



毅联电子科技有限公司

----专业至于 FCCL 材料生产

E-LINK ST CO.,LTD

-----Professional materials to force production in FCCL

公司简介

毅联电子科技有限公司成立于 2010 年 12 月,专业从事开发、生产、销售柔性线路板专用覆铜箔基板、常规覆盖膜、黑色覆盖膜、白色覆盖膜、液晶膜、补强板、无胶软板材料、高导热纯胶膜等电子材料,并提供相关的技术服务和售后服务,协同客户共同开发新产品,特殊产品可以为客户量身开发。公司地址位于广东省东莞市美丽的樟木头镇,交通便利、环境优雅;公司主要设备采用进口高精度专业制造设备,全面保证了产品的高水准制造。并配有万级以上的净化车间和完备的测试仪器,确保产品的稳定性。

公司产品主要适用于高性能要求的软性电路板 FCCL、FPCB、LED 等领域。为客户提供高信赖性、高品质、价格最适宜的电子材料。

Company Profile

E-LINK ST Co., Ltd. was established in December 2010, specializes in the development, production and sales of flexible copper clad circuit board substrate-specific, conventional covering film, the black cover film, a white covering film, liquid crystal film, reinforcing plates, no plastic soft board material, Gao thermal conductivity of pure film and other electronic materials, and provide related technical services and after-sales service, collaborative customers to develop new products, some special products tailored to customer development. The company is located in Dongguan City, Guangdong Province, Zhangmutou beautiful town, convenient transportation and elegant environment; company mainly specialized equipment imported high-precision manufacturing equipment, to fully ensure the high standards of product manufacture. And is equipped with ten thousand or more purification plant and a complete test equipment to ensure product stability.

Our products are mainly for high performance requirements of the flexible circuit board FCCL, FPCB, LED and other fields. Providing customers with high reliability, high quality, optimum price of electronic materials.

主要产品展示 Main Products



单面覆铜箔基板
Single Copper Clad Lamination



双面覆铜箔基板
Double Copper Clad Lamination



PI 覆盖膜
PI film base coverlay



黑色覆盖膜
Black film base coverlay



导热纯胶
Thermal Bonding Sheet



无胶基材
Non-gel substrate



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目 录 Catalog



PI 覆盖膜 PI film base coverlay

产品特点

- 适用于快速压合
- 良好的尺寸安定性
- 优良的电性能, 化学性能及耐热性

Features

- suitable for both traditional
- Superior dimensional stability
- Excellent electrical, chemical and thermal property



黑色覆盖膜 Black film base coverlay

产品特点

- 适用于快速压合
- 良好的尺寸安定性
- 优良的电性能, 化学性能及耐热性
- 优良的掩盖力, 避光性

Features

- suitable for both traditional
- superior dimensional stability
- Excellent electrical, chemical and thermal property
- Excellent cover power, light of



单面覆铜箔基板 Single-sided Copper Clad Lamination

产品特点

- 良好的耐燃性及耐热性
- 良好的尺寸安定性
- 优良的耐药性及绝缘性

Feature

- Good flame-retardancy and thermal resistance
- superior dimensional stability
- Excellent chemical resistance and insulation performance



双面覆铜基板 Double-sided Copper Clad Lamination

产品特点

- 良好的耐燃性及耐热性
- 良好的尺寸安定性
- 优良的耐药性及绝缘性

Feature

- Good flame-retardancy and thermal resistance
- superior dimensional stability
- Excellent chemical resistance and insulation performance



导热纯胶: Thermal Bonding Sheet

产品特点

- 良好的导热性
- 良好的尺寸安定性
- 优良的耐药性及绝缘性

Feature

- Good Thermal Conductivity
- superior dimensional stability
- Excellent chemical resistance and insulation performance



诚信, 创新, 团结, 互惠。

Trust, innovation, Unite, Reciprocal

双赢才是我们共同的目标!!

