

# TECHNICAL DATA



## Heat Shrinkable Insulating Tube Halogen-Free Product Code: 2S1

### P. LEO & CO LTD

P.O. Box 175 Fo Tan, Shatin, Hong Kong.  
Telephone : (852) 2604-8222 \* Facsimile : (852) 2693-2093  
E-mail : sales@pleo.com \* Web Site : http://www.pleo.com



**UL FILE #E176865**

### Safety Standard : UL224 VW-1, C-UL CSA C 22.2 OFT

**Product No. : 2S1@@-xx.x** (@ @ - represents color of the tube e.g. BK=Black WH=White YE=Yellow RD=Red GR=Green BL= Blue ; xx.x – represents expanded ID from 1mm x 50mm )

**Product Introduction :** **BC Tube** 2S1 Halogen Free Heat Shrinkable Tube is newly developed environmental-friendly flame retardant heat shrinkable tube, using specially designed formulation of high polymers, through cross-link by electric accelerator and continuous expansion. The properties of environment-friendly, flexibility flame retardant, quick shrink and stable performance make them widely used in the field of electronics, communication, automobile, and widely applied for connecting or end-handing, electric wire, insulating and harness of electric wire corrosion and rust –proof of metallic rods or tubes, antenna protection and marking for other products.

#### Characteristics:

1. Do not contain four heavy metal elements and four halogen elements. Pass in SGS test.
2. Do not contain organic stannum compound. Asbestos, Azo Compounds and Formaldehyde.
3. Operating Temperature: -55°C ~ 125°C
4. Shrinking Temperature: Start at 70°C, and full recovery at 110°C (for thin wall), longitudinal shrink ration: ≤8%
5. Flexible, flame retardant
6. The Available sizes from  $\varnothing 0.6 \sim \varnothing 180\text{mm}$ , can produce upon customer's special requirement.
7. Easy for use oven or heating gun and it will shrink.
8. Meet Sony and RoHS environmental standard
9. Available in standard colors: Black, White, Red, Yellow, Green, Blue are the basic colors. Other colors are not kept as stock. Need to produce.

#### Property :

		Property	Test Method	Typical Performance
Physical property	Tensile Strength ( MPa )		ASTM D2671	≥10.4
	Elongation (%)		ASTM D2671	≥200
	Tensile Strength after heat aging (Mpa)		UL224 158°C x 168hr	≥7.3
	Elongation after heat aging (%)		UL224 158°C x 168hr	≥100
	Heat shock resistance		UL224 250°C x 4hr	No dripping No cracking
Electrical property	Dielectric strength		IEC 243	≥15 KV/mm
	Pressure resistance	300V	UL224	1500V No cracking
		600V	UL224	2500V No cracking
Volume resistance (Ω.cm)		IEC 93	> 1 x 10 <sup>14</sup> Ω*cm	
Chemical property	Corrosion Action		UL224 158°C x 168hr	PASS
	Copper Compatibility		UL224 158°C x 168hr	PASS
	Flammability		UL224	VW-1

#### Important Notice to Purchase

All Statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace such quantity of the product of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury loss or damage direct or consequential arising out of the use of or the inability to use the product. Before using users shall determine the suitability of the product for their intended uses and users assume all risk and liability whatsoever in connection therewith.

No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of Seller and manufacturer.



Copyright © P.LEO 2013 Rev. 1

## Environmental Property

### Dimensions

SIZE		AS SUPPLIED	AFTER RECOVERY		STANDARD PACKAGE
Inch	mm	INTERNAL DIAMETER mm	INTERNAL DIAMETER MAX mm	WALL THICKNESS NOM mm	SPOOL LENGTH M/Spool
3/64	0.8	1.1±0.2	0.50	0.22	200
1/16	1.0	1.5±0.2	0.65	0.28	200
	1.5	2.0±0.2	0.85	0.32	200
3/32	2.0	2.5±0.2	1.00	0.35	200
	2.5	3.0±0.2	1.30	0.38	200
1/8	3.0	3.5±0.2	1.50	0.40	200
	3.5	4.0±0.2	1.80	0.42	200
	4.0	4.5±0.2	2.00	0.45	200
3/16	4.5	5.0±0.2	2.30	0.50	200
	5.0	5.5±0.2	2.5	0.55	100
1/4	6.0	6.5±0.2	3.0	0.55	100
5/16	7.0	7.5±0.3	3.5	0.55	100
	8.0	8.5±0.3	4.0	0.60	100
3/8	9.0	9.5±0.3	4.5	0.60	100
	10.0	10.5±0.3	5.0	0.60	100
	11.0	11.5±0.3	5.5	0.60	100
1/2	12.0	12.5±0.3	6.0	0.60	100
	13.0	13.5±0.3	6.5	0.65	100
	14.0	14.5±0.3	7.0	0.65	100
5/8	15.0	15.5±0.4	7.5	0.70	100
	16.0	16.5±0.4	8.0	0.70	100
	17.0	17.5±0.4	8.5	0.70	100
3/4	18.0	19.0±0.5	9.0	0.80	100
	20.0	21.0±0.5	10.0	0.80	100
	22.0	23.0±0.5	11.0	0.80	100
1	25.0	26.0±0.5	12.5	0.90	50
	28.0	29.0±0.5	14.0	0.90	50
1-1/4	30.0	31.5±1.0	15.0	0.95	50
	35.0	36.5±1.0	17.5	1.00	50
1-1/2	40.0	41.5±1.0	20.0	1.00	50
	45.0	46.5±1.0	22.5	1.00	25
2	50.0	≥ 50	25.0	1.00	25
	60.0	≥ 60	31.0	1.30	25
	70.0	≥ 70	36.0	1.30	25
3	80.0	≥ 80	41.0	1.46	25
	90.0	≥ 90	46.0	1.46	25
4	100.0	≥ 100	51.0	1.46	25
5	120.0	≥ 120	61.0	1.56	25
6	150.0	≥ 150	76.0	1.56	25
7	180.0	≥ 180	91.0	1.56	25

**P. LEO** ® Pbobbin ® BCwire ® BCmica ® BCtube ® is P. Leo & Co., Ltd. registered trade mark

### Important Notice to Purchase

All Statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace such quantity of the product of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury loss or damage direct or consequential arising out of the use of or the inability to use the product. Before using users shall determine the suitability of the product for their intended uses and users assume all risk and liability whatsoever in connection therewith.

No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of Seller and manufacturer.



Copyright © P.LEO 2013 Rev. 1