

承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): U221-9321-G21017

品名规格 (PronameSpec): USB AF 双层全包 PBT 黑铁

送样日期 (Delivery Date): 2021/11/22

承认日期 (Acknowledge Date): 2021/11/22

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
江 梅	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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REV.	ECN.NO.	APPD.
A0	/	/

NOTES:

1.MATERIAL:

1.1 Housing:thermoplastic plastics

1.2 terminals:Copper Alloy

Gold plated in contact area:

Tin plated in termination

Nickel Plated overall

1.3 Shell:Steel&Copper Alloy

Nickel Plated overall

2.ELECTRICAL CHARACTERISTICS:

2.1 Rating Current :1.5 Ampere

2.2 Rating Voltage :30 V Max

2.3 Contact Resistance:30 Milli ohms

2.4 Insulation Resistance:1000 Mega ohms Min.

3.MECHANICAL CHARACTERISTICS:

3.1 Connector Mating force: 35N MAX(3.57Kgf)

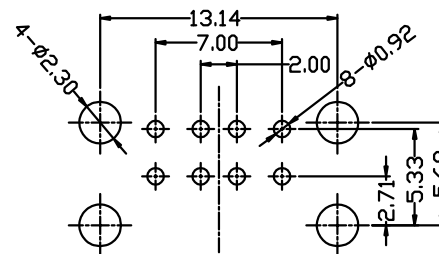
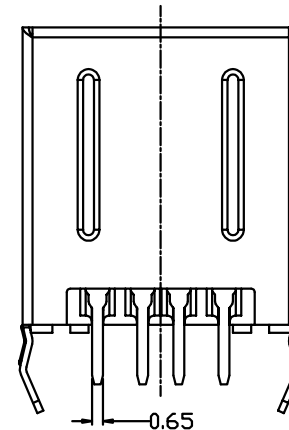
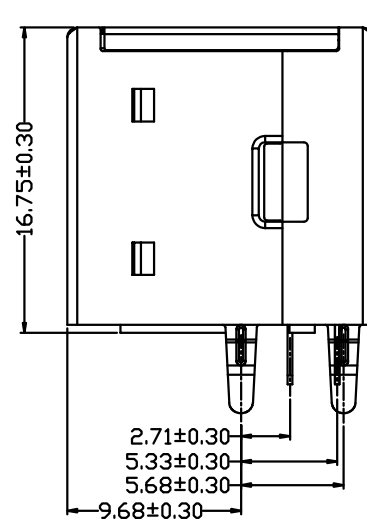
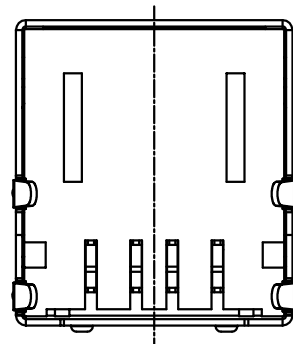
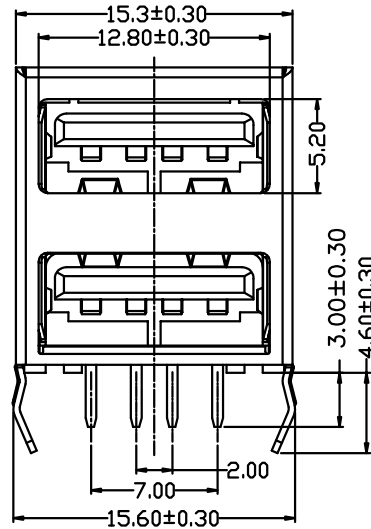
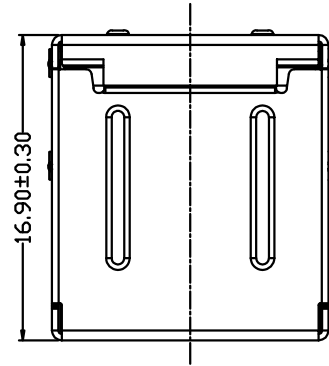
3.2 Connector Unmating force:10N min(1.02Kgf)

