) Variations of surface color 表面颜色变化</li> </ol>



## 2.1 Specifications for Etched Foil for Anode, low Voltage

## 低压阳极用腐蚀铝箔规格表

Type	Items 项目	Thickness 厚度 ±5 (μm)	Capacitance (μF/cm <sup>2</sup> ) 静电容量			Tensile Strength 最小 抗拉强度 (N/cm)	Bending Strength(min.) R=0.5mm(bends) 最小抗弯强度 (回)	最 适 合 使用 电 压 (WV)
			21Vf	67Vf	132Vf			
LD	Y60LD01	60			0.53	21.6	90	50~100
	Y60LD02	60			0.85	21.6	90	50~100
	Y60LD03	60			1.15	19.6	80	50~100
	Y65LD01	65	22	5.6	2.00	17.7	80	16~100
	Y65LD02	65	24	6.2	2.25	17.7	80	16~100
	Y65LD03	65	27	7.5	2.75	17.7	80	16~100
LM	Y80LM01	80	40	9.5		19.6	90	8.0~63
	Y80LM02	80	44	10.2		19.6	90	8.0~63
	Y80LM03	80	50	12.0		19.6	90	8.0~63
	Y80LM04	80	60	13.2		19.6	90	8.0~63
	Y80LM05	80	63	13.6		19.6	90	8.0~63
	Y80LM06	80	66	14.2		19.6	90	8.0~63
	Y85LM01	85	50	12.0		19.6	90	8.0~50
	Y85LM02	85	56	12.6		19.6	90	8.0~50
	Y85LM03	85	61	14.0		19.6	90	8.0~50
	Y85LM04	85	68			19.6	90	8.0~35
	Y90LM01	90	64			17.7	80	8.0~35
	Y90LM02	90	70			17.7	80	8.0~35
	Y90LM03	90	75			17.7	80	8.0~35
	Y90LM04	90	78			17.7	80	8.0~35
	Y90LM05	90	81			17.7	80	8.0~35
	Y95LM01	95	64			17.7	80	8.0~35
	Y95LM02	95	66			17.7	80	8.0~35
	Y95LM03	95	70			17.7	80	8.0~35
	Y95LM04	95	75			17.7	80	8.0~35
	Y95LM05	95	78			17.7	80	8.0~35
	Y95LM06	95	81			17.7	80	8.0~35
	Y95LM07	95	84			17.7	80	8.0~35
	Y95LM08	95	87			17.7	80	8.0~35
	Y95LM09	95	90			17.7	80	8.0~35
	Y100LM01	100	75			17.7	80	4.0~35
	Y100LM02	100	78			17.7	80	4.0~35
	Y100LM03	100	81			17.7	80	4.0~35
	Y100LM04	100	84			17.7	80	4.0~35
	Y100LM05	100	87			17.7	80	4.0~25
	Y100LM06	100	90			17.7	80	4.0~25
Y100LM07	100	93			17.7	80	4.0~25	
Y100LM08	100	96			17.7	80	4.0~35	
Y100LM09	100	99			17.7	80	4.0~25	
Y105LM01	105	84			17.7	80	4.0~25	
Y105LM02	105	91			17.7	80	4.0~25	
Y105LM05	105	99			17.7	80	4.0~25	



## 2.1 Specifications for Etched Foil for Anode, low Voltage 低压阳极用腐蚀铝箔规格表

Type	Items 项目	Thickness 厚度 ±5 (μm)	Capacitance (μF/cm <sup>2</sup> ) 静电容量			Tensile Strength 最小 抗拉强度 (N/cm)	Bending Strength(min.) R=0.5mm(ben ds) 最小抗弯强度 (回)	最 适 合 使 用 电 压 (VV)
			21Vf	67Vf	132Vf			
LM	Y105LM06	105	102			17.7	80	4.0~25
	Y110LM01	110	104			17.7	80	4.0~25
	Y110LM02	110	108			17.7	80	4.0~25
	Y110LM03	110	112			17.7	80	4.0~25
	Y115LM01	115	112			17.7	80	4.0~25
	Y115LM02	115	116			17.7	80	4.0~25
	Y120LM01	120	116			17.7	80	4.0~25
	Y120LM02	120	120			17.7	80	4.0~25
LN	Y85LN00	85		9.4	3.60	19.6	90	50~100
	Y85LN01	85		10.8	4.20	17.7	80	50~100
	Y90LN01	90		12.6	4.50	19.6	90	50~100
	Y90LN02	90		14.1	4.80	19.6	90	50~100
	Y95LN01	95		13.4	4.70	19.6	90	35~100
	Y95LN02	95		15.0	5.00	19.6	80	35~100
	Y95LN03	95		16.0	5.30	19.6	80	35~100
	Y100LN01	100		16.5	5.20	19.6	90	35~100
	Y100LN02	100		17.0	5.50	17.7	80	35~100
	Y100LN03	100		18.0	5.70	17.7	80	35~100
	Y100LN04	100		19.2	6.10	17.7	80	35~100
	Y110LN01	110		19.2	6.10	17.7	80	35~100
Y110LN02	110		20.5	6.50	17.7	80	35~100	
LT	Y60LT01	60			0.32	22	90	50~100
	Y60LT02	60			0.35	22	90	50~100
	Y80LT01	80	22	4.5		22	90	16~50
	Y95LT01	95	50	10.2		22	90	16~50
	Y95LT02	95	60			22	90	8.0~16
	Y105LT01	105	76			26	90	6.3~16
	Y110LT01	110	76			26	90	6.3~16

