



广东东溢新材料科技有限公司

GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.

品质承认书 Quality specification

客户 Customer:		
供应商: 广东东溢新材料科技有限公司		
Supplier: GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.		
产品类型 Product type: 无卤有胶 PET 补强板 PET Base Halogen Free stiffener		
材料品名 Material name: DTEB 系列		
编号 No:D004 版本 Ver: A/3		
制作日期 Date of production:2024/04/11		
客户确认 Customer:		
采购 Purchase:	品质 Quality:	工程 Engineering:
职务 Position:	职务 Position:	职务 Position:
备注 Note: (盖章 Seal)		
广东东溢新材料科技有限公司 GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.		
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职务 Position: 总监	职务 Position: 主管	职务 Position: 总监
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广东东溢新材料科技有限公司

GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.

产品名称 Product name

序号 No	东溢型号 DY model	PI 厚度(mil) PI Thickness	胶厚(um) AD Thickness	包装规格 Packaging
1	DTEB325PF1	3	25	250MM*100M
2	DTEB525PF1	5	25	250MM*100M
3	DTEB825PF1	8	25	250MM*50M

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● 产品特性 Product Features

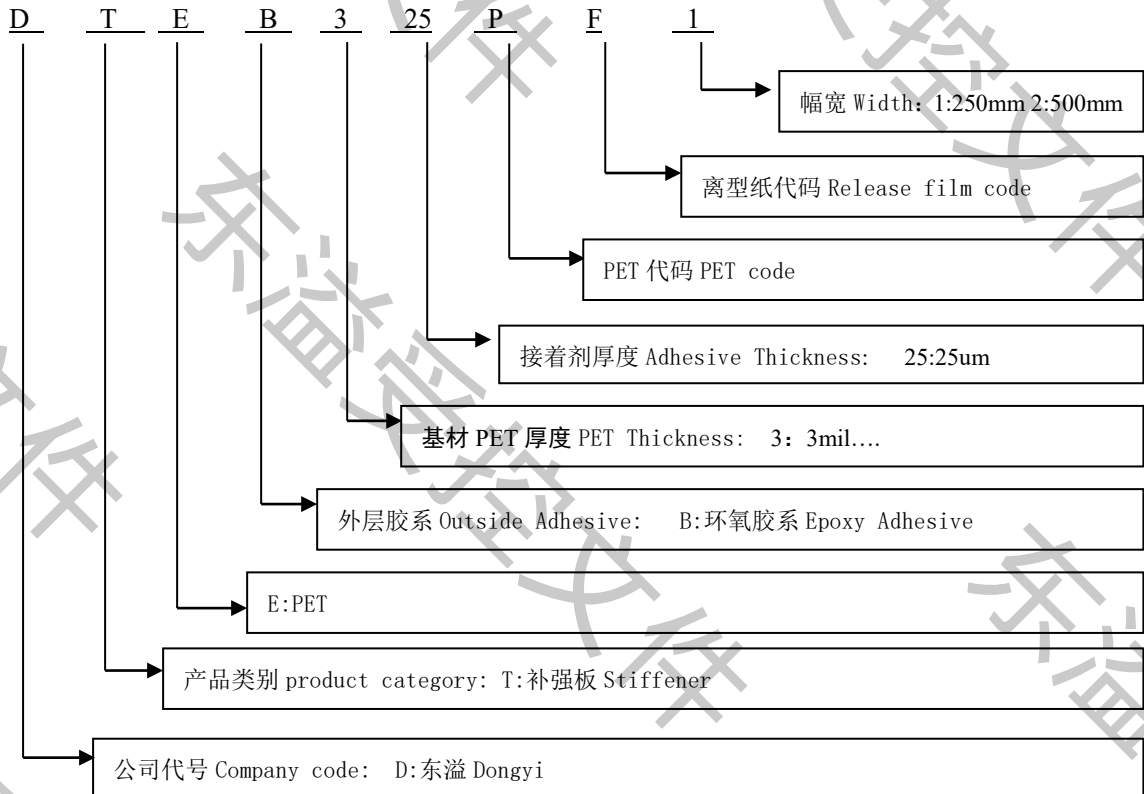
- 优秀的耐热性能 Outstanding thermal resistance
- 优异的平坦性 Excellent flatness
- 优良的耐化学性 Good chemical resistance
- 优异的电性能 Excellent electrical performance and insulation performance
- 无卤无锑，符合 ROHS 环保指令 Halogen & antimony free, ROHS compliant