3.3 Durability:1500Cycles.

4.ENVIRONMENT CHARACTERISTICS:

4.1 Operating temperature:-0℃ to +50℃

4.2 Storage temperature:-20℃ to +60℃



RECOMMEND P.C.B. LAYOUT

U221-9321-XXX0X7

G:半金G/Fu

1:吸塑盒

2:PBT

1:黑色

TOLERANCE UNLESS OTHERWISE SPECIFIED			HLW 深圳市华联威电子科技有限公司				
.XXX ±0.10	.XX ±0.20	.X ±3'	HUA LIAN WEI TECHNOLOGY ELECTRONICS CO;LTD.				
.X ±0.30	.XX' ±2'						
APPROVED		PART NAME:	AF 90度双层 全包				
CHECKED		PART No:	U221-9321-G21017			C	
DRAWN	weihong	PROJECTION:	UNIT:	SCALE	SHEET	REV.	
DATE	2021. 09. 10		mm	1:1	10F1	A0	



TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
2	Operating Temperature	0℃ to 50 ℃	
3	Storage Temperature	-20℃ to 60 ℃	
ELECTRICAL REQUIREMENT			
4	Rating Voltage	30VAC max	on any signal pin with respect to the shield
5	Rating Current	1.5 A per contact	55℃,maximum ambient 85℃,maximum temperature change
6	Contact Resistance	30 mΩ maximum when measured at 20 mV maximum open circuit at 100 mA. Mated test contacts must be in a connector housing.	EIA 364-23 The object of this test is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur.
7	Dielectric withstanding Voltage	The dielectric must withstand 500 V AC for one minute at sea level.	EIA 364-20 The object of this test procedure is to detail a test method to prove that a USB connector can operate safely at its rated voltage and withstand momentary over potentials due to switching,surges, and/or other similarphenomena.
8	Insulation Resistance	1,000MΩ minimum.	EIA 364-21 The object of this test procedure is to detail a standard method to assess the insulation resistance of USB connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members.
9	Temperature Rising	30℃ 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	35 Newtons maximum at a maximum rate of 12.5 mm (0.492") per minute.	The object of this test is to detail a standard method for determining the mechanical forces required for inserting a USB connector. EIA 364-13



TEST ITEM		REQUIREMENT	PROCEDURE
11	Connector Unmating Force	10 Newtons minimum at a maximum rate of 12.5 mm(0.492") per minute.	The object of this test is to detail a standard method for determining the mechanical forces required for extracting a USB connector. EIA 364-13
12	Durability	1,500 insertion/extraction cycles at a maximum rate of 200 cycles per hour.	The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a USB connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress. EIA 364-09
13	Vibration	No discontinuities of 1 μ s or longer duration when mated USB connectors are subjected to 5.35 Gs RMS. 15 minutes in each of three mutually perpendicular planes.	Test Condition V Test Letter A This test procedure is applicable to USB connectors that may, in service, be subjected to conditions involving vibration. Whether a USB connector has to function during vibration or merely to survive conditions of vibration should be clearly stated by the detailed product specification. In either case, the relevant specification should always prescribe the acceptable performance tolerances. EIA 364-28
14	Mechanical Shock	No discontinuities of 1 μ s or longer duration when mated USB connectors are subjected to 11 ms duration 30 Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks	Test Condition H The object of this test procedure is to detail a standard method to assess the ability of a USB connector to withstand specified severity of mechanical shock. EIA 364-27
15	Solder ability	USB contact solder tails must pass 95% coverage after one hour steam aging as specified in Category 2.	1)Temperature of fused solder: 245 $\pm$ 5 $^{\circ}$ 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:245 $\pm$ 5 $^{\circ}$ C. 3) Dipping time: 10 $\pm$ 1s Socket EIA 364-56
17	Thermal Shock	10 cycles - 55 $^{\circ}$ C and +85 $^{\circ}$ C. The USB connectors under test must be mated.	Test Condition I The object of this test is to determine the resistance of a USB connector to exposure at extremes of high and low temperatures and to the shock of alternate exposures to these extremes, simulating the worst case conditions for storage, transportation, and application. EIA 364-32