— Vf: The rating turns into the voltage 额定化成电压

— Aluminum purity 铝纯度 (Al): ≥99.99%

— On the table accommodates the size is a mean value 上表容量值是平均值



## 2.1 Specifications for Etched Foil for Anode, low Voltage

### 低压阳极用腐蚀铝箔规格表

Type	Items 项目	Thickness 厚度 ±5 (μm)	Capacitance (μF/cm <sup>2</sup> ) 静电容量			Tensile Strength 最小 抗拉强度 (N/cm)	Bending Strength(min.) R=0.5mm(ben ds) 最小抗弯强度 (回)	最适合 使用电 压 (V/V)
			21Vf	67Vf	132Vf			
LMA	Y80LMA01	80	60	13.2		17.7	80	4.0~50
	Y80LMA02	80	63	13.6		17.7	80	4.0~50
	Y80LMA03	80	66	14.2		17.7	80	4.0~50
	Y85LMA01	85	68	14.5		17.7	80	4.0~50
	Y90LMA01	90	69	14.8		17.7	80	4.0~50
	Y90LMA02	90	72	15.6		17.7	80	4.0~50
	Y90LMA03	90	75	16.2		17.7	80	4.0~50
	Y90LMA04	90	78	16.9		17.7	80	4.0~50
	Y90LMA05	90	81	17.5		17.7	80	4.0~50
	Y95LMA03	95	84	18.3		17.7	80	4.0~50
	Y95LMA04	95	87	18.5		17.7	80	4.0~50
	Y95LMA05	95	90	19.0		17.7	80	4.0~50
	Y100LMA01	100	93	18.8		17.7	80	4.0~50
	Y100LMA02	100	96	19.3		17.7	80	4.0~50
	Y100LMA03	100	99	20.2		17.7	80	4.0~50
	Y105LMA01	105	96	20.6		17.7	80	4.0~50
	Y105LMA02	105	99	21.1		17.7	80	4.0~50
	Y105LMA03	105	102	21.5		17.7	80	4.0~50
	Y110LMA01	110	105	22.0		17.7	80	4.0~50
	Y110LMA02	110	108			17.7	80	4.0~50
	Y110LMA03	110	112			17.7	80	4.0~50
	Y115LMA01	115	112			17.7	80	4.0~35
	Y115LMA02	115	116			17.7	80	4.0~35
	Y120LMA01	120	116			17.7	80	4.0~35
Y120LMA02	120	120			17.7	80	4.0~35	

— Vf: The rating turns into the voltage 额定化成电压

— Aluminum purity 铝纯度 (Al): ≥99.99%

— On the table accommodates the size is a mean value 上表容量值是平均值



## 2.2 Specifications for Etched Foil for Anode, Middle to High Voltage

### 中高压阳极用腐蚀铝箔规格表

Type	Items 项目	Thickness 厚度 ±5 (μm)	Capacitance (μF/cm <sup>2</sup> ) 静电容量			Tensile Strength 最小 抗拉强度 (N/cm)	Bending Strength(min.) R=1.0mm 最小抗弯强度 (回)	最适合 使用电 压 (VV)
			257Vf	529Vf	600Vf			
MV	YH110MV3	110	1.58			19.6	50	160~300
	YH110MV4	110	1.70			19.6	40	160~300
	YH110MV5	110	1.80			19.6	40	160~300
	YH115MV6	115	1.85			19.6	40	160~300
	YH115MV7	115	1.93			19.6	40	160~300
	YH120MV8	120	2.01			19.6	40	160~300
	YH120MV9	120	2.07			19.6	40	160~300
	YH120MV10	120	2.11			19.6	40	160~300
GV	YH100GV1	100		0.49		19.6	50	330~400
	YH100GV2	100		0.53		19.6	50	330~400
	YH100GV3	100		0.59		19.6	50	330~400
	YH105GV4	105		0.62		19.6	50	330~400
	YH110GV5	110		0.65		19.6	40	330~400
	YH110GV6	110		0.67		19.6	40	330~400
	YH115GV7	115		0.69		19.6	40	330~400
	YH115GV8	115		0.71		19.6	40	330~400
	YH120GV9	120		0.73		19.6	40	330~400
	YH120GV10	120		0.75		19.6	40	330~400
	YH120GV11	120		0.77		19.6	40	330~400
	YH125GV12	125		0.79		19.6	40	330~400
	YH125GV13	125		0.81		19.6	40	330~400

— Vf: The rating turns into the voltage 额定化成电压

— Aluminum purity 铝纯度 (Al): ≥99.99%

— On the table accommodates the size is a mean value 上表容量值是平均值



## 2.2 Specifications for Etched Foil for Anode, Middle to High Voltage

### 中高压阳极用腐蚀铝箔规格表

Type	Items 项目	Thickness 厚度 ±5 (μm)	Capacitance (μF/cm <sup>2</sup> ) 静电容量			Tensile Strength 最小 抗拉强度 (N/cm)	Bending Strength(min.) R=1.0mm 最小抗弯强度 (回)	最适合 使用电 压 (WV)
			257Vf	529Vf	600Vf			
SV	YH110SV1	110			0.50	19.6	50	450~600
	YH115SV2	115			0.54	19.6	50	450~600
	YH115SV3	115			0.56	19.6	40	450~600
	YH115SV4	115			0.58	19.6	40	450~600
	YH120SV5	120			0.60	19.6	40	450~600
	YH120SV6	120			0.62	19.6	40	450~600
	YH120SV7	120			0.64	19.6	40	450~600
	YH125SV8	125			0.65	19.6	40	450~600
	YH125SV9	125			0.66	19.6	40	450~600