Our common goal is a Win-Win

PI 覆盖膜产品规格书

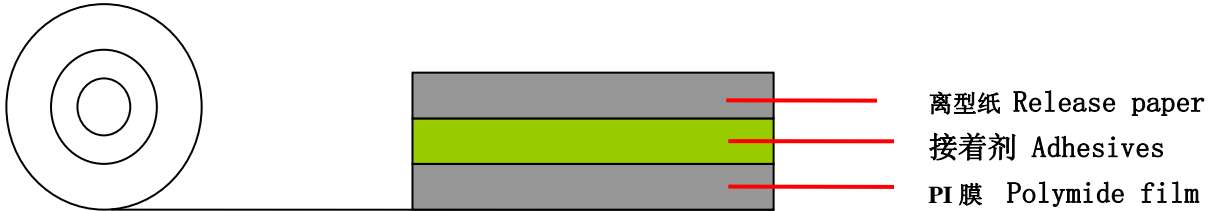
PI film base coverlay sheet

★产品特点 Features

- 适用于快速压合和传统压合 suitable for both traditional and fast lamination style
- 良好的尺寸安定性 Superior dimensional stability
- 优良的电性能,化学性能及耐热性 Excellent electrical, chemical and thermal property
- 良好的溢胶量控制有利于 FPC 压合 Resin float well controlled and be good for FPC lamination

★产品结构 Product structure

型号 Model	EFM1315	EFM1318	EFM1325	EFM2525
结构 Structure	离型纸 Release paper	离型纸 Release paper	离型纸 Release paper	离型纸 Release paper
	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives
	PI 膜 PI film	PI 膜 PI film	PI 膜 PI film	PI 膜 PI film



★产品标准规格 Normal Product Size & Thickness

规格 Specification	PI 膜 PI film	胶厚 Adhesive	离型纸 Release Paper	总厚 Total	供应尺寸 Supply Size
EFM1315	12.5um	15um	110um	137.5um	W:250/500±0.5mm L:200±1m
EFM1318	12.5um	18um	110um	140.5um	
EFM1325	12.5um	25um	110um	147.5um	
EFM2525	25um	25um	110um	160um	

★性能表 Performance Sheet

项目 Items	单位 Units	条件 Conditioning	典型值 Typical Value		试验条件 Test method	指标值 Standard
			EFM1315/1318	EFM1325/2525		
溢胶量 Resin Flow	um	A	≦0.15	≦0.15	IPC-TM-650 2.3.17.1	≦0.2
尺寸安定性 Dimension Stability	TD %		0.093	0.126	IPC-TM-650 2.2.4	≦±0.15
	MD %		-0.089	-0.115		
耐热性 Heat Resistance	/	300°C 10sec	OK	OK	IPC-TM-650 2.4.13	无气泡/无分层 No change in Appearance
剥离强度 Peel Strength	Kfg/cm (90°)	After lamination	1.2~1.5	1.30~1.6	IPC-TM-650 2.4.9	≧1.0
表面电阻 Surface resistance	Ω		1.0×10 ¹¹		IPC-TM-650 2.5.17	≧10 ¹⁰

注: 1. 剥离强度、耐热性与溢胶量的测试: Coverlay 与铜的表面(光面)相压合

2. 以上所列数据仅供参考,详表出货报告

Note: 1. Testing Peel strength, solder Resistance and Resin flow with Coverlay pressed on smooth copper

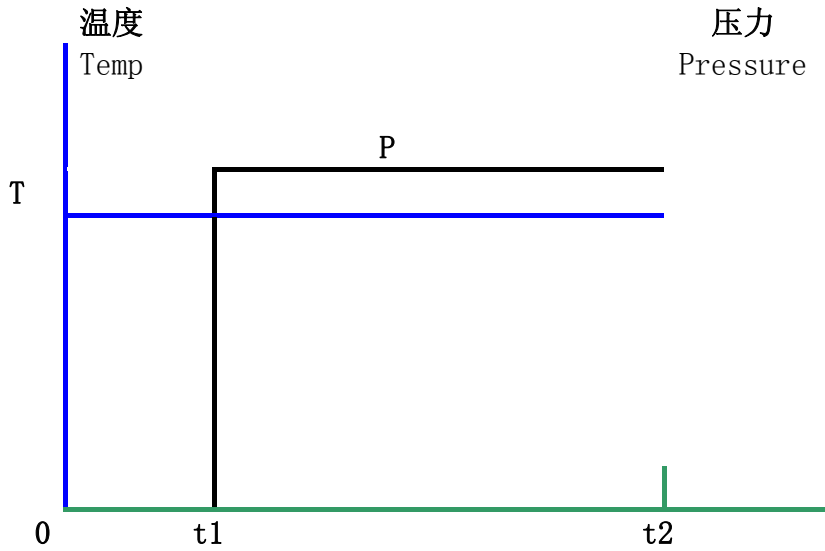
2. Data shown above are nominal values for reference only, Details see Certification of Quality.