TEST ITEM		REQUIREMENT	PROCEDURE
18	Steady State Humidity	168 hours minimum (seven complete cycles). The USB connectors under test must be tested in accordance with EIA 364-31.	Test Condition A Method III The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in USB connectors as they are influenced by the effects of high humidity and heat. EIA 364-31
19	Temperature Life (Heat Aging)	Must meet the minimum requirements specified by the most current version of Chapter 6 of the USB Specification and must be free of cosmetic and/or mechanical imperfections that will prevent normal use.	Test Condition 4 - Method A.The object of this test procedure is to detail a standard method to assess the ability of a USB connector to withstand +85°C± 2 temperatures without applied voltage for 500 hours EIA 364-17
20	Salt Spray	Visual Inspection-No physical damageLLCR-50 mΩ 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。

審核：皮洪斌

制定：何星



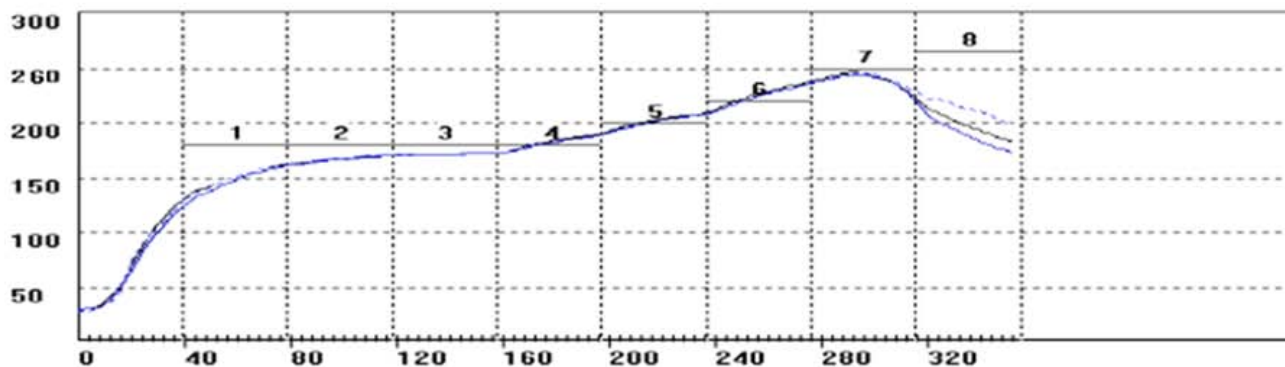
波峰焊 曲线图

运输速度: 60 CM/Min
测试线: 曲线1 ——— 曲线2 - - - - 曲线3 - - - -

测试时长: 352 Sec

文件名: 244.wdx

测试者:



超出指定温度值的时间	超出 150 °C	超出 180 °C	超出 220 °C	超出 230 °C
曲线1: [Sec]	296	184	72	48
曲线2: [Sec]	296	180	76	52
曲线3: [Sec]	292	168	64	44

两个温度值之间的时间	50	100	150	180	220	230
曲线1: [Sec]	8.0	32.0	112.0	108.0	24.0	
曲线2: [Sec]	8.0	32.0	116.0	100.0	24.0	
曲线3: [Sec]	16.0	32.0	120.0	104.0	20.0	

最高温度[°C]:	曲线1: 260.00	曲线2: 259.38	曲线3: 258.88
最大斜率[°C/Sec]:	曲线1: 5.50	曲线2: 7.09	曲线3: 4.25
最小斜率[°C/Sec]:	曲线1: -1.97	曲线2: -1.59	曲线3: -3.31

时刻点	1	2	3	4	5	6
时间:	0.0	0.0	0.0	0.0	0.0	0.0
曲线1 温度:	0.00	0.00	0.00	0.00	0.00	0.00
曲线2 温度:	0.00	0.00	0.00	0.00	0.00	0.00
曲线3 温度:	0.00	0.00	0.00	0.00	0.00	0.00

单位: 温度 °C 时间 Sec



深圳市华联威电子科技有限公司
SHENZHENHUALIANWEIELECTRONICS CO., LTD.