— Aluminum purity 铝纯度 (Al): ≥99.99%

— On the table accommodates the size is a mean value 上表容量值是平均值



3.1 Specifications for Formed Foil for Anode, Low Voltage,  
LD LM Series 低压阳极用化成箔规格表

LD LM Series

型号	Capacitance (μF/cm <sup>2</sup> ) 静电容量																				厚度 ±5 (μm)
	WV	4		6.3		8		10		16				25							
	T°C	85	105	85	105	85	105	85	105	85		105		85		105					
	Vf(V)	4	6	8	9	10	11	12	13	14	17	18	19	21	23	24	29	31	33	36	
Y60LD01																					60
Y60LD02																					60
Y60LD03																					60
Y65LD01					46	41.8	38.4	35.5	33	27.1	25.5	24.2	22	20	19.1	14.8	13.9	13.1	11.8	65	
Y65LD02					50.2	45.7	41.9	38.7	36	29.6	27.9	26.5	24	21.9	20.9	16.4	15.4	14.5	13.0	65	
Y65LD03					56.2	51.4	47.1	43.5	40.4	33.5	31.4	29.8	27	24.6	23.5	18.8	17.6	16.5	14.8	65	
Y80LM01					80	73	67	62	58	48	45	44	40	37	34	28	26.5	24.5	22	80	
Y80LM02					89	80	76	68	63	52	49	48	44	40	37	31	29	27	24.5	80	
Y80LM03					98	89	82	76	70	60	56	54	50	46	43	36	34	30	28	80	
Y80LM04					120	109	100	93	86	76	72	68	60	54	48	40	38	34	32	80	
Y80LM05					126	114	103	97	90	78	74	71	63	57	51	42	40	37	34	80	
Y80LM06					131	118	107	100	93	81	77	74	66	60	54	44	42	40	36	80	
Y85LM01					98	89	82	76	70	60	56	54	50	46	43	36	34	30	28	85	
Y85LM02					102	95	90	86	80	68	64	62	56	52	49	39	36.5	32	30	85	
Y85LM03					120	109	100	92	86	76	72	68	61	54	52	44	41	38	34	85	
Y85LM04					135	122	111	104	97	83	79	76	68	61	57	46	44	41	36	85	
Y90LM02					130	122	114	106	101	85	82	79	70	66	63	50	47	44	38	90	
Y90LM03					140	130	122	115	108	92	87	83	75	68	65	52	49	46	40	90	
Y90LM04			165	146	150	136	130	120	112	96	91	87	78	72	70	53	50	48	42	90	
Y90LM05			182	162	155	140	133	125	117	101	95	91	81	75	73	55	52	50	44	90	
Y90LM06	280	230	194	173	166	150	136	128	120	105	99	94	84	77	75	58	54	52	46	90	



3.1 Specifications for Formed Foil for Anode, Low Voltage,  
LD LM Series 低压阳极用化成箔规格表

LD LM Series

型号	Capacitance ( $\mu\text{F}/\text{cm}^2$ ) 静电容量														抗拉强度 N/cm					
	WV	35				50				63			80			100				
	T°C	85				105	85			105	85	105	85	105		85	105			
	Vf(V)	41	43	45	47	51	58	62	65	67	73	82	85	92		105	115	125	132	143
Y60LD01												1.00	0.9					0.53	0.47	21.6
Y60LD02														1.12	1.00	0.90	0.85			
Y60LD03															1.36	1.25	1.15	0.98		
Y65LD01	10.0	9.5	9.1	8.7	7.7	6.5	6.1	5.8	5.6	5.03	4.20	4.10	3.72	2.90	2.62	2.32	2.00	1.68		17.7
Y65LD02	11.1	10.6	10.1	9.7	8.6	7.2	6.7	6.4	6.2	5.56	4.70	4.50	4.08	3.20	2.88	2.56	2.25	1.92		
Y65LD03	13.1	12.4	11.9	11.4	10.1	8.6	8.1	7.7	7.5	6.73	5.70	5.50	4.53	3.90	3.52	3.13	2.75	2.36		
Y80LM01	19.5	17.8	17.0	16.2	14.4	11.6	10.5	9.8	9.5	8.3	6.9	6.7	6.0							19.6
Y80LM02	20.5	19.2	18.3	17.5	15.8	12.5	11.0	10.5	10.2	9.0	7.2	7.0	6.4							
Y80LM03	23.0	21.0	20.0	19.0	17.0	14.5	13.2	12.4	11.0	10.4	8.0	7.8	7.0							
Y80LM04	24.2	23.0	22.0	21.0	19.0	15.8	14.7	13.8	13.2	12.0										
Y80LM05	26.0	25.0	23.5	22.5	20.0	16.3	15.1	14.3	13.6	12.4										
Y80LM06	28.3	27.0	25.5	24.0	22.0	17.0	15.8	15.0	14.2	13.0										
Y85LM01	23.0	22.0	21.0	20.0	18.0	15.5	14.2	12.4	12.0	10.4										17.7
Y85LM02	26.0	24.0	22.0	21.0	18.8	16.3	15.0	13.0	12.6	11.0										
Y85LM03	28.0	25.5	24.2	23.0	20.2	16.8	15.5	14.5	14.0	11.8										
Y90LM02	30.5	28.8	27.0	26.0	22.0															
Y90LM03	31.0	30.0	28.8	27.0	24.0															
Y90LM04	32.5	31.0	29.5	28.0	26.0															
Y90LM05	34.0	32.5	30.5	29.5	27.5															17.7
Y90LM06	35.5	34.0	32.5	31.0	28.5															

- Bending Strength(min.) R0.5 抗弯强度(回) :  $\geq 60$
- Test Method 测试方法: EIAJ RC-2364
- Suitable for cutting width 适合裁切宽度 (mm) :  $\geq 5$



3.2 Specifications for Formed Foil for Anode, Low Voltage,  
LM LN Series 低压阳极用化成箔规格表

LM LN Series

型号	Capacitance ( $\mu F/cm^2$ ) 静电容量																				厚度 $\pm 5$ ( $\mu m$ )
	WV	4		6.3		8		10			16				25						
	T $^{\circ}C$	85	105	85	105	85	105	85	105	85		105		85		105					
	Vf(V)	4	6	8	9	10	11	12	13	14	17	18	19	21	23	24	29	31	33	36	
Y95LM03			165	146	142	128	120	112	104	86	81	77	70	63	59	50	47	44	38	95	
Y95LM04			182	162	145	130	125	115	108	92	87	83	75	68	64	51	48	46	39	95	
Y95LM05	280	230	194	173	155	140	127	118	110	97	92	88	78	71	67	53	50	47	42	95	
Y95LM06	288	240	202	180	162	146	133	125	117	101	95	91	81	74	70	55	52	49	44	95	
Y95LM07	292	246	210	185	166	150	136	128	120	105	99	94	84	77	73	58	54	51	46	95	
Y95LM08	308	260	212	188	170	155	142	131	123	109	102	97	87	79	75	60	57	53	48	95	
Y95LM09	320	270	220	196	177	161	148	136	128	113	106	101	90	82	78	62	59	55	50	95	
Y100LM01	270	222	182	162	145	130	125	115	108	92	87	83	75	68	64	51	48	46	39	100	
Y100LM02	280	230	189	168	150	136	130	120	112	96	91	87	78	72	67	52	50	48	42	100	
Y100LM03	288	240	195	173	154	140	134	123	115	98	93	89	81	74	69	54	52	49	44	100	
Y100LM04	292	246	200	177	160	146	137	126	118	103	98	93	84	77	73	58	55	51	46	100	
Y100LM05	308	260	212	188	170	155	142	131	123	109	102	97	87	79	75	60	57	53	48	100	
Y100LM06	320	270	220	196	177	161	148	136	128	113	106	101	90	82	78	62	59	55	50	100	
Y100LM07	334	282	230	205	185	169	155	143	134	116	109	104	93	85	81	64	61	57	52	100	
Y100LM08	348	293	240	213	192	175	160	148	139	119	112	107	96	87	83	66	62	59	54	100	
Y100LM09	358	304	251	220	199	183	168	155	143	123	116	110	99	90	85	68	63	61	56	100	
Y105LM05	360	314	250	218	200	180	165	155	145	122	115	110	99	90	87	68	64	60	54	105	
Y105LM06	370	320	256	226	203	185	170	159	149	125	118	113	102	93	90	69	66	62	55	105	
Y110LM01	380	320	256	220	200	185	175	165	155	128	121	115	104	95	91	70	65	63	56	110	
Y110LM02	400	340	260	230	220	195	181	170	160	132	125	119	108	98	94	72	67	65	58	110	
Y110LM03							186	176	165	137	130	123	112	102	98	75	69	67	60	110	
Y115LM01	390	330	252	235	212	199	186	176	165	137	130	123	112	102	98	75	69	67	62	115	
Y115LM02	410	340	265	250	223	202	192	182	172	142	135	128	116	106	101	78	71	69	64	115	
Y120LM01	430	350	272	255	223	205	192	182	172	142	135	128	116	106	101	78	71	69	64	120	
Y120LM02	450	360	280	260	234	214	198	188	178	147	140	132	120	109	104	81	73	71	66	120	