★ 储存条件 Storage Condition

真空包装 10℃以下, 70%RH 以下, 储存 3 个月. Vacuum Packaging below 10℃, below 70%RH for 3 months

★ 建议压合程式 Recommended Press Process

快速压合方式 Fast Lamination



1. 压合 Lamination

1.1 快压: 先预压后成型压 Fast Lamination: first pre-press, next forming-press

1.1.1 预压 Pre-press: 温度 Temp: T 180℃

压力 Pressure: P 0

时间 Time: 0~t1: 10sec

1.1.2 成型压 Forming-press: 温度 Temp: T 180℃

压力 Pressure: P 35Kgf/cm²

时间 Time: t1~t2: 100sec

2 熟化 Curing: 160℃ for 60min

黑色覆盖膜产品规格书

Black film base coverlay sheet

★产品特点 Features

- 适用于快速压合 suitable for both traditional
- 良好的尺寸安定性 Superior dimensional stability
- 优良的电性能,化学性能及耐热性 Excellent electrical, chemical and thermal property
- 良好的溢胶量控制有利于 FPC 压合 **Resin float well controlled and be good for FPC lamination**
- 优良的掩盖力,避光性 Excellent cover power, light of

★产品结构 Product structure

型号 Model	EBM1315	EBM1318	EBM1325	EBM2525
结构 Structure	离型纸 Release paper	离型纸 Release paper	离型纸 Release paper	离型纸 Release paper
	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives
	PI膜 PI film	PI膜 PI film	PI膜 PI film	PI膜 PI film



★产品标准规格 Normal Product Size & Thickness

规格 Specification	PI膜 PI film	胶厚 Adhesive	离型纸 Release Paper	总厚 Total	供应尺寸 Supply Size
EBM1315	12.5um	15um	110um	137.5um	W:250/500±0.5mm L:200±1m 100±1m
EBM1318	12.5um	18um	110um	140.5um	
EBM1325	12.5um	25um	110um	147.5um	
EBM2525	25um	25um	110um	160um	

★性能表 Performance Sheet

项目 Items	单位 Units	条件 Conditioning	典型值 Typical Value		试验条件 Test method	标准值 Standard
			EFM1315/1318	EFM1325/2525		
溢胶量 Resin Flow	um	A	≦0.13	≦0.13	IPC-TM-650 2.3.17.1	≦0.2
尺寸安定性 Dimension Stability	TD %		0.103	0.113	IPC-TM-650 2.2.4	≦±0.15
	MD %		-0.091	-0.105		
耐热性 Heat Resistance	/	300°C 10sec	OK	OK	IPC-TM-650 2.4.13	无气泡/无分层 No change in Appearance
剥离强度 Peel Strength	Kfg/cm (90°)	After lamination	0.8~1.2	0.9~1.5	IPC-TM-650 2.4.9	≧0.8
表面电阻 Surface resistance	Ω		1.1×10 ¹¹		IPC-TM-650 2.5.17	≧10 ¹⁰

注: 1. 剥离强度、溢胶量与耐热性的测试: Coverlay 与铜的表面(光面)相压合

2. 以上所列数据仅供参考, 详表出货报告

Note: 1. Testing Peel strength 、solder Resistance and Resin flow with Coverlay pressed on smooth copper

