



产品技术规格书

Product Technical Specification

产品名称：涂锡铜带

Product name: Tinned Copper Ribbon

日期：2025.09.18

Date: Sep 18, 2024

编制 Authorized	审核 Auditing
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1、概述 Summarize:

本产品技术规格规定了规范性引用文件、适用范围、技术标准、检验方法等。

This products technical specification has stipulated the normative applicable documents, scope of application, technical standard, and inspection methods and so on.

本产品技术规格适用于本公司所生产的特定型号的产品（涂锡铜带）。

This products technical specification is applicable to the designated type of products from our company (tinned copper ribbon).

2、规范性引用标准 Normative applicable standard:

GB/T 2059-2008 铜及铜合金带材

GB/T 2059-2008 Strip of copper and copper alloy

GB/T 351-1995 金属材料电阻系数测量方法

GB/T 351-1995 Testing methods for the metal material resistivity.

GB/T 4340.1-2009 金属材料维氏硬度试验 第一部分 试验方法

GB/T 4340.1-2009 The testing of HV for metal material Part one Testing methods.

GB/T 228-2002 金属材料室温拉伸试验方法

GB/T 228-2002 The methods of tensile test for metal material under room temperature

3、适用范围 Scope of application:

本产品技术规格书仅对本公司特定产品有效。

This products technical specification is just effective for the designated type of products from our company.

4、技术标准 Technical standard:

4.1 铜含量 Copper composition

Cu 含量 Content	≥99.97%
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4.2 铜基技术指标 Copper Technical Qualification

铜基型号 Copper model	导电率 (%IACS) Conductivity (%IACS)	厚度 (mm) Thickness (mm)	宽度 (mm) Width (mm)	V 型槽角度 V-angle	V 型槽深度 V-deep
0.42*4.0 mm (反光汇流条)	100	0.42±0.01	4.0±0.1	117±5°	0.037±0.005mm
0.37*6.0 mm (反光汇流条)	100	0.37±0.01	6.0±0.1	117±5°	0.037±0.005mm
0.37*7.0 mm (反光汇流条)	100	0.37±0.01	7.0±0.1	117±5°	0.037±0.005mm
0.37*8.0 mm (反光汇流条)	100	0.37±0.01	8.0±0.1	117±5°	0.037±0.005mm

以上规格可以根据客户实际需要进行定制。

All of above specification can be customized by the customers' practical demand.

4.3 产品总要求 The general requirement of the products

涂锡铜带要求免清洗，表面无漏铜、脱锡、黑斑、锈蚀和超过允许偏差的锡渣、毛刺等缺陷，涂锡铜带涂层表面呈光亮金属色。

Tinned copper ribbon require free-cleaning , no copper leaked, detaining, spot black, rust proof on the surface, and has no scar and burr which exceeds the permitted deviation, and the coating surface of the tinned copper ribbon submits the brightness metal color.

4.4 焊料成份 Solder Ingredient

焊料型号 Solder code	成分比例 Composition proportion	其它杂质总含量 Other impruity in general
Sn60Pb40	Sn=60%±3%,Pb=40%±3%	(Sb+Cd+Bi) Max.0.015

4.5 涂锡产品尺寸公差 Products Dimension Tolerance

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产品型号 Product model	涂层均值(um) Coating Average (um)	厚度 (mm) Thickness (mm)	宽度 (mm) Width (mm)	V 型槽角度 (mm)	V 型槽深度 (mm)
0.42*4.0 mm (反光汇流条)	峰顶 Peak: 0~5 峰槽底 Bottom: 0~10 平整面 Welding side: 25±5	0.42±0.015	4.0±0.15	117±5°	0.037±0.005
0.37*6.0 mm (反光汇流条)		0.37±0.015	6.0±0.15	117±5°	0.037±0.005
0.37*7.0 mm (反光汇流条)		0.37±0.015	7.0±0.15	117±5°	0.037±0.005
0.37*8.0 mm (反光汇流条)		0.37±0.015	8.0±0.15	117±5°	0.037±0.005

4.6 产品力学性能 Products Mechanical Property

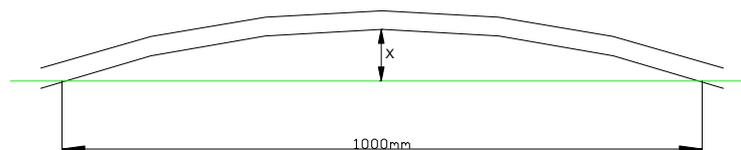
产品型号 Product model	抗拉强度(MPa) Tensile strength(MPa)	屈服强度 (Mpa) Yield strength(MPa)	延伸率(%) Elongation(%)	弯曲度(%) Camber(%)
0.42*4mm (反光)	Min.170	Max.120	Min.25	≤0.5%
0.37*6mm (反光)	Min.170	Max.120	Min.25	≤0.5%
0.37*7mm (反光)	Min.170	Max.120	Min.25	≤0.5%
0.37*8mm (反光)	Min.170	Max.120	Min.25	≤0.5%

注: 1) 以上产品技术指标可以供需双方协商决定。

Note: 1) Above product technical qualification can be determined by mutual negotiation between Buyer and Seller.