3.2 Specifications for Formed Foil for Anode, Low Voltage,  
LM LN Series 低压阳极用化成箔规格表

LM LN Series

型号	Capacitance (μF/cm <sup>2</sup> ) 静电容量																					抗拉强度 N/cm	
	WV	35					50					63			80			100					
	T°C	85				105	85				105	85	105	85	105	85	105						
	Vf(V)	41	43	45	47	51	58	62	65	67	73	82	85	92	105	115	125	132	143	150	160		170
Y95LM01	29.6	28.0	26.5	25.3	21.5																		
Y95LM02	31.3	29.5	28.0	26.8	22.6																		
Y95LM03	32.8	31.2	29.5	28.0	23.6	20.6	20.2																
Y95LM04	33.6	32.0	30.2	28.6	24.1	21.0	20.6																
Y95LM05	35.0	33.5	32.0	30.2	26.0																		
Y95LM06	36.5	35.0	34.0	32.5	28.0																		
Y95LM07	38.0	37.0	36.0	35.0	30.0																		
Y100LM01	31.5	29.5	28.0	26.3	23.0																		
Y100LM02	33.0	31.5	30.0	28.5	25.0																		
Y100LM03	35.3	33.6	32.2	30.8	27.0																		
Y100LM04	38.0	36.2	34.8	32.8	29.1																		
Y100LM05	39.8	37.8	36.0	34.1																			
Y100LM06	41.7	39.5	37.0	35.5																			
Y100LM07	43.3	41.5	39.0	37.0																			
Y85LN00						10.8	10.1	9.7	9.4	8.6	7.7	7.4	6.6	5.3	4.6	4.1	3.6	3.0					
Y85LN01						12.6	11.5	11.0	10.8	10.0	8.8	8.6	7.6	6.2	5.4	4.8	4.2	3.5					
Y90LN01						14.7	13.5	12.9	12.6	11.5	9.7	9.3	8.4	6.7	5.7	5.1	4.5	3.8	3.3	2.8			
Y90LN02						15.3	15.0	14.6	14.1	12.6	10.3	10.0	9.2	7.4	6.3	5.6	4.8	4.2	3.7	3.1			
Y95LN01	28.0	26.7	25.5	24.3	22.2	15.8	14.5	13.8	13.4	12.1	10.1	9.9	8.6	6.9	5.9	5.3	4.7	4.0	3.65	3.0			
Y95LN02	30.6	29.2	27.8	26.6	23.2	17.3	16.0	15.5	15.0	13.2	10.8	10.5	9.4	7.6	6.5	5.7	5.0	4.3	3.9	3.2			
Y95LN03	32.0	30.8	29.2	27.8	23.6	18.5	17.0	16.5	16.0	14.0	11.5	11.0	10.0	8.0	7.0	6.0	5.3	4.5	3.95	3.3			
Y100LN01	31.8	30.9	29.5	28.2	25.6	19.0	17.5	17.0	16.5	14.2	11.3	11.0	10.0	8.2	7.1	6.0	5.2	4.4	3.7	3.0	2.8		
Y100LN02	32.5	31.0	29.8	28.5	26.0	19.6	18.3	17.5	17.0	15.1	12.6	12.2	10.8	8.6	7.3	6.3	5.5	4.6	4.0	3.4	3.0		
Y100LN03	36.5	34.5	33.0	31.5	27.5	20.5	19.3	18.5	18.0	16.5	13.3	12.8	11.5	8.8	7.8	6.5	5.7	4.8	4.2	3.6	3.3		
Y100LN04	39.5	37.2	35.6	34.0	29.5	22.0	20.6	19.7	19.2	17.5	14.3	13.8	12.4	9.5	8.1	6.8	6.1	5.2	4.5	3.9			
Y110LN01	39.5	37.2	35.6	34.0	29.5	22.0	20.6	19.7	19.2	17.5	14.3	13.8	12.4	9.5	8.1	6.8	6.1	5.2	4.5	3.9			
Y110LN02	42.3	40.0	38.3	36.5	31.5	23.5	22.0	21.3	20.5	18.5	15.3	14.8	13.4	10.0	8.4	7.1	6.5	5.6	4.8	4.2			

—Bending Strength(min.) R0.5 抗弯强度(回): Y110LN02≥50, Other≥60

—Test Method 测试方法: EIAJ RC-2364

—Suitable for cutting width 适合裁切宽度(mm): ≥5

(备注: 厚度≥95 且 Vf≥92 规格在裁切 5≤宽度<10 时, 需采用预穿孔工艺)



