



EUROCONNEX

CERTIFICATION

Products Name: Halogen Free Heat Shrinkable Tube

Products Size: $\Phi 0.8-\Phi 40.0$

Products Type: Halogen Free Heat Shrinkable Tube Type
(125°C UL CUL)

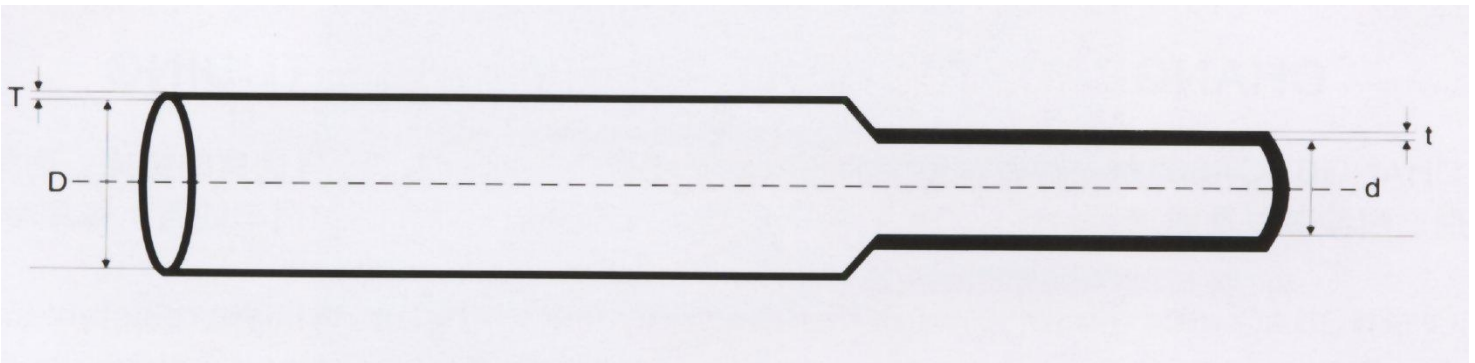
Approved by	Received by	Approved by	Charged by
		 	杨勇
Date	Date	Date	Date
		2022-10-19	2022-10-19

1. Specifications

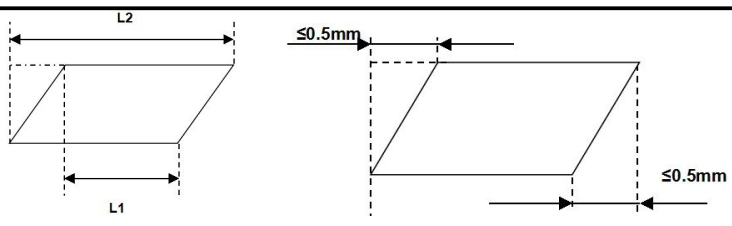
Shrink Temperature (°C)		120-150
Temperature Range (°C)		125
Radial Shrinking Ratio (%)		≥50
Longitudinal Shrinking Ratio (%)		≤±5
Tensile Strength (MPa)		≥10.4
Ultimate Elongation (%)		≥200
Aging in circulating-air oven		(158±1.0) °C, 7days
After aging	Tensile Strength (MPa)	≥7.3
	Ultimate Elongation (%)	≥100
Dielectric Voltage Withstand (V)		600
Volume Resistivity (Ω·cm)		10 ¹⁴
Dielectric voltage (V), AC		AC2500V-60S, no breakdown
Dielectric Strength (kV/mm)		≥15
Flammability		VW-1
Concentricity (%)		≥65
Heat shock		(250±1) °C, 4 hours at 250.0 ± 1.0 °C, No cracking
Cold bend		(-30±1) °C, 1 hour at -30 ± 1.0 °C, No cracking
Corrosion of the bare copper		[(95±5)%, 23°C, 24 hours] + [(158±1.0) °C, 7days], No cracking, No fade

2. Heat-shrinkable Tube Standard Sizes

REF	(mm) As Supplied		(mm) After Recovery		Packing Length (Meter/Roll)
	(D) Inside diameter	(T) Wall-thickness	(d) Inside diameter	(t) Wall-thickness	
TR0012	1.2+0.2/-0.1	0.18±0.05	≤0.45	0.34±0.08	300
TR0016	2.1+0.2/-0.1	0.18±0.05	≤0.80	0.36±0.08	400
TR0024	2.5+0.2/-0.1	0.20±0.05	≤1.00	0.42±0.08	400
TR0032	3.5+0.2/-0.1	0.22±0.05	≤1.50	0.46±0.08	400
TR0048	5.0+0.2/-0.1	0.23±0.05	≤2.25	0.46±0.08	100
TR0064	6.5+0.2/-0.1	0.25±0.05	≤3.00	0.55±0.10	100
TR0095	9.5+0.2/-0.1	0.28±0.06	≤4.50	0.58±0.10	100
TR0127	12.5+0.3/-0.1	0.28±0.06	≤6.00	0.58±0.10	100
TR0191	20.6+0.5/-0.2	0.32±0.08	≤10.0	0.68±0.10	100
TR0254	25.6+0.7/-0.2	0.40±0.10	≤12.5	0.78±0.12	50
TR0381	41.0±0.5	0.50±0.12	≤20.0	1.00±0.15	25