2) 弯曲度测量图示, 见图 1.

2) Measurement for Camber, please refer to Drawing I



(Drawing I)

注: 将涂锡铜带水平放置在弯曲度测试表中, 涂锡铜带两端不出线, 则判定其弯曲度符合要求。

Note: Place the tinned copper ribbon horizontally in the curvature test table, and if the two sides of the tinned ribbon do not exceed the lines, so we can define that the curvature meet the requirement.

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5、包装、标示、运输、贮存 Packing, Indication, Transport, Storage

5.1 包装、标示 Packing and Indication

5.1.1 包装方式 Packing Manner

产品名称 Products Name	包装方式 Packing Manner
涂锡铜带 Tinned copper ribbon	滚轴包装 Spool packing

以上包装尺寸，可以根据产品实际需要决定，我司均可以满足。

For the above packing dimensions, we can fulfill your practical need for the products.

5.1.2 标示 Indication

我司产品每一最小包装要求附如下标示资料：①“产品标签”一张；每箱②“合格标签”一张；每箱③“出货标签”一张；每箱④“装箱单”一份；⑤无铅产品必面贴“环保标签”。

Every Min. packing of our products contains the indicative documents as bellow:

- ① One sheet of “Product label ”per carton
- ② One sheet of “Conformity label ”per carton
- ③ One sheet of “Shipping label” per carton;
- ④ One “Packing list” per carton;
- ⑤ Lead-free products stucked with the “Environmental Label”

产品标签内容包括但不限于：规格、卷编号、生产日期、净重、批号、存储条件、保质期、公司信息等。

The content of product label including but not limited to these data: specification, coil No., manufacture No., net weight, batch No., storage condition, shelf life , company information , etc.

合格标签内容包括但不限于：检验日期、检验人签名、判定结果、合格专用章等。

Qualification label including but not limited to these data: Inspection date, identifier signature, determinant result, qualified dedicated seal, etc.

5.2 产品防护 Product protection

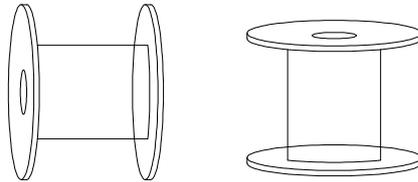
5.2.1 滚轴产品放置要求，见图 3.

Spool products placement requirement, and please refer to Drawing III.

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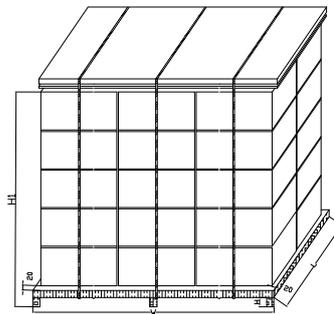
(图 Drawing III)

注：工字轴产品应水平存放，避免因涂锡铜带自身受重力导致的两端堆积，造成两端缝隙增大，影响使用。

Note: The spool products should be stored horizontally, to avoid the two ends of the spool accumulated in the effect of itself gravitation of the tinned copper ribbon and augment the aperture between the two ends, and it may affect their normal usage.

5.2.2 纸箱存放高度要求，见图 4.

The requirement for the height of the carton placement, see drawing IV.



(图 Drawing IV)

注：成品运输过程中码放应符合上述要求，静置状态原则上堆放高度不超过 5 层。

Note: The stacking methods during transportation should according to the above requirement, and under static status the stack height should not exceeds five layers in principle.

5.3 运输 Transportation

运输方式根据客户所处的不同区域可以选择采用：空运、公路运输、铁路运输及海洋运输等。但是所有的运输必须满足产品防护要求。

Choose the transportation manner according to different regions of our customers: by air, by highway, by rail and by sea, etc. But all of the transportation manners must meet the protection requirements for the products.

5.4 贮存 Storage

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涂锡铜带应妥善保管在干燥通风的，不含酸性或有害气体的室内，室内相对湿度不超过 60%RH，自生产之日起，贮存期限可长达 12 个月。

Tinned copper ribbon should be stored in the room of dry and ventilate, while there should be no-acid or the harmful gas in the room, and the inner relative humidity should not exceeds 60%RH.Its storage life can be up to twelve months since the manufacture date.

涂锡铜带禁止直接存放在地面、窗口边，应存放在干燥的托盘上，堆放高度不超过 1m 且静态堆放不超过 5 层（注意码放过程要求从底到上按照由重到轻的顺序进行，避免箱子不满导致的挤压变形），且每托重量不超过 1000kg。

The tinned copper ribbon should be prohibited to place on the ground and around the window side, and they should be placed on the dry pallet. The the stacking height should not exceed one meter and meantime not exceed five layers in static status (notice: the palletizing sequence from bottom to top should according to the basis of heavy to light, to avoid the carton extrusion and distortion due to not enough goods in carton) , in the while the weight for every pallet should not exceed 1000kg.