

Engineering specification of LV GU PVC Electric Tape

低压通用 PVC 电工胶带

1. Scope

This engineering specification is a vendor quality control specification for general-use low voltage Electric tape rating up to 600V & rating 80°C according to UL510:2022.

此技术规范是针对电压 600V 和 80°C (UL510: 2022) 的通用低压电工胶带的供应商质量控制规范。

Table 1

TCPN	DESCRIPTION
2464037-1	ETP-PVC-LVGU-18-18-5/BK(S300)
2464037-2	ETP-PVC-LVGU-18-18-10/BK(S200)
2464037-3	ETP-PVC-LVGU-18-18-20/BK(S120)
2464037-4	ETP-PVC-LVGU-18-18-5/RD(S300)
2464037-5	ETP-PVC-LVGU-18-18-10/RD(S200)
2464037-6	ETP-PVC-LVGU-18-18-20/RD(S120)
2464037-7	ETP-PVC-LVGU-18-18-5/GN(S300)
2464037-8	ETP-PVC-LVGU-18-18-10/GN(S200)
2464037-9	ETP-PVC-LVGU-18-18-20/GN(S120)
1-2464037-0	ETP-PVC-LVGU-18-18-5/YL(S300)
1-2464037-1	ETP-PVC-LVGU-18-18-10/YL(S200)
1-2464037-2	ETP-PVC-LVGU-18-18-20/YL(S120)
1-2464037-3	ETP-PVC-LVGU-18-18-5/BU(S300)
1-2464037-4	ETP-PVC-LVGU-18-18-10/BU(S200)
1-2464037-5	ETP-PVC-LVGU-18-18-20/BU(S120)
1-2464037-6	ETP-PVC-LVGU-18-18-20/WH(S200)
1-2464037-7	ETP-PVC-LVGU-18-18-20/YG(S200)
1-2464037-8	ETP-PVC-LVGU-18-18-20-RB*(S200)

*RB means a kitting including 10 pieces of tape in one package as attached picture(3 BK+2RD+2WH+2BU+1YG).



Pic. 1

2. APPLICABLE DOCUMENTS适用文件

2.1 Tyco Purchase Order泰科采购订单.

2.1.1 Items to be specified on purchase order will include, at a minimum, the part number, description, the purchase specification, and its revision level. 采购订单上指定的项目至少包括零件号、描述、采购规格书及其修订版本。

2.2 Tyco Spec. #TEC-1005, Quality Requirements for Suppliers.

满足泰科供应商质量要求规格 #TEC-1005

3. Requirement of properties/性能要求

3.1 Rubber-resin based adhesive coated PVC tape. 橡胶-增粘树脂胶涂层的PVC胶带

- a) Easily stretchable and highly elastic tape which can substantially retract when elongated as much as 30% at room temperature. 易拉伸和高弹性，拉伸至30%，拉力取出后常温可以大部分恢复到原来尺寸
- b) Pressure-sensitive adhesive: well-bonded, water-insoluble, non-corrosive, normally tacky when the tape is unwound from rolls or removed from surfaces to which temporarily applied and can be handled without transfer of adhesive material to the fingers. 压敏胶背胶:粘接良好，不溶于水，无腐蚀性，长期保持粘性，使用时背胶不迁移到短暂接触的物品表面。

3.2 Material safety 材料安全性

This product does not exceed the maximum concentration values (MCVs) set under EU Directive 2002/95/EC (RoHS1.0). This means that each of the homogenous materials within this product does not exceed the following MCVs: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; and (b) 0.01% (by weight) for cadmium. 产品符合RoHS指令2002/95/EC(RoHs1.0) 铅、汞、六价铬、多溴联苯和多溴联苯醚含量不超过0.1%(重量)，镉不超过0.01%(重量)。

3.3 80°C stable Color: Black, Blue (PANTONE 2945C), Yellow (PANTONE115U), Red (PANTONE2347U), Green (PANTONE3405U), white (PANTONE 9003), Yellow-Green (116C-3415C). 80°C稳定的颜色: 黑色、蓝色 (PANTONE 2945C)、黄色 (PANTONE115U)、红色 (PANTONE2347U)、绿色 (PANTONE3405U)、白色 (PANTONE 9003), 黄绿色 (116C-3415C)。

3.4 Opaque with matte surface: roughness around 6.3-12µm. 不透明雾面: 粗糙度大约6.3-12µm.

3.5 No bubbles between layers and cutting section need to be smooth and clean without any fine PVC

line fiber. 胶带层之间无气泡，切割面平整干净，无PVC毛刺（线）。

3.6 0.18mm thickness, 18mm width, high dielectric strength, resistant to sun, water, oil, acids, alkaline, corrosive chemicals, conformable, flexible, & abrasion resistant. Meets the following criterions.