● 产品结构 Product Structure



● 编码原则 Product coding principle

品名示意图如下 The diagram is as follows:



● 物性指标 General Properties

序号 Item	性能项目 Test Item	单位 Unit	测试条件 Test Condition	标准 Standard	测试方法 Test Method
1	厚度 Thickness	um	A	10%	东溢规范 Dongyi Method
2	幅宽 Width	mm	A	标准值+2/-0mm	东溢规范 Dongyi Method
3	剥离强度 Peel Strength	kgf/cm	A	≧1.0	IPC-TM-650-2.4.9
4	翘曲 Curl	cm	A	≤5	IPC-TM-650-2.3.17.1

注 Note : A 代表常态 “A” Means normal.

● 外观管控 Appearance requirement

异常类型 Exception classes	异常大小 Abnormal size	允许个数 Allowed value (250*400mm)
杂质 Impurity	0.1~0.5mm	≧8 个 dots
垫伤 Pad injury	0.5~1mm	≧1 个 dots
气泡 Bubble	≧1mm	不允许 Not allowed
接头 Joint		≧3 个

注 Note: 产品边缘 3mm 以内异常, 不作管控要求 From the product within 3 mm of the edge of exception, don't do control requirements.

● 储存 Storage

有胶 PET 补强板: 温度 < 10°C、湿度 < 70%RH、真空包装、无腐蚀性气体的室内, 制造日期后保存 3 个月。Temperature < 10°C, humidity < 70% RH, airproof vacuumed packaging, no corrosive gas chamber for 3 months.

● 包装 Packing

1. 每一卷成品用 PVC 卷取。每批出货的每个规格提供一份品质检验报告。Each volume of finished PVC tube winding.
2. 每一卷成品用纸箱包装, 避免在运输上碰撞。产品采用防潮、干燥、密封包装, 成卷装入纸箱。Each volume of finished carton packaging, in the transport collision avoidance. Products using moisture proof, dry, sealed packaging, rolls into cartons.

3. 包箱标签 Package box label

 广东东溢新材料科技有限公司 GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.	
补强板	
订单号 Order:	
型号 Type:	
宽度 Width:	mm
长度 Length:	m
面积 Area:	m ²
接头 Splice:	m
批号 Lot.NO:	
生产日期 Production date:	
保质期至 Shelf life:	
储存环境 Storage :	<30℃, <70%RH

无卤标签 Halogen free label: 环保标签 Green label: 合格标签 Inspection tag:



月份标签 Month label:

一月 Jan.	二月 Feb.	三月 Mar.	四月 Apr.	五月 May.	六月 June.	七月 July.	八月 Aug.	九月 Sept.	十月 Oct.	十一月 Nov.	十二月 Dec.
1	2	3	4	5	6	7	8	9	1	11	1

● 装运 Shipment

每批提供一份质量检验报告，入下表：Each shipment of each specification provides a quality inspection report. The following table:

