

承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): DS412-5110-G277

品名规格 (PronameSpec): D-SUB HDR 15母+VGA24+5

送样日期 (Delivery Date):2022/08/02

承认日期 (Acknowledge Date):2022/08/02

| | | | |
|---|------------------|---------------------------|--------------------|
| Approved No: | | 客 户 Customer | |
| 采 购 部 Purchasing Dept | 品 质 部 QC Dept | 工 程 部 Engineering Dept | 确 认 Approved By |
| | | | |
| 深 圳 市 华 联 威 电 子 科 技 有 限 公 司 SHEN ZHEN SHI HUA LIAN WEI ELECTRONICS TECHNOLOGY CO; LTD. | | | |
| 业 务 部 Sales Dept | 品 管 部 QC Dept | 工 程 部 Engineering Dept | 核 准 Checked By |
| 蒋成英 | 欠必锋 | 魏红 | 唐竹君 |

地址:深圳市龙华区观澜街道桂香社区观澜桂花路 307 号

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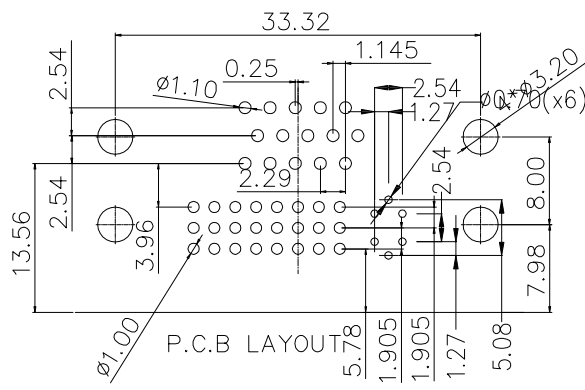
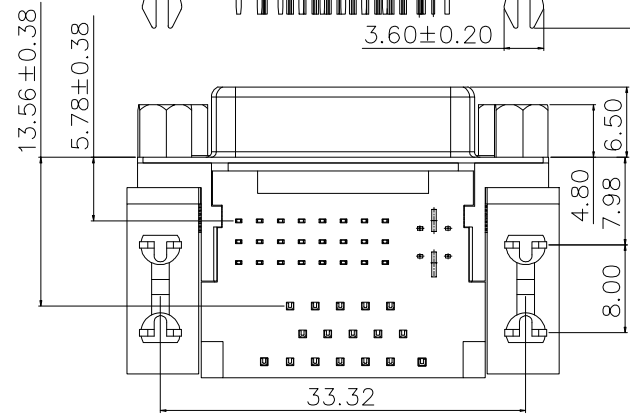
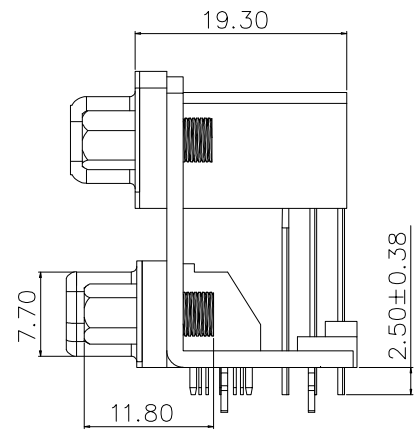
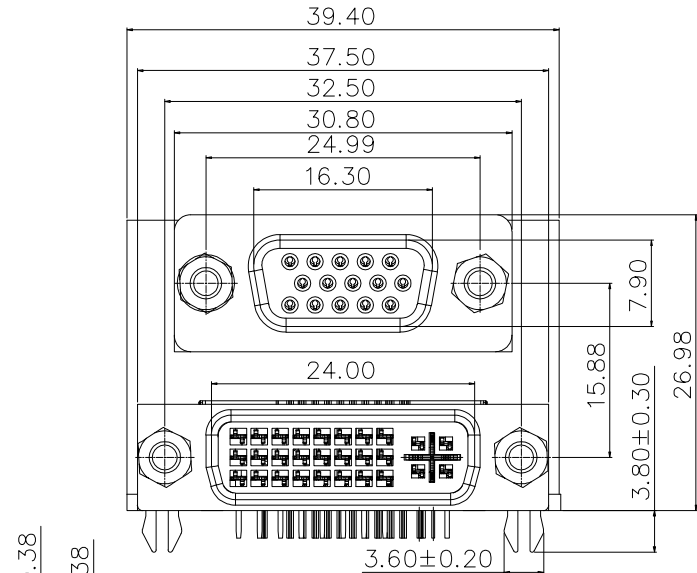
[Http://www.hlwconn.com](http://www.hlwconn.com)

