達而特企業股份有限公司

Jump Wire RESISTORS DATE:04/11/18

1.適用範圍(SCOPE OF APPLICATION):

本標準書適用於本公司所生產之鍍錫跳線.做爲買方購買及收貨檢查之依據.

This standard shall be provided for Tinned Copper Wire manufactured by our company.The customer also can use it as inspection for buying and receiving the Tinned Copper Wire.

2.品質(QUALITY):

2.1 此鍍錫跳線之特性是依據 JIS-C3102 鍍錫用軟線規定.

The wire shall be annealed copper wire specified by JIS-C3102.

2.2 鍍在導體上的錫是純錫.

The tin plated on the conductors is pure tin.

3.特性(CHARACTERISTICS):

項目(ITEM)	標準(STANDARDIZATION)
外觀 VIOUAL INSPECTION	無刮傷、露銅、焊錫脫落、表面錫粒等現象 1).There shall be no flows. 2).The surface shall be uniformly lustrous hue. 3).The surface shall be free from thick
線徑(mm) DIMENSION	規格值±0.02mm SIZE±0.02mm
鍍層厚鍍(um) COATING THICKNESS	3～7um 3～7um
伸長率(%) ELONGATION	1、軟線:22 以上 2、半硬線:15～～22 3、硬線 8 以下 1).Soft wire:22%UP 2).Semi-rigid wire:15%-22% 3).Hard-wire:8%down
抗張強度(kg/mm²) TENSIL STRENGTH	1. 軟線/半硬線:20～～28(含) 2. 硬線： 28(不含)～～45 1).Soft wire/Semi-rigid wire:20-28(include) 2).Hard-wire:28(except)-45
彎折性 BEND TEST	1. 0.60 以下: 250g3 次以上 2. 0.60(含)以上: 500g3 次以上 1).Smaller than 0.60mm:250g3times up. 2).Larger than 0.60mm(include):500g3times up.
焊錫性 SOLDERING PROPERTY	使用助焊劑，3 秒鐘錫附著率在 95%以上 The wire shall capable being soldered more than 95% in 3 seconds with the use of flux.
耐熱性 HEATING PROOF TEST	95%錫耐熱 170±5℃/4H 無明顯變色現象 純錫耐熱 190±5℃/0.5H 無明顯變色現象 焊錫耐熱 175±5℃/2H 無明顯變色現象 1).95%TIN heating proof test:170+/-5℃ 4H good. 2).Pure TIN heating proof test:190+/-5℃ 0.5H good. 3)63/37TIN heating proof test:175+/-5℃ 2H good.

TABLE 1

4.檢驗方法(TESTING METHODS)：

4.1 外觀檢驗(VISUAL INSPECTION) :

4.1.1 以目視對完成品表面進行觀察，看其表面有無露銅、刮傷、焊錫脫落、表面錫粒現象。

The visual inspection is using perception to inspect the Tinned Copper Wire. The important aspect of this inspection is the coated copper must free from:

1).Whether or not there is any flaw is checked.

2).Whether or not its surface has uniform lustrous hue be inspected.

3).Whether or not its surface free from thick.

4.2 線徑鍍層試驗(DIMENSION AND COATING THICKNESS TEST):

4.2.1 完成外徑(OVERAL DIAMETER):

用校驗合格且精確度爲 0.001mm 的螺旋測微器進行三點六面檢測，所測得之平均值則爲被

The measurement to the diameter of Tinned Copper Wire is using the external micrometer

測成品線之外徑.

(0. 001mm)or its equivalents.The test piece of about 10cm long shall be taken and the OD of the wire shall be measured at 3 points.Each point shall be measured 2 times

4.2.2 鍍層厚度(THICKNESS OF SOLDER COATED WIRE):

將鍍錫跳線放在剝錫劑中浸泡，在看見紅銅露出時取出.擦干之後在錫被除去之導體線上測

After the 3 points of wire be measured,dip the test piece into nitric acid for about

量其外徑.

