

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: 无卤无胶补强板 PI Base Halogen Free stiffener		
材料品名 Material name: DTIX 系列		
编号 No:T060 版本 Ver: D4		
制作日期 Date of production:2023/12/29		
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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产品名称 Product name

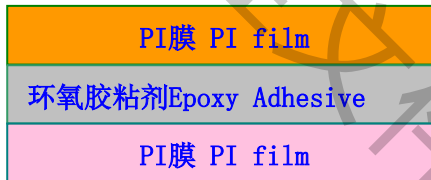
序号 No	东溢型号 DY model	PI 厚度 (um) PI Thickness	包装规格 Packaging
1	DTIX100LX1(A)	25	250MM*100M
2	DTIX100LX2(A)	25	500MM*100M
3	DTIX200LX1(A)	50	250MM*100M
4	DTIX200LX2(A)	50	500MM*100M
5	DTIX200RX1(A)	50	250MM*100M
6	DTIX300LX1	75	250MM*100M
7	DTIX300LX1(A)	75	250MM*100M
8	DTIX300LX2(A)	75	500MM*100M
9	DTIX400LX1	100	250MM*100M
10	DTIX500LX1	125	250MM*100M
10	DTIX600LX1	150	250MM*100M
12	DTIX700LX1	175	250MM*100M
13	DTIX700LX1(B)	175	250MM*100M
14	DTIX800LX1	200	250MM*100M
15	DTIX900LX1	225	250MM*100M
16	DTIX900LX1(B)	225	250MM*100M
17	DTIX900LX1(C)	225	250MM*100M
18	DTIXA00LX1	250	250MM*50M
19	DTIXA00LX1(B)	250	250MM*50M
20	DTIXA00LX1(C)	250	250MM*50M
21	DTIXB00LX1	275	250MM*50M
22	DTIXB00LX1(B)	275	250MM*50M
23	DTIXC00LX1	300	250MM*50M
24	DTIX200UX1(A)	50	250MM*100M
25	DTIX300UX1(A)	75	250MM*100M
26	DTIX300UX1	75	250MM*100M
27	DTIX400UX1	100	250MM*100M
28	DTIX500UX1	125	250MM*100M
29	DTIX600UX1	150	250MM*100M
30	DTIX600UX1(B)	150	250MM*100M
31	DTIX700UX1	175	250MM*100M
32	DTIX700UX1(B)	175	250MM*100M
33	DTIX800UX1	200	250MM*100M
34	DTIX900UX1(B)	225	250MM*100M
35	DTIX900UX1(C)	225	250MM*100M
36	DTIX100NX1(A)	25	250MM*100M
37	DTIX200NX1(A)	50	250MM*100M
38	DTIX300NX1(B)	75	250MM*100M
39	DTIX400NX1(B)	100	250MM*100M

40	DTIX500NX1(B)	125	250MM*100M
41	DTIX600NX1(B)	150	250MM*100M
42	DTIX600NX1(C)	150	250MM*100M
43	DTIX700NX1(B)	175	250MM*100M
44	DTIX800NX1(B)	200	250MM*100M
45	DTIX900NX1(B)	225	250MM*100M
46	DTIX900NX1F	225	250MM*100M
47	DTIXA00NX1(C)	250	250MM*100M
48	DTIXC00NX2(B)	300	500MM*100M
49	DTIXC00NX2(C)	300	500MM*100M