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| REV. | ECN.NO. | APPD. |
|------|---------|-------|
| A | / | / |



NOTES:
 1. MATERIAL:
 1. Insulator: PBT+30%G/F OR PA66(UL94V-0), COLOR: BLUE OR RICE WHITE.
 2. Contact: Brass.
 3. Contact Plated: Gold Flash over Tin.
 4. Shell: Spcc.
 5. Screw: Spcc.
 6. Board Lock: Spcc.
 7. Support panel: Spcc.
 2. FINISH:
 1. Contact: Gold flash plated on contact area.
 100u" Tin plated on soldertails.
 50u" Nickel underplated overall.
 BOARD LOCK: 100u"min Tin plated over 50u"min Nickel.
 SHELL: 50u"min Nickel plating overall.
 SCREW: 50u"min Nickel plating overall.
 Support panel: 50u"min Nickel plating overall.

DS412-5110-XXX7

- 1: 半金 1u"
 - 3: 半金 3u"
 - 5: 半金 5u"
 - 8: 半金 15u"
 - 9: 镀全金 1u"
 - G: 半金 G/Fu"
- 1: PA66
 - 2: PBT
 - 6: LCP
- 1: 黑色
 - 2: 白色
 - 7: 蓝色

| | | | | | | | | | |
|--------------------------------------|------------|--|-----------------|--------|--------|------|------------|-----------------------|----------|
| TOLERANCE UNLESS OTHERWISE SPECIFIED | | FLW 深圳市华联威电子科技有限公司 HUA LIAN WEI TECHNOLOGY ELECTRONICS CO;LTD. | | | | | | | |
| .XXX ±0.10 | .XX ±0.20 | | | | | | .X ±0.30 | .X' ±3' | .XX' ±2' |
| APPROVED | | | | | | | PART NAME: | D-SUB HDR 15母+VGA24+5 | |
| CHECKED | | PART No: | DS412-5110-G277 | C | | | | | |
| DRAWN | weihong | PROJECTION: | UNIT: | SCALE: | SHEET: | REV. | | | |
| DATE | 2021.11.06 | | mm | 1:1 | 10F1 | A | | | |