5. minutes,the diameter of core wire shall be measured.One half of the two measurements will give the thickness of solder coated wire.

4.2.3 鍍錫厚度之計算方法(CALCULATION FOR THICKNESS OF SOLDER COATED WIRE):

完成外徑減去裸銅線外徑除以 2 即可.

$$\text{鍍層(Thickness of solder coated wire)} = \frac{\text{完成外徑(Overal diameter)-裸銅線外徑(Core diameter)}}{2}$$

4.3 抗張強度、伸長率試驗(TEST OF TENSILE STRENGTH AND ELONGATION):

In the tensile test, the tensile strength and elongation shall be measured by using the schopp-

用原標距爲 25cm 拉力試驗機做下列各項試驗.

er's tensile strength tester as follows:

4.3.1 試驗時線材以標點 25cm 做試驗段,若在 25cm 以外拉斷,則此試驗無效.

The guage length of the test piece shall be 25cm.If the test piece cut inside of guage point, thus indicating as a failure to meet the requirements.The test regarded as unsatisfaction.

4.3.2 試驗時以標點 25cm 做試驗段,若在兩端的支撐點拉斷,則此試驗無效.

If the test piece cut at supporting points during the tensile strength test,such the test is re-garded as a failure.

4.3.3 抗張強度之計算公式(CALCULATION FOR TENSILE STRENGTH):

$$\text{抗張強度(Tensile strength)(Kg/mm}^2\text{)} = \frac{\text{抗張力(Tensile reading) (Kg)}}{\text{半徑(Radius)}^2\text{*3.1416(mm}^2\text{)}}$$

4.3.4 伸長率計算公式爲(CALCULATION FOR ELONGATION IS AS FOLLOW)

$$\text{伸長率(Elongation)(\%)} = \frac{\text{拉伸后長度(Length A elongation)-拉伸前長度(Length B elongation)}}{\text{拉伸前長度(Length B elongation)}} \times 100\%$$

4.4 彎折試驗(BEND TEST):

4.4.1 取約 20cm 長度之鍍錫銅線,(如圖一所示)將一端固定於彎折試驗機,另一端依據
In conducting the repeated bending test , 20cm long test piece will be taken place on repe-
表 2 規定加荷重.
ated bending tester shown in figure 1.

4.4.2 將固定於試驗機之鍍錫銅線,做左右 90 度之往返彎折,至斷線爲止,計算
With one of the test piece immovably held,the test piece shall be repeated bent 90°to rig-
斷線時之彎折次數,次數之計算方法是以左右往復一回爲一次,如圖一所示.
ht and left alternately at the point where it held the load listed in table 2.

