产品规格书
PRODUCT SPECIFICATION

产品种类：药芯锡丝

产品名称：Sn99.3Cu0.7-W 药芯锡丝

1 范围 Range

本产品规格书是对锡基钎焊材料（以下简称钎料）作出相应规定，其适用范围应符合表-1。

This product specification is to make corresponding regulations on tin-based brazing materials (hereinafter referred to as tin solder), and its scope of application should comply with Table-1.

表-1

合金成分 Alloy	适用范围 Application
Sn99.3Cu0.7	适用于电子元器件、异种金属间的连接 Suitable for connection between electronic components and dissimilar metals

2 种类 Kind

2.1 按钎料的化学成分分类 According to chemical composition

锡基钎料，合金牌号为 Sn99.3Cu0.7。

Tin solder, alloys are Sn99.3Cu0.7

2.2 按钎料的形状分类：锡丝。

According to shape: Tin wire.

3 制造方法 Manufacturing method

参照 GB/T20422 无铅钎料标准进行生产。

According to GB/T20422Lead free solder standard.

4 质量 Quality

4.1 钎料的化学成分 Chemical composition

钎料的化学成分应符合表-2 的规定。

The chemical composition must be order to table-2

表-2 钎料的化学成分 Chemical composition

Alloy	Chemical composition（w）%	
	Sn	Cu
Sn99.3Cu0.7	Rem.	0.5-0.9

备注：

Marks:

1、产品应符合当年度 ROHS 和 REACH 要求。

Products should comply with the annual ROHS and REACH requirements.

2、除非另有规定，合金中杂质元素的质量百分比不应当超过下列下限值。

Unless otherwise specified, the mass percentage of impurity elements in the alloy should not exceed the following lower limit.

Cd:0.002 Pb:0.07 Al:0.001 As:0.03 Fe:0.02 Zn:0.001 Sb:0.1 Bi:0.10 Ni:0.05

4.2 钎料的表面质量 The surface quality of solder

钎料的表面应光滑、清洁，不应有裂纹、夹杂和油污等缺陷。

The surface of the solder should be smooth and clean, and there should be no defects such as cracks, inclusions and oil stains.

5 规格尺寸 Standard dimension

5.1 钎料的规格尺寸 Dimension of solder

钎料的规格及公差参照借鉴表-3:

The dimension and tolerances of solder are shown in Table-3:

5.2 该款锡丝重量可为 250g、450g、500g、1000g（可根据不同客户要求进行定制）

表-3 钎料的规格及公差-锡丝

Table-3 Specifications and tolerances of tin solder

牌号	丝径规格（mm）Dimension (mm)	丝径公差（mm）Wire Diameter Tolerance（mm）	实芯药芯 (Flux or not)	助焊剂含量（Flux content w%）	助焊剂类型 Flux Type
Sn99.3Cu0.7-W 药芯锡丝 Φ0.8-3.0%	Φ0.8	±0.05	药芯含助焊剂（Flux Cored）	2.2±0.5	ROL1
Sn99.3Cu0.7-W 药芯锡丝 Φ1.0-3.0%	Φ1.0	±0.05	药芯含助焊剂（Flux Cored）	2.2±0.5	ROL1

Sn99.3Cu0.7-W 药芯锡丝 Φ1.2-3.0%	Φ1.2	±0.05	药芯含助焊剂（Flux Cored）	2.2±0.5	ROL1

6 技术要求 Technology requirements

6.1 一般要求 General requirements

6.1.1 钎料的化学成分应符合表-2 中的要求并按规定的作业性文件制造。

The chemical composition of solder should meet the requirements in Table-2 and be manufactured according to the specified operating documents.

6.1.2 钎料的熔化温度范围应符合表-4 的要求。

The melting temperature range of solder should meet the requirements of Table-4.

表-4 钎料的熔化温度范围

Table-4 Melting temperature range of solder

合金成分 Alloy	熔化温度范围/℃（参考值） Melting temperature/℃（reference）	
Sn99.3Cu0.7	固相线/℃ Solidus/℃	液相线/℃ Liquidus/℃
	227	227

6.1.3 每批钎料由同一品种、牌号、规格和供货状态的钎料组成。

Each batch of tin solders consists of the same type, brand,specification and delivery status.

6.1.4 钎料应具有良好的钎焊工艺性能。

The solder should have good brazing process performance.

6.1.5 钎料的极限偏差应按标准的规定。但允许有不超出极限的擦伤、划痕、表面轻度氧化、坑点等缺陷。

The limit deviation of solder should be in accordance with the standard. However, defects such as scratches, scratches, slight surface oxidation, and pits that do not exceed the limit are allowed.

7 试验方法和检验规则 Test methods and inspection rules

7.1 试验和检查 Test and check

7.1.1 化学成分试验 Chemical Composition Test

化学成分分析试验按照 GB/T 20422《无铅钎料》。

The chemical composition analysis test is in accordance with GB/T 20422 "Lead-free Solders".

7.1.2 有害物质试验 Hazardous substance test

对产品的有害物质控制利用原子吸收分光分析仪或 iCAP6300 电感耦合等离子体发射光谱发射法分批次进行测定，执行欧盟的 RoHS 指令。

The control of harmful substances in products is measured in batches by atomic absorption spectrometer or iCAP6300 inductively coupled plasma emission spectrometry, and the RoHS directive of the European Union is implemented.

7.1.3 尺寸检查 Dimensional inspection

对每炉钎料进行取样检查。

Sampling inspection is carried out for each heat of solder.

7.1.3.1 钎料的规格检查 Specification inspection of solder

丝径用经过校准的 0-25mm 游标卡尺进行测量。

The wire diameter is measured with a calibrated 0-25mm vernier caliper.

7.1.3.2 外观检查 Visual inspection

钎料的外观通过目测对表面质量和横断面质量进行检查。

The appearance of the solder is checked visually for surface quality and cross-sectional quality.

7.2 试验样品的采取 Collection of test samples

7.2.1 化学成分分析样品从浇铸后的每炉熔液中取一试样分析，并留样 6 个月。

Chemical composition analysis samples are taken from each molten furnace after casting for analysis, and the samples are kept for 6 months.

7.2.2 钎料的规格、基本尺寸及极限偏差测量和外观检查时，每批抽样 10%，如不合格应加倍取样，并对不合格项目进行复验；尚复验仍不合格，则该批钎料应进行回炉返工，并按规定要求重新进行检测，待合格后方可作为成品入库。

When measuring the specifications, basic dimensions and limit deviation of solder and visual inspection, 10% of each batch should be sampled. It should be returned to the furnace and reworked, and re-tested according to the specified requirements, and can be put into storage as a finished product after passing the test.

7.2.3 有害物质试验的样品按发货批次取一试样。

Samples for hazardous substance testing shall be taken according to the delivery batch.

7.2.4 其他试验样品采取不定期抽样的方法进行。

Other test samples are taken by irregular sampling method.

7.2.5 试验结果检查 Test result

每批货提交 1 份试验检查结果，即质量保证书。如有其他要求，请提出。

Submit one copy of test inspection results for each batch of goods, that is, the quality assurance certificate. If you have other requirements, please ask.

8 其他 Others

本产品规格书如需要变更应在双方协议的基础上修订。

部品发生异常时，双方需在尊重协议的基础上迅速处理。

If this product specification needs to be changed, it should be revised on the basis of mutual agreement.

When a part is abnormal, both parties need to deal with it quickly on the basis of respecting the agreement.