

Carrier Copper foil——Die-Board

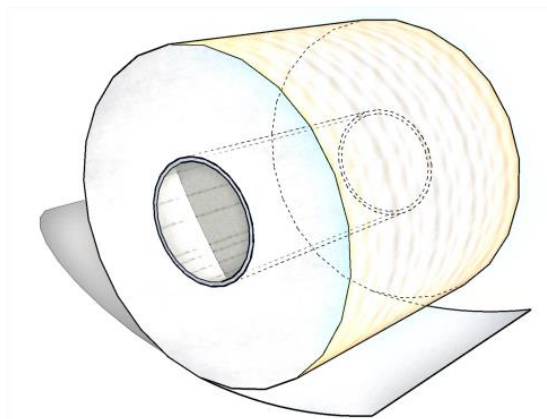
HSMetal

产品技术规格书

Product Technical Specification

——载体铜箔：模切板

Copper aluminum composite foil: Die-Board



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1 . 概述 General Introduction

1 . 1 生产工艺 Production Technology

本产品采用“一种铝与铜复合金属板带的生产方法”，在高温高压无氧条件下，使铜复层与铝基体达到冶金结合。其产品具有结合强度高，性能好，密度小等特点。

This product adopts "a production method for aluminum and copper composite metal plates and strips", which achieves metallurgical bonding between the copper clad layer and the aluminum matrix under high temperature, high pressure, and oxygen free conditions. Its products have the characteristics of high bonding strength, good performance, and low density.

1 . 2 基本工艺流程 Production process

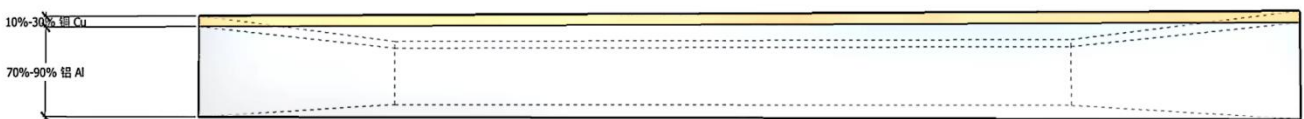
(铜带~铝液) → 无氧半熔态轧制复合 → 冷轧 (粗轧+精轧) → 热处理 → 表面处理

(Copper strip ~ aluminum liquid) → Oxygen free semi molten rolling composite → Cold rolling (rough rolling + finish rolling) → Heat treatment → Surface treatment.

2. 产品概述 Product overview

本产品技术规格书适用于单面铜铝复合材料，以下全文都以载体铜箔来称呼我司这款铜铝复合材料。This product technical specification is applicable to the single-sided copper aluminum composite foil. The following text refers to our company's copper aluminum composite material as carrier copper foil.

产品截面放大后的示意图如下：The schematic diagram of the product is as follows:



产品示意图为载体铜箔截面示意图，淡黄色部分为铜，阴影部分为铝；本产品技术规格书规定了适用范围、技术标准等、铜厚度占比 10-30%；

The product schematic diagram is a cross-sectional diagram of the carrier copper foil, with the light yellow part being copper and the shaded part being aluminum; This product technical specification specifies the scope of application, technical standards, etc., and the proportion of copper thickness between 10 and 30%;

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3 . 适用范围 **Application Field**

本产品技术规格书适用于载体铜箔；

This product technical specification is applicable to the copper aluminum composite foil .

4 . 技术标准 **Technical Standards**

4 . 1 产品规格 **Product Specifications**

产品规格	厚度及公差	铜厚	总宽及公差
0.20*	0.20 (-0.01, +0.01)	0.0294±0.0002	(0.00, +0.5)
0.15*	0.15 (-0.01, +0.01)	0.0220±0.0002	(0.00, +0.5)
0.12*	0.12 (-0.01, +0.01)	0.0177±0.0002	(0.00, +0.5)
0.075*	0.075 (-0.01, +0.01)	0.0111±0.0002	(0.00, +0.5)
0.055*	0.055 (-0.005, +0.005)	0.0081±0.0002	(0.00, +0.5)
0.045*	0.045 (-0.005, +0.005)	0.0066±0.0002	(0.00, +0.5)
0.035*	0.035 (-0.005, +0.005)	0.0051±0.0002	(0.00, +0.5)
0.025*	0.025 (-0.005, +0.005)	0.0045±0.0002	(0.00, +0.5)
0.020*	0.020 (-0.005, +0.005)	0.0036±0.0002	(0.00, +0.5)

