



# 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: 纯铜箔 Pure copper foil		
材料品名 Material name: DCR		
编号 No:H011 版本 Ver: A4		
制作日期 Date of production:2023/11/16		
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	型号 Production Model	铜厚 (oz) Copper thickness	包装规格 Packaging	备注 Remark
1	DCRXT1	T oz	250mm*100m	
2	DCRX01	H oz	250mm*100m	
3	DCRX02	H oz	500mm*100m	
4	DCRX11	1 oz	250mm*100m	
5	DCRE11	1 oz	250mm*100m	
6	DCRD11	1 oz	250mm*100m	
7	DCRZ21	2 oz	250mm*100m	
8	DCRR21	2 oz	250mm*100m	
9	DCRDNF	1.4 oz	60mm*200m	
10	DCRK22	2 oz	500mm*100m	

## ● 产品结构 Product Structure

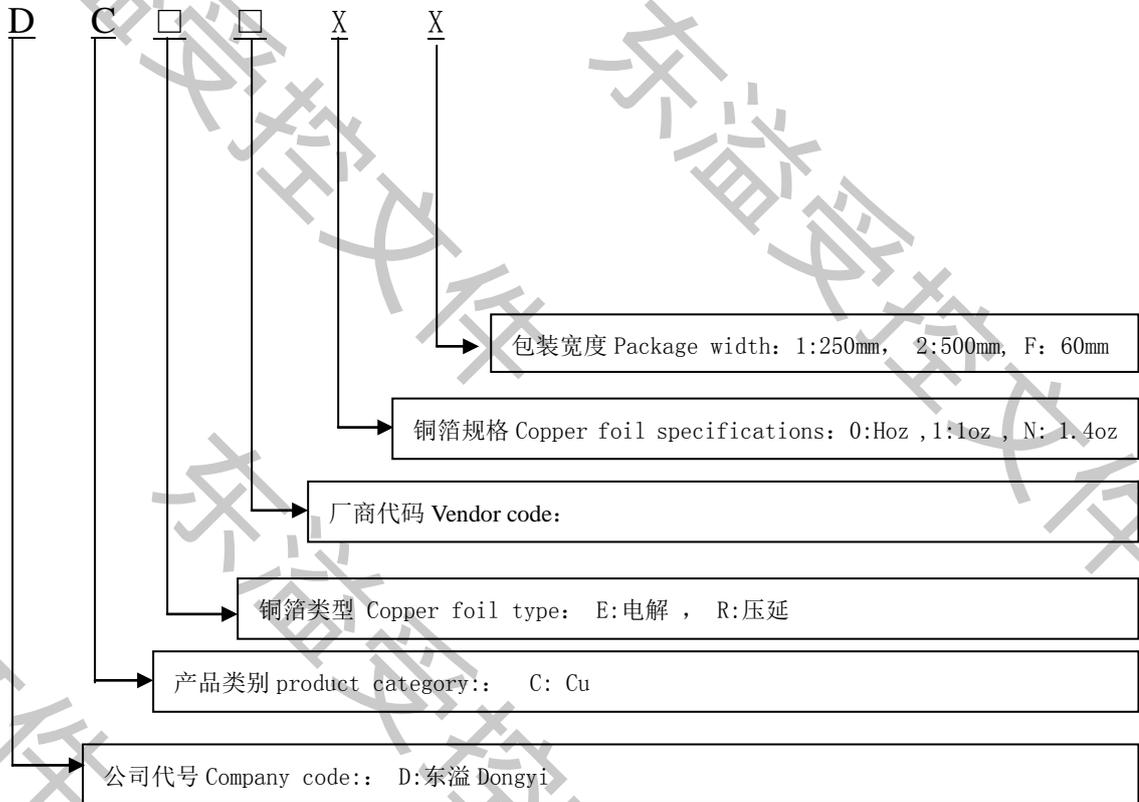
铜箔Cu

## ● 编码原则 Product coding principle

品名示意图如下 The diagram as follows:

注：□：表示英文字母 X：阿拉伯数字

例：DCRX01



### ● 物性指标 General Properti

项目		处理条件	单位	12um/Toz	18um/Hoz	35um/1oz	70um/2oz
1	纯度	常温	%	≥99.8			
2	基重	常温	g/m <sup>2</sup>	102~110	145~159	275~335	579~642
3	抗拉强度	常温	Kg/mm <sup>2</sup>	≥25			
		180℃		≥18			
4	延伸率	常温	%	≥0.5			
		180℃		≥0.5			
5	粗糙度	S 面/Ra	μ m	≤0.40			
		M 面/Rz		≤5.2	≤5.7	≤6.5	≤10
6	剥离强度	常态	Kg/cm	≥0.70			
		盐酸损失	%	≤10			
		沸水损失		≤10			
7	高温抗氧化	180℃, 60min	—	无氧化现象			
8	针孔	常温	—	无			
9	可焊性	—	—	好			
10	宽幅	常温	mm	标准 Standard+2/-0			

### ● 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		≤1 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

温度 < 30℃、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。Temperature < 30℃, humidity < 70% RH, airproof vacuumed packaging, no corrosive gas chamber for 12 months.

### ● 包装 Packing

- 每一卷成品用 PVC 管卷取。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.
- 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:



唛头 Shipping mark:

 广东东溢新材料科技有限公司 GUANGDONG DONGYI HIGH-TECH MATERIAL SCIENCE&TECHNOLOGY CO., LTD.	
<b>纯铜箔</b>	
订单号 Order	
型号 Type	
宽度 Width	mm
长度 length	m
面积 Area	m <sup>2</sup>
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

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.
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>

## ● 使用注意事项 Matters needing attention

1. 如果客户制程没有温湿度管控，建议开料后的铜箔在所有制程流转中，加装在密封袋中保存，防止铜箔吸潮影响涨缩和氧化。If the client process there is no temperature and humidity control, suggested that cutting epoxy copper foil in the process flow of system of ownership, add in a sealed bag, Prevent copper foil moisture absorption from affecting shrinkage and oxidation
2. 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.

## ● 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:

本检验方法适用本公司带胶铜箔产品剥离强度之量测。This test method for epoxy adhesive foil 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) 将铜箔切成 10cm×10cm 大小，与大小一致的覆盖膜贴合(胶厚 $\geq 25\mu\text{m}$ )。The copper foil is cut into a size of 10 cm × 10 cm, and is laminated with a CVL. (Adhesive  $\geq 25\mu\text{m}$ ).

b) 将铜箔红面与覆盖膜贴合，使用 100℃ 过塑机过一遍。Lay the copper foil red surface with the cover film and use a 100 ° C laminator to pass it over again.

c) 快压: 温度 180℃、压力 100kgf/cm<sup>2</sup>、预热 10s、成型 90s; 熟化: 160 °C × 60min; Quick pressure: temperature 180 °C, pressure 100 kgf/cm<sup>2</sup>, Time 10 s, 90 s; Cure: 160 °C x 60 min.

#### 4、样品测试 The sample test:

a) 取熟化过后之样片，裁切 1cm 宽度，烧开使得铜箔与覆盖膜分开然后用手撕开约 3cm。Take samples after curing, cutting 1 cm width to boil make copper foil is separated from CVL foil.

b) 把样品用双面胶固定在测试仪的滚轮上，用夹具夹住铜箔一端，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 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；拉铜箔、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：以上规范参考 IPC-TM-650, Method 2.4.9. Note: The above specification reference IPC - TM - 650, Method 2.4.9.