D-SUB系列產品SPEC

| TEST ITEM | | REQUIREMENT | PROCEDURE |
|-------------------------------|---------------------------------|--|---|
| 1 | Examination of Product | Meets requirements of product drawing. No physical damage. | Visual inspection. |
| 2 | Operating Temperature | -55°C ~+85°C | |
| 3 | Storage Temperature | -55°C ~+105°C | |
| ELECTRICAL REQUIREMENT | | | |
| 4 | Rating Voltage | 300VDC max | on any signal pin with respect to the shield |
| 5 | Rating Current | 1Amperes DCmax | 55°C ,maximum ambient 85°C ,maximum temperature change (ANSI/EIA 364-70,TP-70) |
| 6 | Contact Resistance | [30] m Ohm Max(Initial) [50] m Ohm Max(Final) | Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. EIA-364-23. |
| 7 | Dielectric withstanding Voltage | No flashover, No sparkover, No excess leakage, No breakdown | [500]VAC for 1minute Test between adjacent circuits of unmated connector. EIA-364-20C |
| 8 | Insulation Resistance | [1000] M Ohm Min. | Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector. EIA-364-21C. |
| 9 | Temperature Rising | 30°C Max. Under loaded rating current | Contact series-wired, apply test current of loaded rating current to the circuit, and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured value. |
| Mechanical Requirement | | | |
| 10 | Connector Mating Force | 4.44kgf Max 9pin 7.72kgf Max 15pin 12.71kgf Max 25pin 17.71kgf Max 37pin | Operation Speed : [25] mm/min. Measure the force required to mate connector. EIA-364-13 |
| 11 | Connector Unmating Force | 0.33kgf Max 9pin 0.45kgf Max 15pin 0.79kgf Max 25pin 1.14kgf Max 37pin | Operation Speed : [25] mm/min. Measure the force required to unmate connector. EIA-364-13 |
| 12 | Durability | Contact Resistance Shall be less than 40 mohms after 1000 cycles for 30 μ in gold plated, 750 cycles for gold flash plated | Operation Speed : [25] mm/minute. EIA-364-09C |

| | | | |
|----|------------------|---|---|
| 13 | Vibration | No discontinuity at 1 μ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46 | Condition III,Method 5A,15 minute/axis ANSI/EIA-364-28 |
| 14 | Mechanical Shock | No discontinuity at 1 μ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46 | Subject mated connector to 50g half sine in 11 msec from shocks in the X,Y,Z axis(9 shocks total) |
| 15 | Solder ability | At least 95% of the immersed area shall be covered with new solder | 1)Temperature of fused solder: 245+5°C. 2)Dipping time:5+0.5s EIA 364-52 |

Environmental Requirements

| | | | |
|----|-------------------------------|--|--|
| 16 | Resistance to Solder Heat | Forming resin shall not be distorted, and terminations shall not be separated. | 1) Depth of dipping termination: the distance between the mounting surface and solder surface shall be 1 mm to 2mm. 2)Temperature:260+5°C. 3) Dipping time: 5+0.5s Socket EIA 364-56 |
| 17 | Thermal Shock | No physical damage to the samples and LLCR-50 m Ω max per contact | Mated connectors exposed to 10 cycles between -55°C to 85°C, 30 minutes duration at both temperature extremes EIA 364-32 |
| 18 | Steady State Humidity | No physical damage to the samples and can pass the Dielectric Withstanding Voltage & Insulation Resistance | Expose mated connectors to a temperature of 40 \pm 2°C with relative humidity of 90-95% for 168 hours Min(seven complete cycles). Remove surface moisture and air dry for 24 hours. prior to measurement. EIA 364-31 |
| 19 | Temperature Life (Heat Aging) | Contact Resistance shall be less than 40 ohms | Mated Connector 85°C , 250 hours, EIA-364-17B. |
| 20 | Salt Spray | Visual Inspection-No physical damageLLCR-50 m Ω max per contact | Mated connector expose to 5% salt concentration for 12 hours at temperature 35+2 °C.After the test specimens shall be washed with running water and dried naturally EIA 364-26 |

Product Qualification and Requalification test

| Test or Examination | Test Group | | | | | | | | | |
|-------------------------|-------------------|------|------|------|------|------|------|------|------|------|
| | A | B | C | D | E | F | G | H | I | J |
| | Test Sequence (a) | | | | | | | | | |
| Examination of Product | 1, 7 | 1, 9 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 3 | 1, 3 | 1, 3 |
| Contact Resistance | | 2, 8 | 2, 5 | 2, 4 | 2, 4 | 2, 4 | 2, 4 | | | |
| Dielectric withstanding | 3, 6 | | | | | | | | | |
| Insulation Resistance | 2, 5 | | | | | | | | | |
| Temperature Rising | | | | | | | | 2 | | |
| Mating Force | | 3, 7 | | | | | | | | |
| Unmating Force | | 4, 6 | | | | | | | | |
| Durability | | 5 | | | | | | | | |
| Vibration | | | 3 | | | | | | | |
| Mechanical Shock | | | 4 | | | | | | | |