### 3.3 Specifications for Formed Foil for Anode, Low Voltage,LT Series (High Strength)

#### LT 系列 高强度低压阳极用化成箔规格表

### LT Series

型号	Capacitance ( $\mu F/cm^2$ ) 静电容量																厚度 ± 5 $\mu m$	抗拉强度 N/cm	R0.5 抗弯强度 (回)		
	WV	6.3		8		10		16	25		35		50		100						
	T $^{\circ}C$	85	105	85	105	85	105	85	85	105	85	105	85	105	85	105					
	Vf(V)	8	9	10	11	12	13	14	21	33	36	47	51	67	73	132				143	160
Y60LT01																0.24	0.22	0.20	60	22	≥60
Y60LT02																0.32	0.29	0.26	60		
Y80LT01								22	13.5	11.8	7.3	6.4	4.5	4.1				80			
Y95LT01								50	30.0	28.0	17.5	15.8	10.2	9.0				95			
Y95LT02			108	98	90	84	78	56										95			
Y105LT01	182	162	145	130	125	115	108	76										105	26		

- Bending Strength(min.) R0.5 抗弯强度(回) : ≥60
- Test Method 测试方法: EIAJ RC-2364
- Characteristics 特点: 高强度、可分切 3mm、2.2mm



### 3.4 Specifications for Formed Foil for Anode, Low Voltage, LMA Series LMA 系列 低压阳极用化成箔规格表

#### LMA Series

型号	Capacitance ( $\mu\text{F}/\text{cm}^2$ ) 静电容量																	厚度 $\pm 5$ ( $\mu\text{m}$ )
	WV	6.3		8		10			16				25					
	T $^{\circ}\text{C}$	85	105	85	105	85			85				85					
	Vf(V)	8	9	10	11	12	13	14	17	18	19	21	23	29	31	33	36	
Y80LMA01	150	133	120	109	100	93	86	76	72	68	60	54	40	38	36	32	80	
Y80LMA02	157	140	126	114	103	97	90	78	74	71	63	57	42	40	38	34	80	
Y80LMA03	164	146	131	118	107	100	93	81	77	74	66	60	44	42	40	36	80	
Y85LMA01	170	150	135	122	111	104	97	83	79	76	68	61	46	44	41	36	85	
Y90LMA01	172	153	137	124	112	105	98	84	81	77	69	62	47	45	42	37	90	
Y90LMA02	179	160	144	130	118	110	103	88	84	80	72	65	49	47	44	38	90	
Y90LMA03	186	166	148	134	122	115	108	92	87	83	75	68	51	49	46	39	90	
Y95LMA01	194	173	155	140	127	118	110	97	92	88	78	71	52	50	47	42	95	
Y95LMA02	202	180	161	146	133	125	117	101	95	91	81	74	55	52	49	44	95	
Y95LMA03	210	185	166	150	136	128	120	105	99	94	84	77	58	54	51	46	95	
Y95LMA04	215	190	172	155	142	131	123	109	102	97	87	79	60	57	53	48	95	
Y95LMA05	220	196	177	161	148	136	128	113	106	101	90	82	62	59	55	50	95	
Y100LMA01	230	205	185	169	155	143	134	116	109	104	93	85	64	61	57	52	100	
Y100LMA02	240	213	192	175	160	148	139	119	112	107	96	87	66	62	59	54	100	
Y100LMA03	251	220	199	183	168	155	143	123	116	110	99	90	68	63	61	56	100	
Y110LMA01	256	220	200	185	175	165	155	128	121	115	104	95	91	70	65	63	110	
Y110LMA02	260	230	220	195	181	170	160	132	125	119	108	98	94	72	67	65	110	
Y110LMA03					186	176	165	137	130	123	112	102	75	69	67	60	110	
Y115LMA01	252	235	212	199	186	176	165	137	130	123	112	102	75	69	67	62	115	
Y115LMA02	265	250	223	202	192	182	172	142	135	128	116	106	78	71	69	64	115	
Y120LMA01	272	255	223	205	192	182	172	142	135	128	116	106	78	71	69	64	120	
Y120LMA02	280	260	234	214	198	188	178	147	140	132	120	109	81	73	71	66	120	



### 3.4 Specifications for Formed Foil for Anode, Low Voltage, LMA Series LMA 系列 低压阳极用化成箔规格表

#### LMA Series

型号	Capacitance (μF/cm <sup>2</sup> ) 静电容量														抗拉强度 N/cm	R0.5 抗弯强度 (回)		
	WV	35			50				63			80		100				
	T°C	85		105	85		105	85	105	85	105	85	105					
	Vf(V)	43	47	51	58	62	67	73	82	85	92	105	115	132			143	
Y80LMA01	24	21	19	15.8	14.7	13.2	12.0										19.6	≥60
Y80LMA02	25	22	20	16.3	15.1	13.6	12.4											
Y80LMA03	27	24	22	17.0	15.8	14.2	13.0											
Y90LMA01	28	25	23	17.7	16.5	14.8	13.5											
Y90LMA02	29	26	24	18.7	17.4	15.6	14.3											
Y90LMA03	30	27	25	19.3	18.0	16.2	14.8											
Y95LMA01	32	29	27	20.2	18.8	16.9	15.5											
Y95LMA02	33	30	28	21.0	19.4	17.5	15.4											
Y95LMA03	34	31	29	22.0	20.4	18.3	16.0											
Y100LMA01	35	32	30	22.7	21.0	18.8	16.2											
Y100LMA02	36	33	31	23.2	21.5	19.3	16.8											
Y100LMA03	37	34	32	24.2	22.4	20.2	17.6											
Y110LMA01	41	38	36	26.0	24.2	22.0	19.1											