日期 (Date) :		客户 (customer) :	
品名 (Material spec)			
批号 (Lot No.)			
补强板厚度 (Stiffener thickness) Unit: μm			
接着剂厚度 (Adhesive thickness) Unit: μm			
保存期限 (Shelf-life)		10°C, $\leq 70\% \text{RH}$ 保存3个月 (Below $10^{\circ}\text{C}</math>, 70\% \text{RH}</math> for 3 months)$	
检验项目 (Test item)	检验方法 (Test method)	品质标准 (Quality Spec)	测试结果 (Test Result)
总厚度 (Total thickness)	东溢规范 (Unit: μm)	厚度 $\leq 100\mu\text{m}$, ± 5 厚度 $> 100\mu\text{m}$, ± 10	
幅宽 (Width)	东溢规范 (Unit: mm)	250+2/-0	
剥离强度 (Peel Strength)	IPC-TM-650 2.4.9 (Unit: kgf/cm)	≥ 1	
卷曲 (Curl)	TD	IPC-TM-650 2.4.22 (Unit: cm)	≤ 5
	MD		
产品判定结果			OK
备注:			
1. 以上测试数据仅供参考。			
2. 上述产品不含 [RoHS] 所规定的禁用物质。			
3. 如产品被放置在低温下储存环境 (尤其是冬季) 建议客户在使用前将产品静置回暖直至产品温度回升至室温 (20-30 $^{\circ}\text{C}$) 后方可使用, 以确保最佳产品使用特性, 同时也应避免放置在阳光直射照射及高温环境下。			
4. 在有胶补强板贴台前, 如接触界面做表面清洁, 亦须保证接触界面干燥及不残留溶剂 (如酸碱、油污等)。			
5. 压合后的产品建议使用千层架烘烤, 如无千层架建议叠层张数不超过 20PNL, 以避免叠层太多而影响产品			
地址: 广东省中山市南区昌盛路22号 电话: 0760-23338784 传真: 0760-23336558 邮编: 528455			
审核 (APPROVED BY): 李松梅		检验员 (CHECKED BY): 陈景玲	

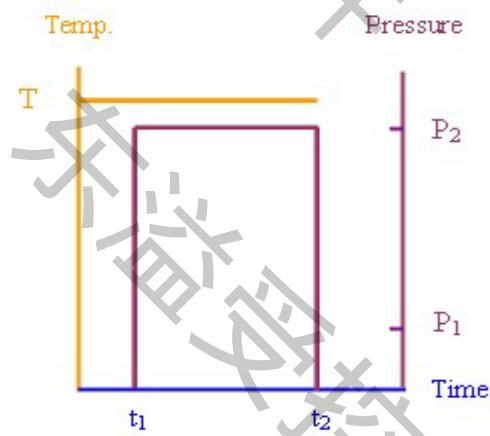
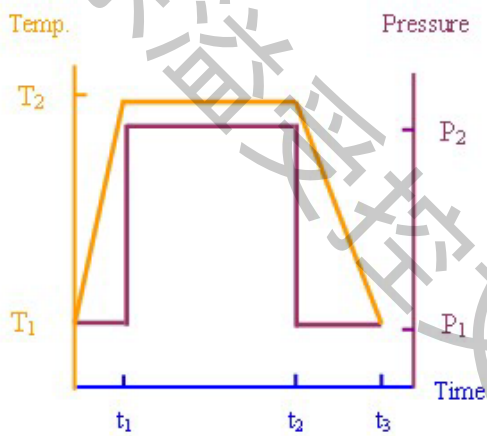
● 建议压制工艺 Recommendations for pressing process

A、传统压合方式 *Traditional Lamination*

B、快速压合方式 *Fast Lamination*

温度 Temp 压力 Pressure

温度 Temp 压力 Pressure



传压工艺 Traditional pressing:

第一段: 温度 Temp T1 40°C~140-150°C
 Stage I 压力 Pressure p1 10kgf/cm²
 时间 Time t1 20~30min
 第二段: 温度 Temp T2 140~150°C
 Stage II 压力 Pressure p2 40kgf/cm²
 时间 Time t1~t2 60~90 min
 第三段: 温度 Temp T2~T1
 Stage III 压力 Pressure p1 15kgf/cm²
 时间 Time t2~t3 30~60 min

快压工艺 The quick pressing:

第一段: 温度 Temp: 140-150°C
 Stage I 压力 Pressure: 0Kgf/cm²
 时间 Time: 10Sec
 第二段: 温度 Temp: 140-150°C
 Stage II 压力 Pressure: 100Kgf/cm²
 时间 Time: 90~120Sec
 固化 Curing Process:
 温度 Temp: 140~150°C;
 时间 Time: 90~120min.