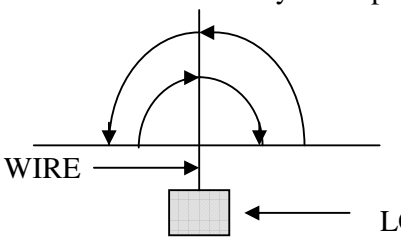


FIGURE 1

線徑(DIAMETER)	荷重(LOAD)
0.60mm down	250g/3times
0.60mm(include) up	500g/3times

TABLE 2

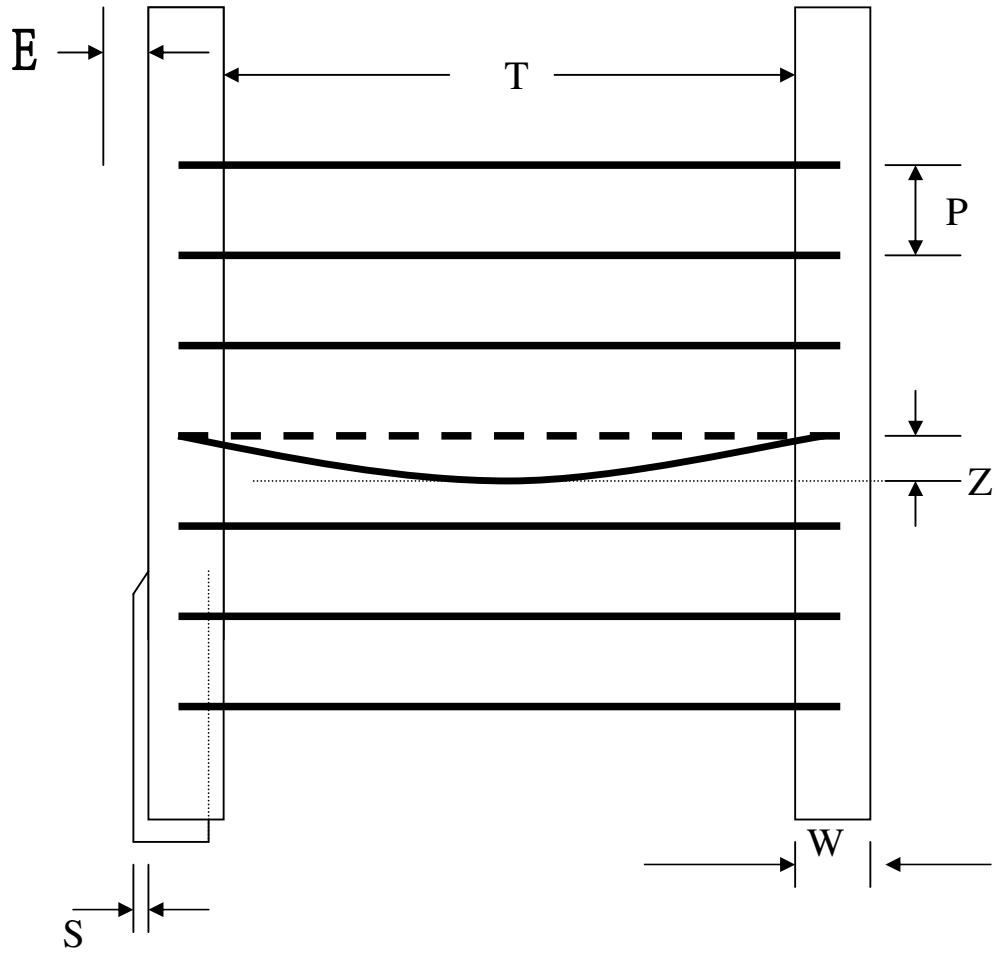
4.5 焊性試驗(SOLDERING TEST):

取約 15cm 長度之鍍錫銅線,做成卷曲狀,置於 235±5℃之焊錫爐中浸入 3cm 約 3 秒鐘后
In conducting the soldering test, a test piece of about 15cm long shall be taken and the length of
取出,浸漬過的表面必須覆蓋一層光滑明亮的焊料層,只允許有少量分布的諸如針孔，
about 3cm taken from this test piece is dipped for 3 seconds in the solder which is held at 235
不潤濕或弱潤濕區域之類的缺陷,其缺陷不應集中一塊,且缺陷面積小于浸錫面積的 5%
+/-5℃,To see whether or not it is uniformly and completely soldered with the use of flux

4.6 耐熱試驗(HEATINHG PROOF TEST):

取部分鍍錫銅線,置於烤箱內依表一所示進行烘烤,再取出進行外觀檢查。
Take part of the Tinned Copper Wire and test it in the thermostat accroding to table 1
以上之檢驗項目,可依據購買者及製造者雙方協議,增加或減少檢驗項目
The above inspection item can be negociated by the buyers and manufacturers,increase or decre-
其抽樣依 MIL-STD-105E 檢驗水準 S-4 級 AQL＝1.5 進行抽樣.
ase the inspection planning item accroding to MIL--STD--105E,S-4grade,AQL＝1.5.

5.Taping Dimensions(編帶尺寸)



TYPE	T	P±0.5	W±0.5	E MAX	Z MAX	S MAX
T26	26±1.5	5	6	0	1・2	0・8
T52	52±1.5	5	6	0	1・5	0・8