产品的铜宽：250mm，

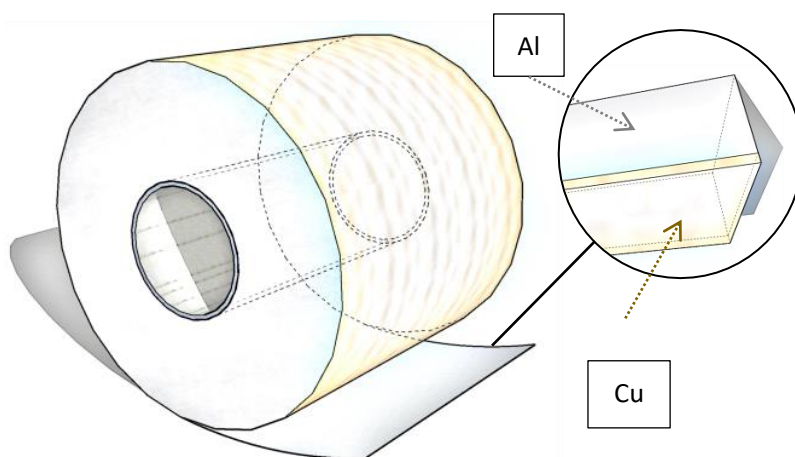
总宽：250mm；

Copper width of the product:
250mm,

Total width: 250mm;

以上规格可根据客户的要求定制；

The above specifications can be
customized according to customer
requirements;



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4.2 产品技术要求 Product Technical Requirements

项目 ITEM	条件 CONDITION	单位 UNIT	要求 TECHNOLOGICAL REQUIREMENTS						
规格代 Form name	载体铜箔 Unbreaking carrier copper foil	—	20 μ m	25 μ m	35 μ m	45 μ m	55 μ m	75 μ m	120 μ m
基重 BASIS WEIGHT	常温 Ordinary temperature	g/m ²	76.3 ±5	95.4 ±6	127.1 ±6	163.4 ±8	199.7 ±8	272.3 ±8	435.6 ±8
抗拉强度 Tensile strength	常温 Ordinary temperature	Kgf/mm ²	≥35						
	180℃		≥18	≥17	≥16	≥15	≥14	≥13	≥10
剥离强度 Peel Strength	常态 Normalcy	Kg/cm	≥0.70	≥0.80	≥0.90	≥1.20	≥1.25	≥1.30	>1.40
	盐酸 Muriatic acid	%	≤10						
	沸水 Boiling water		≤10						
达因值 Dyne value	正常 Normal	—	45 以上						
高温抗氧化 High-temperature oxidation resistance	—	—	180℃, 40min 无氧化现象 No oxidation phenomenon						
针孔 Pinhole	常温 Ordinary temperature	—	无						
质量电阻率 Mass resistivity	常温 Ordinary temperature	Ω · g/ m ²	≤0.170	≤0.170	≤0.166	≤0.162	≤0.162	≤0.162	≤0.162
可焊性 Solderability	—	—	优/Excellent						

备注:

1. 载体铜箔外观上须避免刮伤、污渍、异物等不良，红色处理面颜色应均匀一致，其外观要求需符合 IPC4562 要求（详见 IPC4562）。

The appearance of copper aluminum composite foil should avoid scratches, stains, foreign objects, and other defects. The color of the red treated surface should be uniform and consistent, and its appearance requirements should meet the requirements of IPC4562 (see IPC4562 for details)

2. 检验方法依 IPC-TM-650 标准测定；使用(FR-4)Tg140 基材测试剥离强度；1Kg/cm=5.61lb/in。
The inspection method is determined according to the IPC-TM-650 standard; Test the peel strength

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using (FR-4) Tg140 substrate; 1Kg/cm=5.6lb/in.

可以根据客户要求定制;

The above specifications can be customized according to customer requirements;

4 . 3 加工注意事项 Processing Precautions

根据载体铜箔的结构特点，加工中载体铜箔的边缘非常锋利，接触载体铜箔时需戴手套以避免划伤。同时需戴手套以避免氧化。

According to the structural characteristics of single-sided copper aluminum composite foil, the edges of the copper aluminum composite foil are very sharp during processing. When touching the copper aluminum composite foil, gloves should be worn to avoid scratches. At the same time, gloves should be worn to avoid oxidation.