注 Note: 以上建议压合参数, 鉴于各厂家机台及生产工艺差异, 故仅供参考。

Customers can according to their own technology, equipment conditions and performance requirements, through the test to determine the appropriate operating conditions.

● 使用注意事项 Matters needing attention

1. 当有胶补强板产品储存于低温环境下时(尤其是冬季),建议客户在使用前,将产品静置回暖,直至产品温度回升至室温(20--30℃)后方才使用,以确保最佳产品使用特性。同时,也应避免放置在阳光直接照射及高温环境下。If the product is placed under the low temperature storage environment, advises clients before using the product by static recovery until product temperature returned to room temperature (20-30 °C) is used, to ensure that the best product to use features, at the same time should also avoid placed in direct sunlight and high temperature environment.
2. 在有胶补强板贴合前,如接触界面做表面清洁,亦须保证接触界面干燥及不残留溶剂(如酸碱、油污等)。With adhesive stiffener before laminating, such as the contact interface to do surface cleaning, also need to ensure that the contact interface is dry and not residual solvents (such as acid and alkali, oil, etc.).
3. 压合后的产品建议使用千层架烘烤,如无千层架建议叠层张数不超过20PNL,以避免叠层太多而影响产品固化效果。Pressing products recommend the use of multi-layer frame, such as no proposal for multi-layer frame lamination number no more than 20 PNL, to avoid the laminated too much and influence product curing effect.

● 常规物性测试方法 Properties Test Method

剥离强度检验方法 Peel Test Method

1、范围 The range:

本检验方法适用东溢公司有胶补强产品剥离强度之量测。The test method for stiffener measurement of peel strength.

2、检测仪器 Testing instruments:

剥离强度测试仪。Peel strength testing instruments.

3、样品制作 The sample:

a) 将补强板裁切成10cm长,0.3-0.5cm宽试片,有胶一面与DSIF1201单面基材(ED铜)铜箔基板的PI面贴合。The stiffener is cut into 10cm long and 0.3-0.5cm wide, and the adhesive side is bonded to the PI surface of the DSIF1201 (ED copper).

b) 快压: 温度140-150℃、压力100kgf/cm²、压着时间60sec。Quick pressure: temperature 140-150℃, pressure 100 kgf/cm², Time90 s;

c) 熟化: 140-150°C×60min. Cure: 140-150 °C x 60 min.

4、样品测试 The sample test:

a) 取熟化过后之样片, 烧开使得补强板与铜箔的 PI 面分开然后用手撕开约 3cm. Take samples after curing, cutting 1 cm width to boil make PI is separated from copper foil.

b) 把覆铜面用双面胶固定在测试仪的滚轮上, 用夹具夹住补强板的一端, 与滚轮垂直, 然后匀速上升, 每隔 1 秒, 按打印机一次, 共打印出 15~30 个数据即可, 取打印数据的平均值作为此条样品的剥离强度值。The samples FCCL surface with double-sided adhesive fixed on the roller tester, fixture for clipping the copper foil at one end, and vertical roller, and then rising at a constant speed, every 1 second, print 1 data, print out together 15 ~ 30 data, take the print data as the average of the peel strength value of this sample.

c) 注意事项: 剥离机上升速度: 50mm/min, 剥离距离: 10~20mm; 样品与滚轮垂直。Note: machine rise: 50 mm/min, stripping distance: 10 ~ 20 mm; Pull copper foil, samples and vertical roller.

5、公式计算 Formula to calculate:

$$\text{剥离强度 Peel strength} = \frac{\text{拉力 Tensile force (kgf)}}{\text{宽度 The width (cm)}}$$

注: 以上测试方法参考 IPC-TM-650, Method 2.4.9; Note: The above specification reference IPC - TM - 650, Method 2.4.9.