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TECHNICAL DATA SHEET

FOR HEAT SHRINKABLE TUBING

SIZE RANGE: ϕ 0.6-100.0 MM | SHRINK RATIO: 2:1 / 3:1

1. MATERIAL DESCRIPTION

Heat shrink tube is a flame retardant tube. The main material is polyolefin. The specific composition complies with SONY-000259 and EU-RoHS standards, which restricts hazardous substances such as Pb, Cd, Hg, hexavalent chromium, PBB, PBDE.

2. APPLICATION

Halogen-free flame retardant heat shrinkable tube is composed of radiation crosslinked polyolefin materials. It is mainly used for insulation of joints, rust protection of solder joints, and mechanical wire harness protection. Widely used in electronics, automobiles, communications, ships, aircraft and other manufacturing industries.

3. PRODUCT CHARACTERISTICS

Characteristic	Description
Material	Crosslinked polyethylene hydrocarbon
Property	Flame retardant, soft, insulation, shrink at low temperature
Shrink ratio	2:1
Longitudinal shrinkage ratio	$\leq 5\%$
Minimum shrinkage temperature	90°C
End shrinkage temperature	$\geq 120^\circ\text{C}$
Operating temperature range	-40°C ~ 125°C
Voltage rating	600V / 300V
Flammability rating	VW-1, OFT

4. PERFORMANCE TEST DATA

Properties		Condition	Value
Physical Properties:	Tensile strength /抗张强度	/	≥10.4 Mpa
	Elongation/断裂伸长率	/	≥200%
	Tensile strength after aging/ 老化后抗张强度	158±1 °C, 168hr	≥70% of original
	Elongation after aging/老化 后断裂伸长率	-55°C, 4hr	≥100%
	Heat shock	200°C, 1hr	No cracking
	Cold bend	-30°C, 1hr	No cracking
Electrical Properties:	Dielectric Voltage withstand / 耐电压	60sec	≥2500V ≥10 Ω·cm Elongation >100% Pass
	Volume resistivity /体积电阻 率	/	≥1014Ω·cm
Chemical Properties:	Corrosion/铜腐蚀	158±1 °C, 168hr	No Corrosion
	Copper stability/ 铜稳定性	158±1 °C, 168hr	≥100%
	Flammability /阻燃性	/	VW-1, OFT
	Voltage rating/ 耐电压	/	600V / 300V
	Temperature rating/ 耐高温	/	125°C

5. STANDARD WALL HEAT SHRINK TUBE SIZES (600Volt)

Specification (mm)	Sizes before shrink (mm)		Sizes after shrink (mm)		Package (m/roll)
	ID	Wall thickness	ID	Wall thickness	
Φ0.6	0.8±0.2	0.10±0.08	≤0.35	0.26±0.06	200±2
Φ0.7	0.9±0.2	0.15±0.08	≤0.4	0.30±0.06	200±2
Φ0.8	1.3±0.2	0.15±0.08	≤0.45	0.33±0.06	200±2
Φ1.0	1.5±0.2	0.18±0.08	≤0.6	0.36±0.06	200±2
Φ1.5	2.0±0.2	0.20±0.08	≤0.8	0.40±0.08	200±2
Φ2.0	2.5±0.2	0.20±0.08	≤1.00	0.42±0.08	200±2
Φ2.5	3.0±0.2	0.22±0.08	≤1.25	0.42±0.08	200±2
Φ3.0	3.5±0.3	0.25±0.10	≤1.5	0.46±0.08	200±2
Φ3.5	4.0±0.3	0.25±0.10	≤1.75	0.46±0.08	200±2
Φ4.0	4.5±0.3	0.25±0.10	≤2.0	0.48±0.08	200±2