3. Appearance inspection standards

Flaw	Test Standard	determinant														
Number of joints	Each disc is allowed to have no more than three joints, and the joints are marked with green tape.	OK														
Smudge	The number of dots is less than 5, and the mass stain is 3-6 mm, each plate is allowed 5.	OK														
Poor printing	The naked eye can recognize the printed content, without lack of words, continuous words, no obvious duplication. No more than 1 ink point per meter, ink point diameter less than 1 mm, acceptable.	OK														
Poor Surface appearance	Rough surface, slight scratch, dark line and so on are judged to be qualified without obvious roughness, scratch and dark line after casing shrinkage without affecting performance. Surface particles are not more than 1 per meter and the diameter of particles is less than 1 mm.	OK														
Flat tube or twist	slight flat tube or twist that meets the requirement of inner diameter and does not affect appearance and performance is qualified; a serious flat tube or twist that affects inner diameter and performance is unqualified.	OK/NG														
Poor cutting	The length of a few cutting tubes varies, and the proportion is controlled within one thousandth of the pipe to be qualified.	OK														
Cutting length	<table border="1"> <thead> <tr> <th>Length (mm)</th> <th>$L \leq 100$</th> <th>$100 < L \leq 250$</th> <th>$250 < L \leq 350$</th> <th>$350 < L \leq 400$</th> <th>$400 < L \leq 500$</th> <th>$500 < L \leq 1595$</th> </tr> </thead> <tbody> <tr> <td>Tolerance (mm)</td> <td>± 1</td> <td>+2</td> <td>+3/-1</td> <td>+4/-1</td> <td>+5/-1</td> <td>+6</td> </tr> </tbody> </table>	Length (mm)	$L \leq 100$	$100 < L \leq 250$	$250 < L \leq 350$	$350 < L \leq 400$	$400 < L \leq 500$	$500 < L \leq 1595$	Tolerance (mm)	± 1	+2	+3/-1	+4/-1	+5/-1	+6	OK
Length (mm)	$L \leq 100$	$100 < L \leq 250$	$250 < L \leq 350$	$350 < L \leq 400$	$400 < L \leq 500$	$500 < L \leq 1595$										
Tolerance (mm)	± 1	+2	+3/-1	+4/-1	+5/-1	+6										
Pipe slant	 <p>1. For the casing including the casing below 7, the control shall be carried out according to Fig. 1, i.e. $L2-L1$ 1.6mm; For casing with specifications above 7, control shall be carried out according to Figure 2.</p>	OK														

4. Material certification

A. HEAT-SHRINKABLE TUBING (BLACK)

MATERIAL NAME			USE AIM	content	RAW MATERIAL MANUFACTURER NAME	CAS No.	Place of origin
name	abbreviation	molecular formula					
Ethylene vinyl acetate copolymer	EVA	$(\text{CH}_2-\text{CH}_2)_m$ $-(\text{CH}_2-\text{CH}-\text{COOCH}_3)_n$	MAIN RESIN	$\geq 49\%$	BASF-YPC	24937-78-8	NANJING
Magnesium hydroxide	MDH	$\text{Mg}(\text{OH})_2$	FLAME RETARDANT	40%	HUASHENG	1309-42-8	YIYANG
Red phosphorus	Red Phosphorus	P	FLAME RETARDANT	5%	HONGTAIJI	7723-14-0	SHENZHEN
Pentaerythritol tetrakis	Antioxidants 1010	$\text{C}_{73}\text{H}_{108}\text{O}_{12}$	ANTIOXIDANT	1%	SHENGSHIDA	6683-19-8	SHENZHEN
Carbon Black	pigment	C	COLORANT	4%	HENGCAI	1333-86-4	DONGGUAN
ink	INK	---	INKER	$\leq 1\%$	XINDA	--	SHANGHAI

B. HEAT-SHRINKABLE TUBING (Multicolor):

MATERIAL NAME			USE AIM	content	RAW MATERIAL MANUFACTURER NAME	CAS No.	Place of origin
name	abbreviation	molecular formula					
Ethylene vinyl acetate copolymer	EVA	$(\text{CH}_2-\text{CH}_2)_m$ $-(\text{CH}_2-\text{CH}-\text{COOCH}_3)_n$	MAIN RESIN	$\geq 49\%$	BASF-YPC	24937-78-8	NANJING
Magnesium hydroxide	ATH	$\text{Al}(\text{OH})_3$	FLAME RETARDANT	30%	HUASHENG	21645-51-2	YIYANG
Red phosphorus	NM	$\text{N}_m\text{H}_x\text{O}_y$	FLAME RETARDANT	15%	HONGTAIJI	37640-57-6	SHENZHEN
Pentaerythritol tetrakis	Antioxidants 1010	$\text{C}_{73}\text{H}_{108}\text{O}_{12}$	ANTIOXIDANT	1%	SHENGSHIDA	6683-19-8	SHENZHEN
Carbon Black	pigment	Toner+EVA+filler	COLORANT	4%	HENGCAI	--	DONGGUAN
ink	--	---	INKER	$\leq 1\%$	XINDA	--	SHANGHAI