**附件：**

**《导电用铜型材》国家标准数据统计表**

**一、导电铜型材生产情况及建议**

表1 所生产导电铜型材牌号、状态、规格及允许偏差

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状态 | 规格及允许偏差/mm | | | 性能要求 | 年产量  /吨 | 主要用户  及市场前景 |
| 外接圆 | 厚度 | 高度 |
|  |  |  |  |  |  |  |  |  |
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**注：规格范围请说明型材形状、具体尺寸或附图说明。**

表2 所生产导电铜型材化学成分要求

| 牌 号 | 化 学 成 分（质量分数）a/% | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cu | Pb | Fe | Ni | Al | Si | S | Bi | Sb | … | Cu+所列元素 |
| 牌号1 |  |  |  |  |  |  |  |  |  |  |  |
| 牌号2 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |  |  |
| 牌号n |  |  |  |  |  |  |  |  |  |  |  |

注：根据实际情况添加或删除元素及相应要求。

表3 所生产导电铜型材扭曲度要求

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状态 | 规格 | | | 扭曲系数要求 |
| 外接圆 | 厚度 | 高度 |
|  |  |  |  |  |  |  |
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注：根据实际情况添加或相应要求，扭曲检测方法见：GB/T 26303.2 铜及铜合金加工材外形尺寸检测方法 第2部分：棒、线、型材

表4 所生产无氧铜导电铜型材氢脆试验要求

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状态 | 规格 | | | 氢脆试验（反复弯曲）弯曲次数 |
| 外接圆 | 厚度 | 高度 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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注：根据实际情况添加或相应要求，检测方法见：GB/T 23606 铜氢脆试验方法

表5 所生产无氧铜导电铜型材电性能技术要求

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状态 | 规格 | | | 电阻系数  Ω×mm2/m  不大于 | 电导率  %IACS  不小于 |
| 外接圆 | 厚度 | 高度 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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注：根据实际情况添加或相应要求，检测方法见：GB/T 3048.2 电线电缆电性能试验方法 第2部分：金属材料电阻率试验及GB/T 32791 铜及铜合金导电率涡流测试方法

表6 所生产无氧铜导电铜型材定尺长度技术要求

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状态 | 规格 | | | 长度范围 | 定尺要求 |
| 外接圆 | 厚度 | 高度 |
|  |  |  |  |  |  |  |  |
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注：根据实际情况添加或相应要求，

**说明：上述技术如有补充，参研企业根据需要添加相关技术要求请参照相关表格自行进行添加。**

**二、导电铜型材实际数据收集情况**

**说明：同一牌号型材每项实际数据100个以上。**

**1、不同牌号的实际化学成分**

表7 牌号1 实际化学成分情况统计

| 牌 号 | 化 学 成 分（质量分数）a/% | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cu | Pb | Fe | Ni | Al | Si | S | Bi | Sb | … | Cu+所列元素 |
| 牌号1 |  |  |  |  |  |  |  |  |  |  |  |
| 牌号1 |  |  |  |  |  |  |  |  |  |  |  |
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| … |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

表8  **牌号2** 实际化学成分情况统计

| 牌 号 | 化 学 成 分（质量分数）a/% | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cu | Pb | Fe | Ni | Al | Si | S | Bi | Sb | … | Cu+所列元素 |
| 牌号2 |  |  |  |  |  |  |  |  |  |  |  |
| 牌号2 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
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| … |  |  |  |  |  |  |  |  |  |  |  |
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**…………**

**2、不同牌号外形尺寸及其允许偏差**

表9 牌号1导电用铜型材实际尺寸统计情况 单位为毫米

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序  号 | 公称厚度/宽度/高度 | 实际厚度/宽度/高度  （或实际偏差） | 公称厚度/宽度/高度 | 实际厚度/宽度/高度  （或实际偏差） |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| … |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 100 |  |  |  |  |
| … |  |  |  |  |
|  |  |  |  |  |

表10 牌号9导电用铜型材际尺寸统计情况 单位为毫米

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序  号 | 公称厚度/宽度/高度 | 实际厚度/宽度/高度  （或实际偏差） | 公称厚度/宽度/高度 | 实际厚度/宽度/高度  （或实际偏差） |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| … |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 100 |  |  |  |  |
| … |  |  |  |  |
|  |  |  |  |  |

**…………**

**3、不同牌号实际性能统计**

表11 典型规格xx导电用铜型材实际性能

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状  态 | 规格mm | 抗拉强度Rm MPa | 规定塑性延伸强度Rp0.2/N/mm2 | 断后伸长率A/% | 硬度 | 电性能 |
| 1 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 100 |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

表12 典型规格xx导电用铜型材实际性能

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 牌号 | 状  态 | 规格mm | 抗拉强度Rm MPa | 规定塑性延伸强度Rp0.2/N/mm2 | 断后伸长率A/% | 硬度 | 电性能 |
| 1 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 100 |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

**说明：上述技术数据如有补充，参研企业可根据需要添加相关技术数据请参照相关表格自行进行添加。**

单位名称：

日期：