| | | | | | | | | | | |
|-------------------------|------------------------------|--|---|--|---|---|---|--|---|---|
| Solderability | | | | | | | | | | 2 |
| Resistance to Soldering | | | | | | | | | 2 | |
| Thermal Shock | | | 3 | | | | | | | |
| Humidity Temperature | 4 | | | | 3 | | | | | |
| Temperature Life | | | | | | 3 | | | | |
| Salt Spray | | | | | | | 3 | | | |
| 備注 | 無客戶指定增加測試項目外，依照此標準進行產品可靠性評估。 | | | | | | | | | |

核准：唐竹君

制作人：覃裕华

| 4 | Temperature cycling test | Temperature: 70—25 °C Duration:5 cycle | PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER | No physical damage | Pass | Pass | Pass | Pass | Pass | P | |
|----------------------|-----------------------------------|---|--|--------------------|---------------------|------|------|------|------|----------|------|
| 四.物理測試 PHYSICAL TEST | | | | | | | | | | | |
| 序號 NO. | 測試項目 Testing Item | 測試條件 Testing Conditions | 測試設備 Testing Equipment | 規格 SPEC | 測試記錄 Testing Result | | | | | 判定 Judge | |
| | | | | | 1 | 2 | 3 | 4 | 5 | Pass | Fail |
| 1 | Salt spray test | Temperature: 35 ± 2°C Concentration: 5±1 % Duration :12H | SALT SPRAY TESTER | No Oxidation | Pass | Pass | Pass | Pass | Pass | P | |
| 2 | Resistance to soldering heat test | Temperature: 260±5°C Duration :10±1sec | OVEN | No physical damage | Pass | Pass | Pass | Pass | Pass | P | |
| 3 | Solder ability test | Temperature: 260±5°C Duration:5±0.5 sec | CONTROLLED CONSTANT-TEMP SOLDER POT | Soldering area 95% | Pass | Pass | Pass | Pass | Pass | P | |
| 判定 Result | | <input checked="" type="checkbox"/> 合格(ACCEPT) <input type="checkbox"/> 不合格(REJECT) | | | | | | | | | |

核准(Approver): 欠必鋒

測試(Tester): 但芬

檢驗報告

首件檢驗 入庫檢驗 出貨檢驗 客退檢驗 退料檢驗 其他

2022年08月02日 版次:A1

| | | | | | | | | |
|------------------------------------|-----------------------|--|---|-----------------|---------|----------------|----------|---|
| 料號 | DS412-5110-G277 | 制令單號 | / | 送檢單位 | 工程部 | 首件製作者 | 裝配 | |
| 品名 | D-SUB HDR 15母+VGA24+5 | 客戶代號 | / | 批 量 | / | 送檢時間 | / | |
| | | | | 數 量 | 5PCS | 確認時間 | / | |
| 抽樣標準 | | <input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次 | | 抽樣數 (5PCS) | AQL | CRI:0 MAJ:0.40 | MIN:0.65 | |
| MIL-STD-105E(II) | | <input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量 | | | ACC/REJ | 0 | / | / |
| 不良數: CRI (/) MAJ (/) MIN (/) | | | | | | 不良率(%) | | / |