測試報告

TEST REPORT

產品名稱 Part Name	USB AF 90度 双层 全包PBT黑色	測試日期 Date of Testing	2021.11.19- 2021.11.20	報告編號 Report NO.	MD20211120-01
產品型號 Part Name	U221-9321-G21017	樣品數量 Quantity	5PCS	測試環境 Measuring Environment	濕度Temp:18~21℃ 相對濕度R.H.:49%~57%

一.電性測試 ELECTRICAL 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	Contact resistance	Test current:100mA max	DIGITAL MICRO-OHMMETER	30 mΩ Max	18.36 mΩ	17.55 mΩ	18.29 mΩ	16.72 mΩ	16.18 mΩ	P	
2	Insulation resistance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	1000 MΩ Min	Pass	Pass	Pass	Pass	Pass	P	
3	Dielectric withstand voltage	Test voltage:500VAC Cut-off current:0.5mA Operation stated:1 min	BREAKDOWN TESTER	No discharge or flashover occur	Pass	Pass	Pass	Pass	Pass	P	

二.機械特性測試 MECHANICAL 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	Durability test	Rate:200cycles/hour Total: 1500cycles	LIFE TESTER FOR CONNECTOR	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Mating Force	35 Newtons maximum at a maximum rare of 12.5mm(0.492") per minute	Insertion force testing machine	35N max	Pass	Pass	Pass	Pass	Pass	P	
3	Un-Mating Force	10 Newtons minimum at a maximum rare of 12.5mm(0.492") per minute	Insertion force testing machine	10N min	Pass	Pass	Pass	Pass	Pass	P	

三.環境特性測試 ENVIRONMENTAL 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	Humidity-Temperature cycle	Temperature: 40±2℃ Humidity: 90~95% Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Heat test	Temperature: 70±2℃ Duration:168H	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

3	Cold test	Temperature: -25±3℃ Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
4	Temperature cycling test	Temperature: 70~-25℃ 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℃ Concentration:5±1 % Duration:12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	P	
2	Resistance to soldering heat test	Temperature: 245±5℃ Duration:10±1sec	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Solder ability test	Temperature: 245±5℃ Duration:5±0.5 sec	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area ≥95%	Pass	Pass	Pass	Pass	Pass	P	
判 定 Result		■ 合格 (ACCEPT) □ 不合格 (REJECT)									

審核(Approver): 汪志根

測試(Tester): 陈晓宇

HLW 深圳市华联威电子科技有限公司

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
 2021年11月22日 版次:A1

料號	U221-9321-G21017	制令單號	/		送檢單位	工程組	首件製作者	裝配					
品名	USB AF 双层全包黑铁	客戶代號	/		批 量	/	送檢時間	/					
				數 量	5PCS	確認時間							
抽樣標準		☒ 單次 ☐ 雙次			抽樣數	AQL	CRI:0	MAJ:0.4					
MIL-STD-105E(II)		☒ 正常 ☐ 加嚴 ☐ 減量			(5PCS)	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				
尺寸 測 量	16.90±0.30	D	17.10	17.07	17.08	17.12	17.10	✓					
	15.30±0.30	D	15.25	15.26	15.27	15.25	15.26	✓					
	12.80±0.30	D	12.73	12.75	12.76	12.75	12.74	✓					
	5.20±0.20	D	5.26	5.25	5.23	5.24	5.26	✓					
	3.00±0.30	D	3.26	3.24	3.25	3.24	3.25	✓					
	4.60±0.30	D	4.40	4.42	4.43	4.45	4.42	✓					
	15.60±0.30	D	15.58	15.56	15.55	15.57	15.56	✓					
	16.75±0.30	D	16.62	16.70	16.65	16.70	16.67	✓					
	9.68±0.30	D	9.88	9.86	9.85	9.84	9.85	✓					
	5.68±0.30	D	5.58	5.60	5.57	5.56	5.58	✓					