—Bending Strength(min.) R0.5 抗弯强度(回) : ≥60

—Test Method 测试方法: EIAJ RC-2364

—Suitable for cutting width 适合裁切宽度 (mm) : ≥5



3.5 Specifications for Formed Foil for Anode, Middle Voltage, MV Series

MV 系列 中压阳极用化成箔规格表

MV Series

型号	Capacitance( $\mu$ F/cm <sup>2</sup> )静电容量												Thickness 厚度 $\pm 5$ $\mu$ m	Bending Strength(min.) 最小抗弯(回)	
	WV	160		180		200		250		300					
	T <sup>o</sup> C	85	105	85	105	85	105	85	105	85	105	100		R3.5	R1.0
	Vf(V)	210	230	250	260	270	290	315	335	365	365	370			
YH100MV3	1.96	1.76	1.63	1.58	1.54	1.37	1.23	1.15	1.05	1.05	1.03	1.00	100	≥100	≥20
YH100MV4	2.10	1.88	1.75	1.70	1.65	1.47	1.28	1.20	1.10	1.10	1.07	1.04	100		
YH110MV5	2.23	1.98	1.83	1.80	1.76	1.54	1.34	1.25	1.15	1.15	1.12	1.08	110		
YH110MV6	2.29	2.05	1.89	1.85	1.81	1.60	1.40	1.30	1.20	1.20	1.17	1.13	110		
YH115MV7	2.38	2.13	1.96	1.93	1.88	1.67	1.45	1.35	1.24	1.24	1.21	1.17	115		
YH115MV8	2.46	2.20	2.05	2.01	1.95	1.73	1.49	1.40	1.28	1.28	1.25	1.21	115		
YH120MV9	2.54	2.28	2.11	2.06	2.00	1.78	1.54	1.45	1.32	1.32	1.28	1.25	120		
YH120MV10	2.62	2.35	2.16	2.10	2.04	1.83	1.59	1.50	1.35	1.35	1.31	1.28	120		
YH120MV11	2.70	2.42	2.21	2.15	2.08	1.87	1.63	1.55	1.38				120		
YH120MV12	2.77	2.48	2.26	2.20	2.12	1.91	1.67								

—Tensile Strength 抗拉强度 (N/cm) : ≥19.6 (2.00Kgf/cm)

—Aluminum purity 铝纯度 (%) : 99.99%

—Test Method 测试方法 : EIAJ RC-2364



3.6 Specifications for Formed Foil for Anode, High Voltage, GV Series

GV 系列 高压阳极用化成箔规格表

GV Series

型号	Capacitance( $\mu F/cm^2$ ) 静电容量												Thickness 厚度 $\pm 5 \mu m$	Bending Strength (min.) 最小抗弯 (回)	
	WV	330		350		400						R3.5		R1.0	
	T°C	85	105	85	105	85									105
	Vf(V)	440	480	480	510	520	530	540	550	560	580				590
YH100GV1	0.62	0.56	0.56	0.51	0.50	0.49	0.48	0.47	0.46	0.44	0.43	100	≥100	≥10	
YH100GV2	0.68	0.60	0.60	0.55	0.54	0.53	0.52	0.50	0.49	0.47	0.46	100			
YH100GV3	0.73	0.65	0.65	0.61	0.60	0.59	0.58	0.56	0.55	0.52	0.50	100			
YH105GV4	0.78	0.70	0.70	0.64	0.63	0.62	0.61	0.59	0.58	0.56	0.54	105			
YH110GV5	0.81	0.73	0.73	0.68	0.66	0.65	0.64	0.62	0.61	0.58	0.56	110			
YH110GV6	0.85	0.76	0.76	0.71	0.69	0.67	0.66	0.64	0.63	0.60	0.58	110			
YH115GV7	0.89	0.80	0.80	0.75	0.73	0.69	0.68	0.66	0.65	0.62	0.60	115			
YH115GV8	0.92	0.83	0.83	0.78	0.76	0.72	0.70	0.68	0.67	0.64	0.62	115			
YH120GV9	0.95	0.85	0.85	0.80	0.78	0.75	0.73	0.71	0.69	0.66	0.64	120			
YH120GV10	0.98	0.88	0.88	0.82	0.80	0.78	0.76	0.73	0.71	0.68	0.66	120			
YH120GV11	1.01	0.90	0.90	0.84	0.82	0.80	0.78	0.75	0.73	0.70	0.68	120			
YH125GV12	1.04	0.92	0.92	0.86	0.84	0.82	0.80	0.77	0.75	0.72	0.70	125			
YH125GV13	1.07	0.94	0.94	0.88	0.86	0.84	0.82	0.79	0.78	0.74	0.72	125			

—Tensile Strength 抗拉强度 (N/cm) : ≥19.6 (2.00Kgf/cm)

—Aluminum purity 铝纯度 (%) : 99.99%

—Test Method 测试方法 : EIAJ RC-2364



### 3.7 Specifications for Formed Foil for Anode, High Voltage, SV Series

#### SV 系列 高压阳极用化成箔规格表

## SV Series

型号	Capacitance( $\mu$ F/cm <sup>2</sup> ) 静电容量												Thickness 厚度 $\pm 5$ $\mu$ m	Bending Strength (min.) 最小抗弯 (回)	
	WV	450				500			550		600			R3.5	R1.0
	T <sup>o</sup> C	85			105	85		105	85	105	85	105			
	Vf(V)	600	620	630	650	660	680	730	750	800	840	880			
YH110SV1	0.50	0.48	0.47	0.45	0.44	0.41	0.36	0.34	0.29	0.25	0.21	110	≥100	≥10	
YH115SV2	0.54	0.52	0.51	0.49	0.48	0.45	0.39	0.37	0.32	0.27	0.23	115			
YH115SV3	0.56	0.54	0.53	0.51	0.50	0.47	0.41	0.39	0.34	0.29	0.25	115			
YH115SV4	0.58	0.56	0.55	0.53	0.52	0.49	0.43	0.41	0.36	0.31	0.27	115			
YH120SV5	0.60	0.58	0.57	0.55	0.54	0.51	0.45	0.43	0.38	0.33	0.29	120			
YH120SV6	0.62	0.60	0.59	0.57	0.56	0.53	0.47	0.45	0.40	0.35	0.31	120			
YH120SV7	0.64	0.62	0.61	0.59	0.58	0.55	0.49					120			
YH125SV8	0.66	0.64	0.63									125			
YH125SV9	0.68	0.66	0.65									125			

—Tensile Strength 抗拉强度 (N/cm) : ≥19.6 (2.00Kgf/cm)

—Aluminum purity 铝纯度 (%) : 99.99%

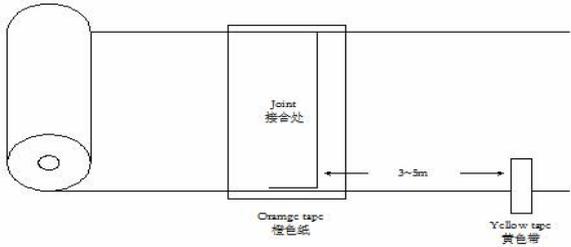
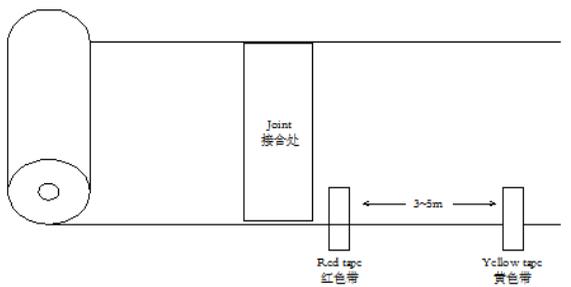
—Test Method 测试方法 : EIAJ RC-2364