| NO. | 檢驗項目 單位:MM/G | 檢測 儀器 | 檢 驗 記 錄 | | | | | 品管判定 | | CRI | MAJ | MIN | 備注 |
|-----|-----------------|----------|---------|-------|-------|-------|-------|------|----|-----|-----|-----|----|
| | | | 1 | 2 | 3 | 4 | 5 | AC | RE | | | | |
| | 39.40±0.20 | D | 39.45 | 39.47 | 39.46 | 39.47 | 39.45 | √ | | | | | |
| | 37.50±0.20 | D | 37.54 | 37.57 | 37.56 | 37.54 | 37.56 | √ | | | | | |
| | 26.98±0.20 | D | 26.98 | 27.01 | 27.03 | 26.99 | 27.02 | √ | | | | | |
| | 3.80±0.30 | D | 3.85 | 3.83 | 3.81 | 3.82 | 3.83 | √ | | | | | |
| | 3.60±0.20 | D | 3.65 | 3.64 | 3.67 | 3.68 | 3.65 | √ | | | | | |
| | 33.32±0.20 | D | 33.36 | 33.34 | 33.35 | 33.36 | 33.35 | √ | | | | | |
| | 6.50±0.20 | D | 6.53 | 6.57 | 6.55 | 6.54 | 6.53 | √ | | | | | |
| | 19.30±0.20 | D | 19.36 | 19.34 | 19.35 | 19.33 | 19.36 | √ | | | | | |
| | 2.50±0.38 | D | 2.53 | 2.56 | 2.55 | 2.53 | 2.54 | √ | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

檢驗依據: 《工程圖紙》 《檢驗規範》 《承認書》 樣品 其它

檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它

品保判定:

| | | | | | |
|------------|-----|------------|---|---------------|----|
| 核 准 APP | 欠必鋒 | 審 核 CHK | / | 檢驗員 INSPBY | 但芬 |
|------------|-----|------------|---|---------------|----|

保存期限:三年

保存部門:品保部

QR-M-003

| | | | | | |
|--------------------------------|----------|--------------|----|-----------|----------|
| 品名: D-SUB HDR 15母+VGA24+5 (端子) | | 版次:A. 0 | | | |
| 电镀规格:Ni30u", Sn100u", Au G/Fu" | | 日期:2022-6-20 | | 页次:1/1 | |
| 厂商:同华 | | | | | |
| 测试设备:CMI X-射线膜厚测试仪 | | | | | |
| 1、底层电镀测试 (Ni) | | | | | |
| 数据 | 测试标准 | 实测值 | 判定 | 测试日期 | 测试时间 |
| 1 | 30u"MIN | 50.5u" | OK | 2022/6/20 | 10:20:15 |
| 2 | 30u"MIN | 56.3u" | OK | 2022/6/20 | 10:20:17 |
| 3 | 30u"MIN | 67.5u" | OK | 2022/6/20 | 10:20:19 |
| 4 | 30u"MIN | 62.4u" | OK | 2022/6/20 | 10:20:21 |
| 2、表层电镀测试 (Sn) | | | | | |
| 数据 | 测试标准 | 实测值 | 判定 | 测试日期 | 测试时间 |
| 1 | 100u"MIN | 105.3u" | OK | 2022/6/20 | 10:25:10 |
| 2 | 100u"MIN | 104.7u" | OK | 2022/6/20 | 10:25:12 |
| 3 | 100u"MIN | 105.9u" | OK | 2022/6/20 | 10:25:14 |
| 4 | 100u"MIN | 107.4u" | OK | 2022/6/20 | 10:25:16 |
| 3、表层电镀测试 (Au) | | | | | |
| 数据 | 测试标准 | 实测值 | 判定 | 测试日期 | 测试时间 |
| 1 | 0.5u"MIN | 0.52u" | OK | 2022/6/20 | 10:30:32 |
| 2 | 0.5u"MIN | 0.55u" | OK | 2022/6/20 | 10:30:34 |
| 3 | 0.5u"MIN | 0.53u" | OK | 2022/6/20 | 10:30:36 |
| 4 | 0.5u"MIN | 0.54u" | OK | 2022/6/20 | 10:30:38 |