厚度 0.18mm，宽度18mm，高介电强度，耐各种气候、水、油、酸、碱、腐蚀性化学品，弹性、柔韧、耐磨。符合以下标准。

Property	Spec Value	TEST METHOD	Test type
Thickness	0.18mm +0.01/-0.01	ASTM D 1000	COA test
Width	18mm +0.50/-0.50	ASTM D 1000	COA test
Breaking Strength	>27.0 N/cm	ASTM D1000	COA test
Elongation	>200%	ASTM D 1000	COA test
Adhesion to Steel	>1.8 N/cm	ASTM D1000	COA test
Adhesion to Backing	>1.8 N/cm	ASTM D1000	COA test
Flammability	PASS	UL510 2022, 5	Type test
Exposure to Heat Test	PASS	UL510 2022,12	Type test
Exposure to Cold Test	PASS	UL510 2022,13	Type test
Dielectric Strength	>40 KV/mm	UL510 2022,22	COA test
Insulation Resistance	>1x10 ¹² Ω	ASTM D1000	Type test
Telescoping	<4mm	65°C 3days(50°C 3days for yellow-green color)	COA test
Oil Bleeding	No oil on tape's cutting section surface	65°C 10days	Type test
Shelf life	No telescope/glue bleeding> 24 months	Storage at 10°C to 27°C &<75% relative humidity	Type Test
性能指标	规格值	测试方法	测试类型
厚度	0.18mm +0.01/-0.01	ASTM D 1000	出厂检验
宽度	18mm +0.50/-0.50	ASTM D 1000	出厂检验
断裂强度	>27.0 N/cm	ASTM D1000	出厂检验
伸长率	>200%	ASTM D 1000	出厂检验
对钢的附着强度	>1.8 牛顿/厘米	ASTM D1000	出厂检验
对背衬膜的附着强度	>1.8 牛顿/厘米	ASTM D1000	出厂检验
阻燃性	通过	UL510 2022, 5	鉴定试验
耐热性	通过	UL510 2022,12	鉴定试验
耐低温性	通过	UL510 2022,13	鉴定试验
介电强度	>40 千伏特/毫米	UL510 2022,22	出厂检验
绝缘电阻	>1x10 ¹² 欧姆	ASTM D1000	鉴定试验
冒卷高度	<4 毫米	65°C 3 天 (50°C 3 天黄绿色)	出厂检验
析油性	切割面无油滴/珠	65°C 10 天	
保质期	> 24 个月不冒卷，不溢胶	存储条件 10-27° C 相对湿度<75%	鉴定试验

3.7 Length grade are 5meter (range 5.0-5.5meter), 10 meters (range 10.0-10.5meter) and 20 meters (range 20.0-20.5meter). 长度规格: 5米(5.0-5.5米)、10米规格（10.0-10.5米）、20米规格（20.0-20.5米）。

3.8 Vendor to notify TE Connectivity of any changes to the material formulation. 供应商将通知TE Connectivity材料配方的任何变更。

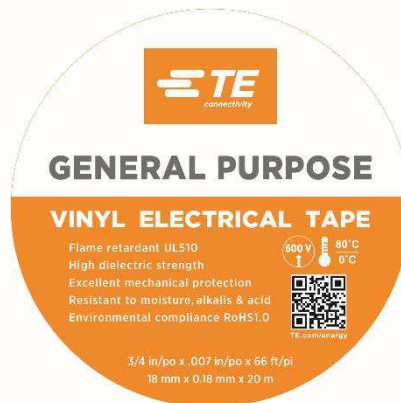
4. Packaging & Labeling包装和标签:

4.1 See below link for special labeling and packaging details有关具体标签和包装的详细信息，请参见以下

链接: <http://tycoelectronics.engdev.csl1.force.com/tepart/Displayparts>

4.2 Each tape must contain paper label as exhibit packed by clear easy tear cellophane (as below Pic 1) .

每卷胶带包含易撕透明塑料膜包覆的标签（如下Pic. 1）。



Pic. 2

4.3 Each carton must contain the following每个纸箱必须包含以下内容:

4.3.1 TE Part# TE零件号

4.3.2 TE Description产品描述

4.3.3 Package material: easy tear cellophane 包装材料: 透明易撕塑料膜

4.3.4 Package size:10 by PE film. 10卷一条, 聚乙烯薄膜包覆

5. Quality 质保

Certificate of Conformance and test report to specification corresponding to each lot number shall be provided with each shipment and emailed to: TE Kunshan Quality team.

每个批号对应的规格合格证书和测试报告应随每批货物一起提供, 并通过电子邮件发送至: TE 昆山质量团队。

6. Reference参考:

6.1 ASTM D1000: Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications¹

6.2 UL510 2022: Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape covers thermoplastic and rubber tapes for use as electrical insulation at not more than 600 V and at 80°C (176°F) and lower temperatures on joints and splices in wires and cables in accordance with the National Electrical Code ANSI/NFPA 70.

7. Updating to version 2

7.1 Add white color/yellow green tape into the PES as market demanding

7.2 Add the package label printing demonstration.

7.3 Extended the PVC tape color to white, yellow -green & rainbow.