## 4.1 Number of Joints and Joint Intervals 结合数量和结合距离

Container Type  包装箱类型	Carton  纸箱
Number of Joints  结合数量	One or None  少于一个
Joint Intervals  结合距离	Interval from joint to the end of foils is 50m or more 结合处距离铝箔的末端不少于 50 米

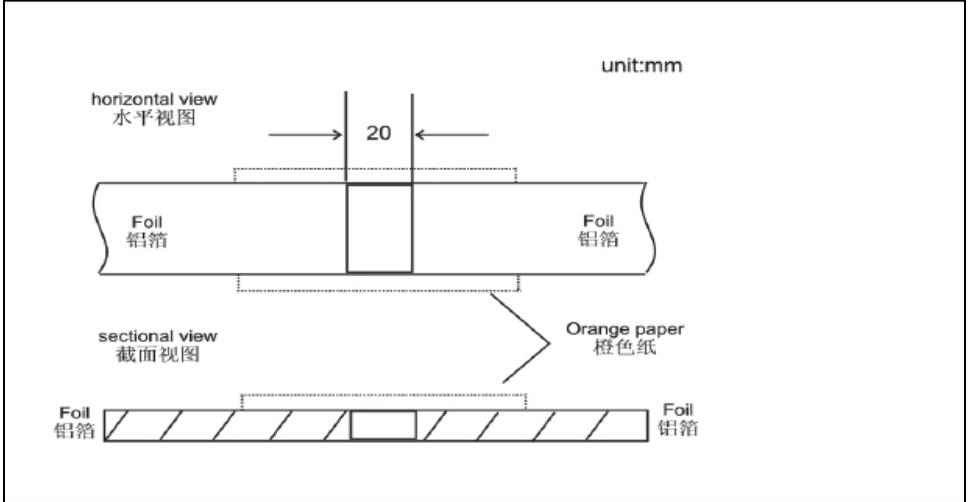
## 4.2 Marking of Joints 结合记号

Items  项目	Specifications  规范
Low Voltage Etched Foil 低压腐蚀铝箔	
All Foils other than above 其他	

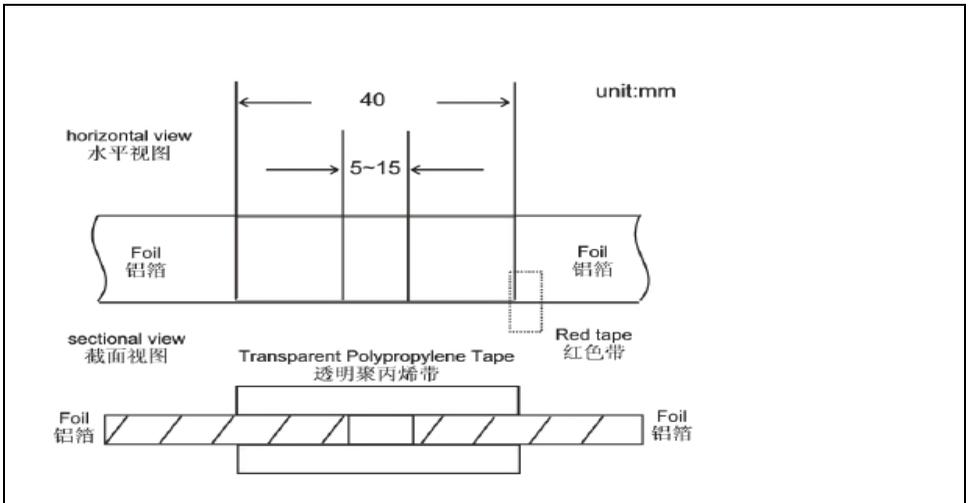


### 4.3 Joint Method 接合方法

#### (1) Low Voltage Etched Foil (Cold Weld) 低压腐蚀铝箔 (冷焊)



#### (2) All Foils other than Low Voltage Etched Foil 其他

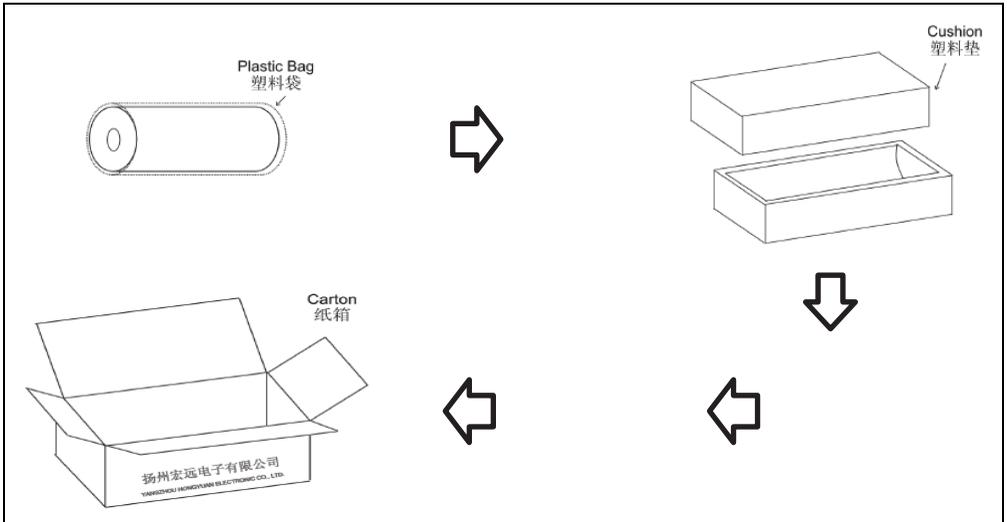




## 5.1 Standard Packing Specifications 标准包装规范

Items 项目	Formed Foil / Etched Foil 化成箔/腐蚀箔
Container Type 包装箱类型	Carton 纸箱
Width of Roll 卷宽	500mm
Core Size 卷芯尺寸	Length: 500mm 长度 Inside Diameter: 40mm or 75mm 内径
Core Materials 卷芯材质	Aluminum & Iron 铝合金 or 钢材
Dimensions of Container 包装箱尺寸	335D x 295H x 615W (mm)
Weight of One Roll (Without Container) 卷重 (不含包装箱)	Approx. 30 kg 大约