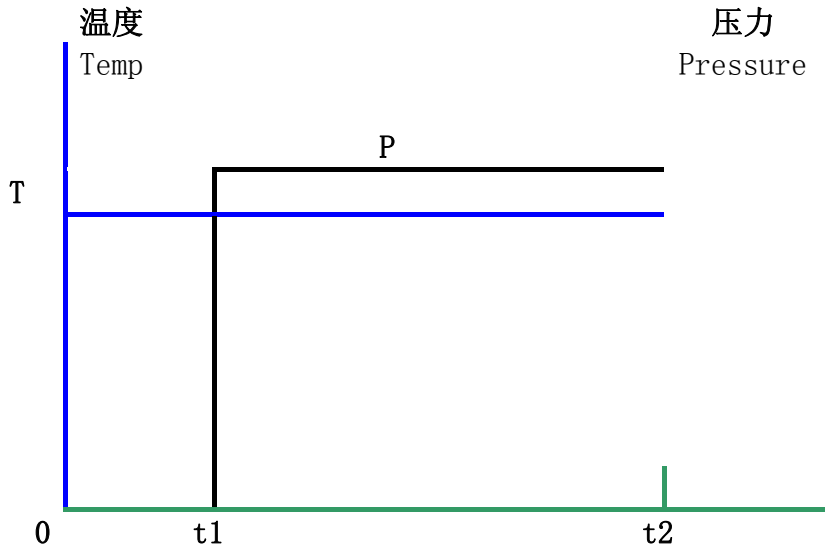
2. Data shown above are nominal values for reference only, Details see Certification of Quality.

★ 储存条件 Storage Condition

真空包装 10℃ 以下, 70%RH 以下, 储存 3 个月. Vacuum Packaging below 10℃, below 70%RH for 3 months

★ 建议压合程式 Recommended Press Process

快速压合方式 Fast Lamination



1. 压合 Lamination

1.1 快压: 先预压后成型压 Fast Lamination: first pre-press, next forming-press

1.1.1 预压 Pre-press: 温度 Temp: T 180℃
 压力 Pressure: P 0
 时间 Time: 0~t1: 10sec

1.1.2 成型压 Forming-press: 温度 Temp: T 180℃
 压力 Pressure: P 35Kgf/cm²
 时间 Time: t1~t2: 100sec

2 熟化 Curing: 160℃ for 60min

PI 基单面覆铜箔基板产品规格书

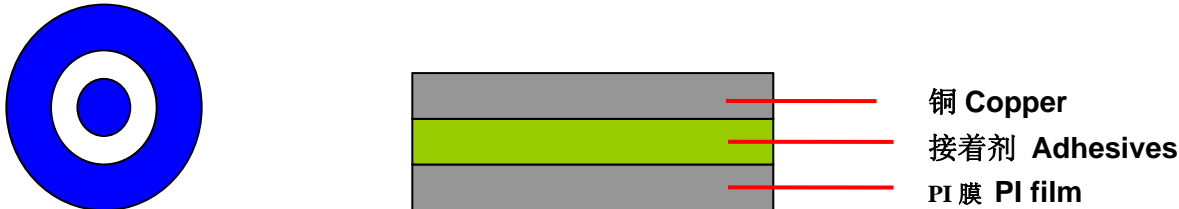
Single Sided PI film base Copper-clad Lamination product specifications

★ 产品特点 Features

- 较佳的机械性和电性能
Excellent mechanical and electrical performances
- 良好的耐燃性及面耐热性
Good flame-retardancy and thermal resistance
- 良好的尺寸稳定性
Superior dimensional stability
- 优良的耐药性及绝缘性能
Excellent chemical resistance and insulation performance

★ 产品结构 Product structure

型号 Model	EFS131218	EFS251518	EFS252035
结构 Structure	铜 Copper	铜 Copper	铜 Copper
	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives
	PI 膜 PI film	PI 膜 PI film	PI 膜 PI film



★ 产品标准规格 Normal Product Size & Thickness

规格 Specification	PI 膜 PI film	胶厚 Adhesive	铜 Copper	总厚 Total	供应尺寸 Supply Size
EFS131218	12.5um	12um	18um	42.5um	W:250/500±0.5mm L:100±1m 卷装 (Supplied in rolls)
EFS251518	25um	15um	18um	58um	
EFS252035	25um	20um	35um	80um	

★性能表 Performance Sheet

项目 Items	单位 Units	条件 Conditioning	典型值 Typical Value		试验条件 Test method	标准值 Standard
			EFS131218	EFS251518 /EFS252035		
耐药性 Chemical Resistance	%	NaOH, Dipping/10min	1~6	1~6	IPC-TM-650 2.3.2	≅ 20
	%	HCL Dipping/10min	1~6	1~6		
尺寸稳定性 Dimension Stability	TD %	Method B	0.03~0.10	-0.04~0.06	IPC-TM-650 2.2.4	≅ ±0.15
	MD %	Method B	-0.08~0.10	-0.10~0.02		
耐热性 Heat Resistance	/	300°C 10sec	OK	OK	IPC-TM-650 2.4.13	无气泡/无分层 No change in Appearance
剥离强度 Peel Strength	Kfg/cm (90°)		1.0 ~1.5	1.20~2.0	IPC-TM-650 2.4.9	≅ 1.0
表面电阻 Surface resistance	Ω		$2 \times 10^{13} \sim 2 \times 10^{15}$	$2 \times 10^{13} \sim 2 \times 10^{15}$	IPC-TM-650 2.5.17	≅ 10^{10}