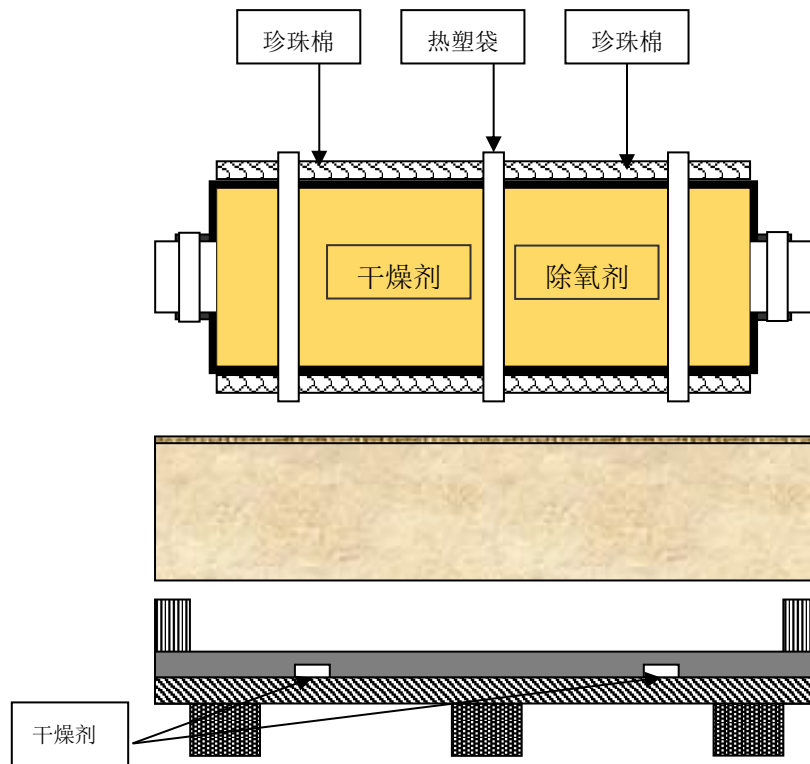
载体铜箔包装箱和载体铜箔本身都非常重，需使用适当的起吊方法。废箔材和不良箔材的处理必须符合当地政府的有关规定。

The copper aluminum composite foil packaging box and the copper aluminum composite foil itself are both very heavy and require the use of appropriate lifting methods. The disposal of waste foil and defective foil must comply with relevant regulations of the local government.

5 . 包装、运输、储存、产品防护 Packing, Indication, Transportation, Storage

5.1 包装 Package 包装方式

产品名称	包装方式
载体铜箔：模切板	悬空包装



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5.2 产品标识 **Product protection**

我司产品每一最小包装要求附如下标识资料：

Our company requires the following identification materials for each minimum packaging of our products:

- ① 产品标签一张 One product label
- ② 每托合格标签一张 One qualified label per pallet
- ③ 每托出货标签一张 One shipping label per pallet

产品标签内容包括但不限于：规格，米数，批号，生产日期，净重，储存条件，保质期，Rosh等；The label content of products without oxidation phenomenon includes but is not limited to: specifications, meters, batch number, production date, net weight, storage conditions, shelf life, Rosh, etc;

合格标签包括但不限于：检验日期，检验人签名，判定结果，合格章等；

The qualified label includes but is not limited to: inspection date, signature of the inspector, judgment result, qualified seal, etc;

5.3 运输 **Transportation**

运输方式可以根据客户所处的区域选择：公路，铁路及海洋船运等；但是所有的运输必须满足防水，防潮，防压等防护要求；

The transportation method can be selected based on the customer's location: road, railway, and ocean shipping, etc; However, all transportation must meet protective requirements such as waterproofing, moisture resistance, and pressure resistance;

5.4 储存 **Storage**

本产品应放置于干燥通风的环境中，避免接触化学气体及腐蚀性药剂。最佳储存环境温度为25° C以下，环境湿度65%以下。产品禁止存放在地面，应存放在干燥的托盘上，原则上单层堆放。

This product should be placed in a dry and ventilated environment to avoid contact with chemical gases and corrosive agents. The optimal storage environment temperature is below 25 ° C and the humidity is below 65%. Products are prohibited from being stored on the ground and should be stored on dry pallets. In principle, they should be stacked in a single layer.