## 5.2 Packing Methods 包装方法





### 5.3 Data Sheet 数据检验表

1	Foil Part No. 铝箔编码
2	Thickness 厚度
3	Roll Width 卷宽
4	Effective Width 有效宽度
5	Foil No. 铝箔编号
6	Date of Inspection 检验日期
7	Foil Length 铝箔长度
8	Foil Area 铝箔面积
9	Weight 重量
10	Tensile Strength 抗拉强度
11	Bending Strength 抗弯强度
12	Residual Chloride Content 氯离子残留量
13	Capacitance at Each Measurement Point 各个测量点的实际静电容量
14	Nominal Formation Voltage (Vf) (Formed Foil Only) 额定化成电压 (仅对化成箔)
15	Vt Values at Each Measurement Point (Formed Foil Only) 各个测量点的氧化膜耐压值

A small tag with the same information is also attached to every roll of foil and its container. 包装箱外面和塑料袋里面各附上一张相同资料的数据检验标签.



## 6.1 Quality Assurance System 品质保证系统

Please contact us for the detailed progression of our quality assurance system.

公司已建立了完善的品质保证系统，如欲进一步了解详情请与我们联系。

## 6.2 Quality Assurance of Foil 铝箔的品质保证

During our etching and formation processes, major processing conditions like electric current, voltage and temperature are automatically controlled and simultaneously recorded by our continuous recording system. The quality assurance of our foil is achieved by maintaining the production conditions in accordance with the specified processing conditions.

在铝箔的腐蚀和化成处理过程中，主要处理参数如电流、电压和温度等均采用自动控制。各参数也被连续记录下来。我们严格按照指定的处理参数进行生产，以确保产品的品质能达到要求。

## 6.3 Performance Tests 性能测试

Our foil test samples are taken from the outer side and the core side of every roll and used for all performance tests. The test results are the ones presented to our customers.

我们的铝箔测试样本提取于每卷的始端和末端，这些样本被用于各种性能测试，其测试结果与将提交给客户的数据检验表一致。

## 6.4 Rejections and Claims 退货和投诉处理

If you have a problem with our foil, please send us the following information and materials that are essential to handling the case properly and promptly.

若在使用过程中遇到问题，请提供如下基本资料和物料，以便我们能迅速正确地协助您解决问题。

1. Customer's Foil Receiving Date 客户收到铝箔的日期
2. Customer's Acceptance Test Date 客户的自行测试日期
3. Foil Part Number, such as "Y60LD01" 铝箔编码，如 "Y60LD01"
4. Foil Number, such as "xxx - x - xx" which appears on our Data Sheet  
铝箔编号，如数据表上的 "xxx - x - xx"
5. Rejected Quantity 投诉数量
6. Customer's Purchase Order Number 客户定单号码
7. Foil Sample for Analysis (submit minimum size of 500mm wide by 200mm long, one piece)  
一片500mm x200mm的铝箔样本
8. Reason for Rejection and /or Claim, and briefly describe how the defect was found  
投诉原因和/或要求，并简单描述如何发现问题

We will analyze the rejection and/or claim based on the information above, check our production records, if necessary, and advise the customer of our findings.

我们将基于以上资料分析有关投诉和/或要求，检查我们的生产记录，及时向客户反馈相关分析结果和处理方法。



## 7.1 Acceptance Test 铝箔验收认可测试

Upon receiving our foil, user generally perform their own acceptance test. Depending on foil type, please make sure the acceptance test is conducted at the following designated time:

当收到我们的铝箔时，客户通常会自行进行一些检验，根据铝箔的型号，请确定这些检验务必在以下指定时间进行。

- |                             |                 |            |
|-----------------------------|-----------------|------------|
| 1. Formed Foil for Anode:   | Before Slitting | 阳极用化成箔：切割前 |
| 2. Etched Foil for Anode:   | Before Forming  | 阳极用腐蚀箔：化成前 |
| 3. Etched Foil for Cathode: | Before Slitting | 阴极用腐蚀箔：切割前 |

## 7.2 Handling Aluminum Foil (Do not handle foils with bare hands)

### 铝箔处理(切勿用手直接接触铝箔)

Never handle aluminum foil with your bare hands because the chloride in fingerprints and perspiration has a strong corrosive effect on aluminum. To prevent chloride contamination of aluminum foil during the manufacturing process of aluminum electrolytic capacitors, remember to wear clean, sterile gloves when handling the foil.

由于手上的氯化物及汗液对铝箔有强烈腐蚀性，故不能用手直接接触铝箔。为了避免在生产电解电容时错用受到氯化物污染的铝箔，处理铝箔时请切记要戴上清洗干净的手套。

## 7.3 Storage at User's Site 如何存储铝箔

When foils are stored at user's site, please remember the following points:

客户存储铝箔时请牢记以下各点:

1. Store foil in sealed containers 应用密封容器储存铝箔
2. Keep storage area free of chloride contamination 存放在没有受到氯化物污染的地点
3. Maintain normal temperature (5 to 30 °C) and low humidity (relative humidity less than 85%)  
存放地点的正常温度是5 to 30 °C相对湿度小于85%
4. Never put water on any type of foil. Water on foil can create a gas over a period of time, and because foil is stored in closed containers, the build-up of generated gas may cause an explosion  
无论腐蚀箔或化成箔都不能接触水份（受到水湿的铝箔，在一段时间之内会产生大量气体，若存放于密封的容器内，有可能发生爆炸）
5. Do not subject foil to mechanical stress because it can cause problems during the manufacturing process. 铝箔不能受压，受压后有可能在生产过程中出现问题

## 7.4 Shelf life 储存期限

Foil is guaranteed for the first six months after shipment. After six months, the foil should be tested before processing

以出厂日期起计所有铝箔都有六个月的保证期，六个月后本公司建议对铝箔重新测试。