注： 1. 表中所列的数据为 EFS131218、EFS252018 样品的测试结果

2. 以上所列数据仅供参考, 详表出货报告

Note: 1.The average value in the table refers to samples of EFS131218RT、EFS252018RT.

2.Date shown above are nominal values for reference only,Details see Certification of Quality.

★ 储存条件 Storage Condition

真空包装 30℃以下, 70%RH 以下, 储存 12 个月.

Vacuum Packaging below 30°C ,below70%RH for 12 months

PI 基双面覆铜箔基板产品规格书

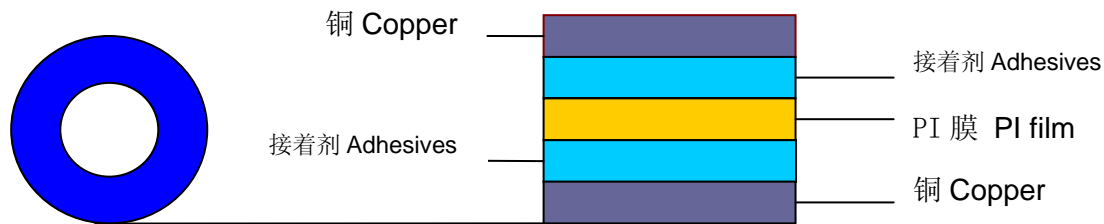
Double Sided PI film base Copper-clad Lamination product specifications

★ 产品特点 Features

- 较佳的机械性和电性能
Excellent mechanical and electrical performances
- 良好的耐燃性及面耐热性
Good flame-retardancy and thermal resistance
- 良好的尺寸稳定性
Superior dimensional stability
- 优良的耐药性及绝缘性能
Excellent chemical resistance and insulation performance
- 高剥离强度和良好的挠曲性
High peel strength and good flexibility

★ 产品结构 Product structure

型号 Model	EFD131212	EFD252018	EFD252035
结构 Structure	铜 Copper	铜 Copper	铜 Copper
	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives
	PI 膜 PI film	PI 膜 PI film	PI 膜 PI film
	接着剂 Adhesives	接着剂 Adhesives	接着剂 Adhesives
	铜 Copper	铜 Copper	铜 Copper



★ 产品标准规格 Normal Product Size & Thickness

规格 Specification	PI 膜 PI film	胶厚 Adhesive	铜 Copper	总厚 Total	供应尺寸 Supply Size
EFD131212	12.5um	12um×2	12um×2	60.5um	W:250/500±0.5mm L:100±1m 卷装 (Supplied in rolls)
EFD252018	25um	20um×2	18um×2	101um	
EFD252035	25um	20um×2	35um×2	135um	

★性能表 Performance Sheet

项目 Items	单位 Units	条件 Conditioning	典型值 Typical Value		试验条件 Test method	标准值 Standard
			EFD131212	EFD252018 /EFD252035		
耐药性 Chemical Resistance	%	NaOH, Dipping/10min	1~6	1~6	IPC-TM-650 2.3.2	≅ 20
	%	HCL Dipping/10min	1~7	1~7		
尺寸安定性 Dimension Stability	TD %	Method B	0.08~0.02	0.08~0.02	IPC-TM-650 2.2.4	≅ ± 0.15
	MD %	Method B	-0.05~0.03	-0.05~0.02		
耐热性 Heat Resistance	/	300°C 10sec	OK	OK	IPC-TM-650 2.4.13	无气泡/无分层 No change in Appearance
剥离强度 Peel Strength	Kfg/cm (90°)		1.0 ~1.5	1.20~2.0	IPC-TM-650 2.4.9	≅ 1.0
表面电阻 Surface resistance	Ω		$2 \times 10^{14} \sim 2 \times 10^{15}$	$3 \times 10^{13} \sim 2 \times 10^{15}$	IPC-TM-650 2.5.17	≅ 10^{10}

注： 1. 表中所列的数据为 EFD131218、EFD252018 样品的测试结果

2. 以上所列数据仅供参考, 详表出货报告

Note: 1.The average value in the table refers to samples of EFS131218、EFS252018.