核准: 欠必锋

审核: 李娟

检验员: 但芬

电镀报告表

| | | | | | |
|---------------------------|---------------|--------|----|------------|----------|
| 品名: D-SUB HDR 15母+VGA24+5 | | 版次:A.0 | | | |
| 电镀规格:Cu:40u",Ni:30u" | 日期:2022.06.22 | 页次:1/1 | | | |
| 厂商:同华 | | | | | |
| 测试设备:CMI X-射线膜厚测试仪 | | | | | |
| 1、表层电镀测试 (Ni) | | | | | |
| 数据 | 测试标准 | 实测值 | 判定 | 测试日期 | 测试时间 |
| 1 | 30u"min | 63.2u" | OK | 2022.06.22 | 11:35:05 |
| 2 | 30u"min | 57.9u" | OK | 2022.06.22 | 11:36:07 |
| 3 | 30u"min | 55.6u" | OK | 2022.06.22 | 11:37:09 |
| 4 | 30u"min | 58.8u" | OK | 2022.06.22 | 11:38:11 |
| 2、底层电镀测试 (Cu) | | | | | |
| 数据 | 测试标准 | 实测值 | 判定 | 测试日期 | 测试时间 |
| 1 | 30u"min | 86.5u" | OK | 2022.06.22 | 11:35:05 |
| 2 | 30u"min | 72.3u" | OK | 2022.06.22 | 11:36:07 |
| 3 | 30u"min | 84.7u" | OK | 2022.06.22 | 11:37:09 |
| 4 | 30u"min | 81.1u" | OK | 2022.06.22 | 11:38:11 |

核准: 欠必锋

审核: 李娟

检验员: 但芬



深圳市华联威电子科技有限公司

盐水喷雾实验报告

| | | | |
|--------|----------------------------------|--------|----------------------|
| 试验方法 | 盐水喷雾腐蚀试验法 | 参考资料 | MIL-STD-1345 |
| METHOD | NEUTRL SALT SPRAY CORROSION TEST | REF | |
| 客户 | | 试验起始日期 | 2022年08月01日 20:00 时起 |
| | | DATE | 2022年08月02日 08:00 时止 |
| 样品名称 | D-SUB HDR 15母+VGA24+5 | 试验数量 | 5PCS |
| P/N | DS412-5110-G277 | QTY | |

试验条件 (TEST CONDITION)

- 1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$, PH值6.5-7.2).
- 2、试验室温度 (TEMP. IT THE SPRAY DHAMBR): $35 \pm 1^\circ\text{C}$.
- 3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): $35 \pm 1^\circ\text{C}$.
- 4、压力桶温度 (TEMP. OF SAR SUPPLIERY): $47 \pm 1^\circ\text{C}$.
- 5、试验室相对湿度 (R. H IN THE CHAMBER) 85%.
- 6、压缩空气压力 (COMPRESSED AIR PRESSURE): $1.00 \pm 0.01\text{Kg/cm}^2$.
- 7、样品放置位置 (SPECIMEN SUPPORTED ANGLE): 尼龙绳吊挂 $70^\circ - 90^\circ$.
- 8、喷雾收集量 (COLLECT RATE OF SALT SOL' N) $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$.
- 9、盐雾测试时间: 12小时 (H)

判定方法 (ADFUSGD METHOD)

试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象 (不包含折弯处), 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)

| 样品序号 | 试验后现象 | 判定 |
|------|-----------------------|---------|
| | PHENOMENON AFTER TEST | COMMENT |
| 1 | 无蓝、绿色腐蚀物之现象 | OK |
| 2 | 无蓝、绿色腐蚀物之现象 | OK |
| 3 | 无蓝、绿色腐蚀物之现象 | OK |
| 4 | 无蓝、绿色腐蚀物之现象 | OK |
| 5 | 无蓝、绿色腐蚀物之现象 | OK |
| | | |
| | | |
| | | |