●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

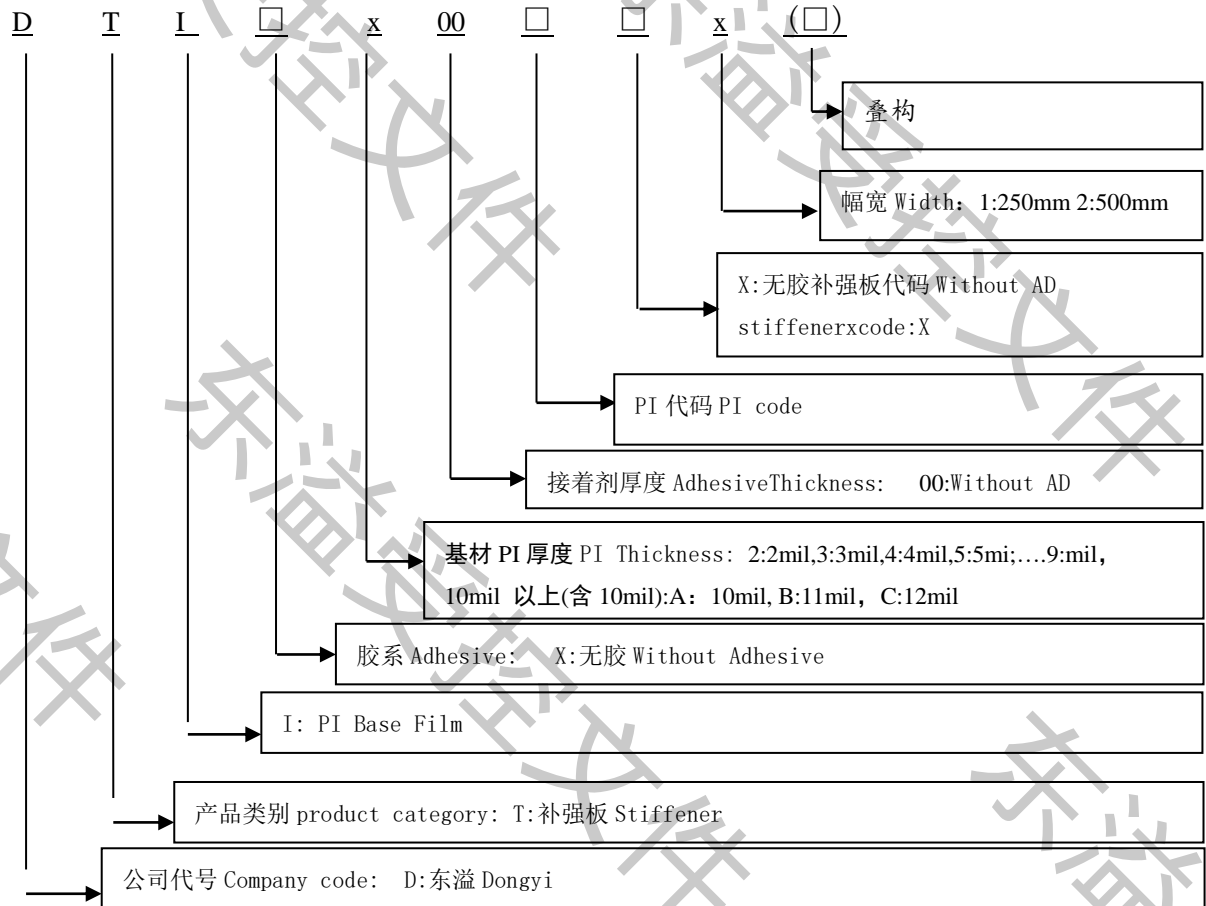
●产品结构 Product Structure



●编码原则 Product coding principle

品名示意图如下 The diagram as follows:

注 Comments : □ : 表示英文字母 English alphabet ; x : 阿拉伯数字 Arabic numeral.



● 物性指标 General Properties

序号 Item	性能项目 Test Item	单位 Unit	测试条件 TestCondition	标准 Standard	测试方法 Test Method
1	厚度 Thickness	um	厚度≤100um	±5um	东溢规范 DongyiMethod
			厚度>100um	±10%	
2	幅宽 Width	mm	A	标准值 +2/-0mm	东溢规范 DongyiMethod
3	焊锡耐热性 Solder Resistance	---	288°C/10S	无分层、起泡 No delamination, sparking	IPC-TM-650-2.4.13
4	翘曲 Curl	cm	A	≤5	IPC-TM-650-2.3.17.1
5	表面电阻 Surface Resistance	Ω	C-96/23/65	≥10 ¹⁰	IPC-TM-650-2.5.17
6	体积电阻 Volume Resistance	Ω.cm	C-96/23/65	≥10 ¹²	IPC-TM-650-2.5.17
7	介电常数 Dielectric Constant	---	C-24/23/50 (10MHz)	≤4.0	IPC-TM-650-2.5.5.3
8	消耗因素 Dissipation Factor	---	C-24/23/50 (10MHz)	≤0.04	IPC-TM-650-2.5.5.3

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

无胶补强板: 室温储存 (无需冷藏)、温度<30°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 12 个月。Room temperature storage (without cold)、Temperature <30°C, humidity < 70% RH, airproof vacuumed packaging,

no corrosive gas chamber for 12 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 moistureproof, dry, sealed packaging, rolls into cartons.
3. 包箱标签 Package box label