2.Date shown above are nominal values for reference only,Details see Certification of Quality.

★ 储存条件 Storage Condition

真空包装 30℃以下, 70%RH 以下, 储存 12 个月.

Vacuum Packaging below 30°C ,below70%RH for 12 months

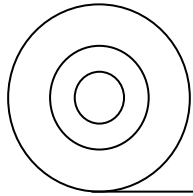
导热纯胶产品规格书 Thermal Bonding Sheet

产品特点 Features:

- 适用于快速压合和传统压合 suitable for both traditional and fast lamination style
- 极好的耐药性及绝缘性 Excellent chemical resistance and insulation performance
- 良好的导热性 Good Thermal Conductivity
- 粘接性好 Good adhesion

★产品结构 Product structure:

型号 Model	EB100	EB075
结构 Structure	PET 离型膜(面膜) PET Release Surface film	PET 离型膜(面膜) PET Release Surface film
	接着剂 Adhesives	接着剂 Adhesives
	PET 离型膜(底膜) PET Release under film	PET 离型膜(底膜) PET Release under film



PET 离型膜(面膜)
PET Release Surface film
接着剂 Adhesives
PET 离型膜(底膜)
PET Release under film

★接着剂成份 Adhesives composition:

1. 环氧树脂 Epoxy : 20~30%
2. 填充物 Filler: 40~50%
3. 固化剂 Hardener: 1~3%
4. 其他 Other: 20~30%

★标准规格 Normal Product Size & Thickness:

规格 Specification	离型膜 Release film	胶厚 Adhesive	离型膜 Release film	总厚 Total	供应尺寸 Supply Size
EB100	36um	100um	36 um	172um	W:514±0.5mm L:100±1m
EB075	36um	75um	36 um	144 um	

★性能表 Performance Sheet:

项目 Items	单位 units	条件 Conditioning	典型值 Typical Value		试验条件 Test method	标准值 Standard
			EB100	EB075		
厚度 Thickness	um	剥离上、下膜 Stripping the upper and lower film	101	78	千分尺 Micrometer	± 10um
耐热性 Heat Resistance	/	288℃ 30sec	OK	OK	IPC-TM-650 2.4.13	无气泡,无分层 No change in Appearance
剥离强度 Peel Strength	Kfg/cm	180°	1.56	1.28	IPC-TM-650 2.4.9	≥ 1.0
热传导率 Thermal conductivity	w/m.k		25	20	/	≥ 15

注： 1. 剥离强度、耐热性的测试:纯胶与铜的处理面和铝片处理面相压合。
2. 以上所列数据仅供参考, 详表出货报告。

Note: 1. Testing Peel strength 、 Heat Resistance with Bonding sheet and copper surface pressed on aluminum surface
2. Date shown above are nominal values for reference only Details see Certification of Quality.

★储存条件 **Storage Condition:**

真空包装 10℃以下, 70%RH 以下, 储存 1 个月。

Vacuum Packaging below 10℃, below 70%RH for 1 months

★压合建议 **Recommended Press Process:**

第一步: 贴合

撕下离型膜(面膜), 通过 120℃过塑机(假贴机)使其假贴在铝片上, 再撕另一面离型膜(面膜), 通过 120℃过塑机(假贴机)使铜箔与铝片假贴在一起。

The First step: Fit

Tear-off film (mask), presses through over 120 °C (false paste machine) to leave attached to the aluminum, and then tear the other side from the film (at the end of film), Presses by over 120 °C (false paste machine) to copper and aluminum with fake stickers.