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: ☒合格Accept
 ☐退貨Reject
 ☐特采Waive
 ☐挑選Sort

核 准	汪志根	審 核	刘联英	檢驗員	但芬
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保存期限:三年
 保存部門:品保部
 QR-M-003



电镀报告表

品名:USB AF 双层全包(端子)					
电镀规格:Ni40u", Sn40u"MIN, Au G/Fu"	日期:2021/08/23	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	40u"MIN	58.2u"	OK	2021/8/23	13:50:12
2	40u"MIN	60.7u"	OK	2021/8/23	13:50:14
3	40u"MIN	55.4u"	OK	2021/8/23	13:50:16
4	40u"MIN	61.5u"	OK	2021/8/23	13:50:18
2、表层电镀测试(Sn)					
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2	40u"MIN	42.4u"	OK	2021/8/23	14:10:38
3	40u"MIN	46.7u"	OK	2021/8/23	14:10:40
4	40u"MIN	43.1u"	OK	2021/8/23	14:10:42
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	0.56u"	OK	2021/8/23	14:18:20
2	0.5u"MIN	0.58u"	OK	2021/8/23	14:18:22
3	0.5u"MIN	0.59u"	OK	2021/8/23	14:18:24
4	0.5u"MIN	0.57u"	OK	2021/8/23	14:18:26

核准:汪志根

审核:刘联英

检验员:但芬



深圳市华联威电子科技有限公司

电镀报告表

品名: USB AF 双层全包外壳			版次:A. 0		
电镀规格:Cu:40u"Ni:50u"MIN		日期:2021/9/12		页次:1/1	
厂商:金和源					
测试设备:CMI X-射线膜厚测试仪					
1、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	40u"min	45.3u"	OK	2021/9/12	19:55:05
2	40u"min	48.5u"	OK	2021/9/12	19:55:57
3	40u"min	44.2u"	OK	2021/9/12	19:56:48
4	40u"min	45.6u"	OK	2021/9/12	19:57:31
2、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	50u"min	57.3u"	OK	2021/9/12	19:58:12
2	50u"min	55.6u"	OK	2021/9/12	19:59:04
3	50u"min	56.2u"	OK	2021/9/12	20:01:44
4	50u"min	58.3u"	OK	2021/9/12	20:02:36

核准:汪志根

审核:刘联英

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-1216
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户	/	试验起始日期	2021年11月19日 20:00 时起
		DATE	2021年11月20日 08:00 时止
样品名称	USB AF 双层全包PBT黑铁	试验数量	5PCS
P/N	U221-9321-G21017	QTY	
试验条件 (TEST CONDDITION)			
1、盐水溶解 (SALT SOLUTION: 浓度50±10g/L, PH值6.5-7.2.			
2、试验室温度 (TEMP. IT THE SPRAY DHAMBR):35±1℃.			
3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): 35±1℃.			
4、 压力桶温度 (TEMP. OF SAR SUPPLIERY) : 47±1℃.			
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±0.01Kg/cm ² .			
7、 样品放置位置 (SPECIMEN SUPPORTED ANGLE) : 尼龙绳吊挂70° -90° .			
8、 喷雾收集量 (COLLECT RATE OF SALT SOL' N) 1-2mL/(8 cm ² 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:汪志根

审核: 刘联英

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增加级原料 PBT 不防火加纤 20%黑色，由以下物质组成：

物品名称：PBT 不防火加纤黑色 20%

组成物质：PBT 环保树脂	60-70%
玻纤	20-25%
增韧剂	7-9%
润滑剂	0.1%
抗氧剂	0.1%
偶联剂	0.5%
其它	0.3%
黑色母	1-2%

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: _____				产品名称: _____ SPCC-SD											
检验标准SPECIFICATION: JIS G 3141				检验情况: _____ 合格											
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 %	AI %	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

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

聯系電話:0755-28111847
傳真: 0755-28110077