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	10	11	12

● 装运 Shipment

每批提供一份质量检验报告，如下表（报告格式仅供参考）:Each shipment of each specification provides a quality inspection report.The following table（Report format for reference only）:

无胶补强板出厂检验报告				编号: JL-8.2.4-13B
日期 (Date):		客户 (customer):		
品名 (Material spec)				
批号 (Lot No.)				
补强板厚度 (Stiffener thickness) Unit: μm				
保存期限 (Shelf life)		30°C, <math><70\%RH</math>保存12个月 (Below 30°C , 70%RH for 12 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)			
幅宽 (Width)	东溢规范 (Unit: mm)			
卷曲 (Curl)	TD	IPC-TM-650 2.4.22 (Unit: cm)		
	MD			
焊锡耐热性 (Solder Float Resistance)	IPC-TM-650 2.4.13	无分层起泡 (No Blistering or Delamination)		
产品判定结果				
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. 在无胶补强板背胶前，如产品表面需清洁，须保证产品表面干燥及不残留溶剂（如酸碱、油污等），否则引起化学反应而影响PI面剥离强度。				
4. 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。				
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):		检验员 (CHECKED BY):		

●使用注意事项 Matters needing attention

1. 产品切勿放置冷库储存，如冬季产品被放置在低于 10 度以下室温储存环境，在使用前将产品静置回温 4H 以上直至产品温度回升至车间温度（20--30℃）后方可拆封使用、避免 PI 产生冷凝水导致产品受潮和出现水纹印异常，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 Do not place the refrigerator storage products, such as winter products are placed in less than 10 degrees below room temperature storage environment, before using the product temperature more than 4 h let stand back until the product back to workshop temperature (20-30 °C) rear can be opened and avoid PI condensate lead to be affected with damp be affected with damp and abnormal water lines printed products, 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. 在无胶补强板贴合前，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）。Without 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.
4. 下表补强板型号由于两种 PI 的颜色本身差异，故请客户注意依据实际需求使用相应贴合面进行生产。The stiffener applied the structure as below, so pleas customer pay more attention to choose the banding surface basing on the actual demand.

序号 No	型号 Model	PI 叠构 structure	备注 Remark
1	DTIX400	1mil PI+2mil PI	1mil 面目视颜色偏浅，2mil 面目视颜色偏深。 1mil The color light, 2 mil dark color.
2	DTIX600UX1 (B)	2mil PI+3mil PI	3mil PI 面比 2mil PI 面目视颜色更深。The color of 3mil PI is darker than 2mil PI

5. 产品拆封后无法使用完毕的产品，室温储存、温度<30℃、湿度<70% RH、加干燥剂密封储存，以防受潮出现水纹印。roducts cannot be used after unpacking, stored at room temperature, temperature<30 °C , humidity <70% RH, add desiccant sealed storage, in case of be affected with damp be affected with

damp with water lines to print.

6. 此规格书中表述的所有测试数据以及建议之工艺条件和参数仅供参考，产品使用方需要按照自身实际生产设备及产品要求等因素自行确认最优生产工艺及作业参数。特此声明！

Hereby declared that all test data and recommended process conditions and operating parameters presented in this technical datasheet are for informational purposes only. Product users need to confirm the optimal production process and operating parameters according to their actual production equipment and product requirements.

● 常规物性测试方法 Properties Test Method

焊锡耐热性检验方法 Solder Resistance Test Method

1. 范围 The range:

本检验方法适用于东溢公司补强板产品焊锡耐热性之量测。The test method for stiffener measurement of solder resistance.

2. 检测设备 Testing instruments:

锡炉。Wave solder

3. 样品制作 The sample:

将样片裁成 $5 \pm 1\text{cm} \times 5 \pm 1\text{cm}$ 三块。The samples were cut into $5 \pm 1\text{cm} \times 5 \pm 1\text{cm}$ three block. Bake at $105^\circ\text{C} * 1\text{hr}$.

4. 样品测试 The sample test:

用镊子夹住样品浸入恒温焊锡液中，焊锡液温度 $288 \pm 5^\circ\text{C}$ ，每个样品浸锡 10S，然后拿出观察其表面是否有分层或起泡。Using tweezers samples immersed in a constant temperature liquid solder, solder liquid temperature $288 \pm 5^\circ\text{C}$, each sample dipping 10S, then take out to observe the surface whether delamination or blistering.

注：以上参考 IPC-TM-650，Method 2.4.13。Note: The above specification reference IPC - TM - 650, Method 2.4.13.