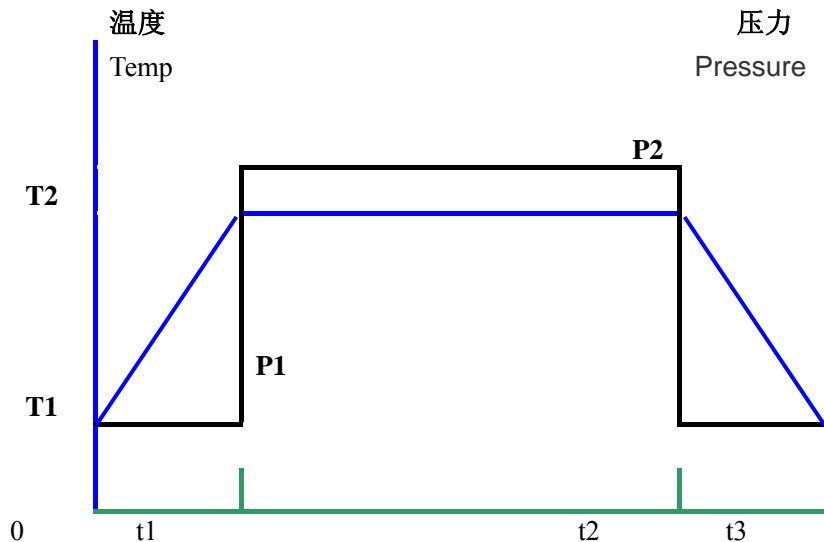
第二步: 压合:

将假贴好的铝片, 再通过压合机进行压合. 压合方式及条件如下参考。

The Second step: Lamination

Will leave a good aluminum paste, and then by pressing machine for pressing. Lamination method and conditions of the following reference

1. 传统压合方式 **Traditional Lamination:**



错误! 未找到引用源。

1.1 压合 Lamination

1.1.1 传压先热压后冷压, 热压分两段压

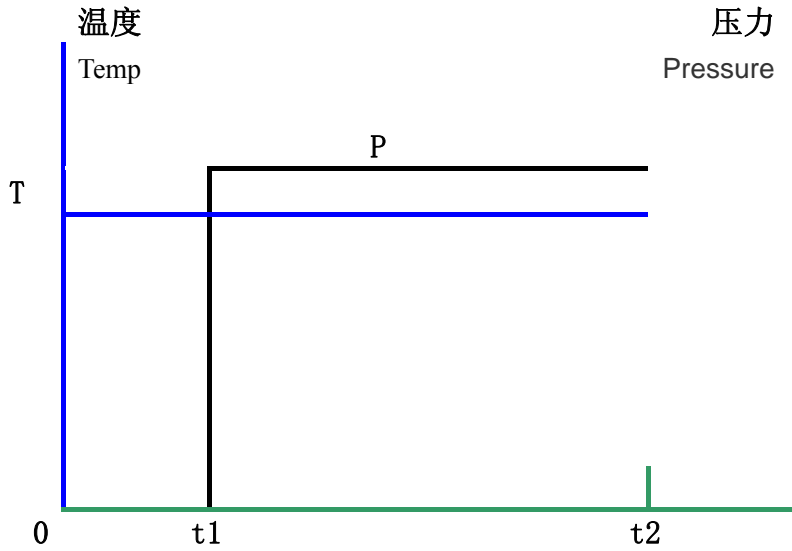
Pressure transmission after the first cold pressing, hot pressing two pressure points

第一段 The first paragraph: 温度 Temp: T1: 40~60℃
(升温) (Heating up) 压力 Pressure: P1: 10Kgf/cm2
时间 Time: t1: 15min

第二段 The second paragraph: 温度 Tem: T2: 180~195℃
(升温) (Heating up) 压力 Pressure: P2: 35Kgf/cm2
时间 Time: t1~t2: 90min

第三段 The third paragraph: 温度 Temp T2~T1
(冷压) (Cold Pressed) 压力 Pressure: P1: 10Kgf/cm2
(降温) (Cooling) 时间 Time: t2~t3: 30min

2. 快速压合方式 Fast Lamination



2.1 压合 Lamination

2.1.1. 快压先预压后成型压

Fast compression molding press after the first pre-press

预压 Pre-press: 温度 Temp: T 180°C

压力 Pressure: P 0.35Kgf/cm²

时间 Time: 0~t1 10sec

成型压 Molding pressure: 温度 Temp: T 180°C

压力 Pressure: P 35Kgf/cm²

时间 Time: t1~t2 100sec

2.2 熟化: 160°C, 60min

Curing: 160°C for 60min