核准: 欠必锋

审核: 李娟

试验员: 但芬

材 质 证 明

兹有我司邦奇塑料科技有限公司为贵司所提供的产品不防火原料 PBT 不防火加纤 15%300C-1 蓝，由以下物质组成：

物品名称：PBT 不防火加纤 15%300C-1 蓝色

| | |
|---------------|-----------|
| 组成物质：PBT 环保树脂 | 65-75% |
| 玻纤 | 15% |
| 增韧剂 | 5% |
| 润滑剂 | 0.2% |
| 抗氧化剂 | 0.2%-0.3% |
| 偶联剂 | 0.3% |
| 其他 | 0.5% |

建议成型：

1. 烘干温度 120-140℃
2. 烘干时间 2-4 小时
3. 成型温度 240-260℃

特此证明！

东莞市邦奇塑料科技有限公司



佛山市顺德区天硕贸易有限公司

Foshan Shunde Tianshuo Trade Company Limited

日期: 2021-10-19

编号: FB2110136

| 收货单位PURCHASER: _____ 检验标准SPECIFICATION: <u>JIS G 3141</u> | | | | 产品名称: <u>SPCC-SD</u> 检验情况: <u>合格</u> | | | | | | | | | | | |
|--|-----------------|---------------------------------|--------------------|---|--------|---------|---------|--------|--------|---------|---------------------------|--------------|----------------|------------|------------|
| 产品规格 SPECIFICATION MM | 钢卷号 COIL. NO | 材质牌号 SYMBOL OF QUALITY | 净重 WEIGHT KG | 化学成份CHEMICAL COMPOSITION | | | | | | | 力学性能MECHANICAL PROPERTIES | | | | |
| | | | | Fe % | C % | Mn % | Si % | P % | S % | Al % | 抗拉强度T.S Mpa | 延伸率EL (%) | 屈服强度Y.S Mpa | 杯突 (mm) | 硬度 (HV) |
| 0.30x1250 | DL45657 | SPCC-SD | 7835 | 99 | 0.031 | 0.17 | 0.07 | 0.22 | 0.24 | | 361 | 29 | 259 | | 143 |
| 0.30x1250 | DL45658 | SPCC-SD | 7690 | 99 | 0.032 | 0.16 | 0.07 | 0.21 | 0.22 | | 362 | 30 | 256 | | 141 |
| | | | | | | | | | | | | | | | |
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质量控制中心:

审核: 谢和钢

制表人: 胡万银



鉅鼎銅材廠檢驗報告單

| | | | | | | | | | | |
|------------------------------|--------------------------|----------------------|--------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------------------|-----------------------|------|----|
| 公司名稱 Customer | 鉅鼎銅材廠檢驗報告單 | | | | 重量 Weight(kg) | 1078 | 出貨日期 Date | 2021/11/23 | | |
| 品名 Article | 標準 Standard No | | | | 尺寸 Dimension | | 狀態 Tenper | 銅卷編號 Coil No | | |
| C2680 | JISH3100:2017 | | | | 0.18*400 | | EH | 1021-C-08 | | |
| 化學成分Chemical Compositions(%) | | | | | | | | | | |
| 元素 Element | Cu % | Zn% | Pb% | Fe% | \ | \ | \ | \ | 化學成分 | 雜質 |
| 規範 Spec | 64.0-68.0 | 餘量 | <0.05 | <0.05 | \ | \ | \ | \ | 合格 | 合格 |
| 實測 Actual | 64.32 | 餘量 | 0.0036 | 0.0136 | \ | \ | \ | \ | 合格 | 合格 |
| 機械性質子Mechanical Properties | | | | | | | | | | |
| 項目 Item | 結晶粒度 Grain Size Mm | 硬度 Hardness Hv | 抗拉強度 TensionStrength Mpa | 伸長度 Elongation % | 導電率 Electrical Conduc %IACS | 彎曲試驗 Bending Test 180 | 表面粗度 Surface Roughness Ra(u m) | 彎曲度 Camber mm/n | | |
| 規範MAX Spec | \ | 170-190 | 490-610 | \ | \ | \ | \ | \ | | |
| 實測 Actual | \ | 178 | 574 | 5 | \ | \ | \ | \ | | |

品質部