Φ4.5	5.0±0.3	0.25±0.10	≤2.25	0.50±0.10	200±2
Φ5.0	5.5±0.4	0.25±0.10	≤2.5	0.50±0.10	100±1
Φ6.0	6.5±0.4	0.28±0.12	≤3.0	0.56±0.10	100±1
Φ6.5	7.0±0.4	0.30±0.12	≤3.25	0.56±0.10	100±1
Φ7.0	7.5±0.4	0.30±0.12	≤3.5	0.58±0.10	100±1
Φ8.0	8.5±0.5	0.30±0.12	≤4.0	0.60±0.10	100±1
Φ9.0	9.5±0.5	0.30±0.12	≤4.5	0.60±0.10	100±1
Φ10	10.5±0.5	0.30±0.12	≤5.0	0.60±0.10	100±1
Φ11	11.5±0.5	0.30±0.12	≤5.5	0.60±0.10	100±1
Φ12	12.5±0.5	0.30±0.12	≤6.0	0.60±0.10	100±1
Φ13	13.5±0.5	0.36±0.12	≤6.5	0.65±0.12	100±1
Φ14	14.5±0.5	0.36±0.12	≤7.0	0.65±0.12	100±1
Φ15	15.5±0.5	0.36±0.12	≤7.5	0.65±0.12	100±1
Φ16	16.5±0.5	0.36±0.12	≤8.0	0.65±0.12	50±0.5
Φ17	17.5±0.5	0.36±0.12	≤8.5	0.65±0.12	50±0.5
Φ18	18.7±0.6	0.40±0.15	≤9.0	0.70±0.12	50±0.5
Φ20	20.6±0.6	0.40±0.15	≤10.0	0.75±0.15	50±0.5
Φ22	22.7±0.6	0.40±0.15	≤11.0	0.80±0.15	50±0.5
Φ25	25.5±0.7	0.40±0.15	≤12.5	0.90±0.15	50±0.5
Φ28	29.0±0.7	0.45±0.20	≤14.0	0.95±0.15	50±0.5
Φ30	31.0±0.7	0.45±0.20	≤15.0	0.95±0.15	50±0.5
Φ35	36.0±1.0	0.50±0.22	≤17.5	1.00±0.20	50±0.5
Φ40	41.0±1.0	0.55±0.25	≤20.0	1.10±0.25	50±0.5
Φ45	46.0±1.0	0.55±0.25	≤22.5	1.10±0.25	50±0.5
Φ50	51.5±1.5	0.60±0.25	≤26.0	1.20±0.25	50±0.5
Φ55	≥55	0.60±0.25	≤28.0	1.20±0.25	50±0.5
Φ60	≥60	0.60±0.25	≤30.0	1.20±0.25	50±0.5
Φ70	≥70	0.70±0.30	≤35.0	1.45±0.25	50±0.5
Φ80	≥80	0.70±0.30	≤40.0	1.45±0.25	50±0.5
Φ95	≥95	0.70±0.30	≤45.0	1.45±0.25	50±0.5
Φ100	≥100	0.70±0.30	≤50.0	1.45±0.25	50±0.5

6. THIN WALL HEAT SHRINK TUBE SIZES (300Volt)

Specification (mm)	Sizes before shrink (mm)		Sizes after shrink (mm)		Package (m/roll)
	Min. ID	Max. ID	Max. ID	Wall thickness	
2.0/1.0	≥2.0	/	≤1.0	0.50±0.10	100
3.0/1.0	≥3.0	/	≤1.0	0.50±0.10	100
3.0/1.5	≥3.0	/	≤1.5	0.50±0.10	100
4.0/1.3	≥4.0	/	≤1.3	0.50±0.10	100
4.0/2.0	≥4.0	/	≤2.0	0.50±0.10	100
4.5/1.5	≥4.50	/	≤1.5	0.60±0.10	100
6.0/2.0	≥6.0	/	≤2.0	0.65±0.10	100
9.0/3.0	≥9.0	/	≤3.0	0.75±0.15	50
12.0/4.0	≥12.0	/	≤4.0	0.75±0.15	50
15.0/5.0	≥15.0	/	≤5.0	0.80±0.15	50
18.0/6.0	≥18.0	/	≤6.0	0.85±0.15	50
24.0/8.0	≥24.0	/	≤8.0	1.0±0.20	25
30.0/10.0	≥30.0	/	≤10.0	1.15±0.20	25
39.0/13.0	≥39.0	/	≤13.0	1.50±0.20	25
50.0/16.0	≥50.0	/	≤16.0	2.50±0.20	25
60.0/20.0	≥60.0	/	≤20.0	2.60±0.20	25
70.0/23.0	≥70.0	/	≤23.0	2.60±0.20	25
80.0/26.0	≥80.0	/	≤26.0	2.60±0.20	25
90.0/30.0	≥90.0	/	≤30.0	2.60±0.20	25
100.0/33.0	≥100.0	/	≤33.0	2.60±0.20	25

7. MATERIAL COMPOSITION - BLACK HEAT SHRINK TUBE

Chinese Name	English Name	Molecular Formula	Purpose	Content	CAS No.
乙烯醋酸乙烯酯	EVA	$(\text{CH}_2-\text{CH}_2)$ $m-(\text{CH}_2-\text{CH}-$	Main material	0.5	24937-78-8
氢氧化镁	Magnesium Hydrate (MH)	$\text{Mg}(\text{OH})_2$	Fire retardant	0.4	1309-42-8
阻燃剂	FR-P (MP)	$\text{P}_m\text{N}_n\text{H}_x\text{O}_y$	Fire retardant	0.06	7723-14-0
炭黑	Carbon Black	C	Colorant	0.04	1333-86-4

8. MATERIAL COMPOSITION - COLORED HEAT SHRINK TUBE

Chinese Name	English Name	Molecular Formula	Purpose	Content	CAS No.
乙烯醋酸乙烯酯	EVA	$(\text{CH}_2-\text{CH}_2)$ $m-(\text{CH}_2-\text{CH}-$	Main material	0.46	24937-78-7
氢氧化镁	Aluminum Trihydrate (ATH)	$\text{Mg}(\text{OH})_2$	Fire retardant	0.35	1309-42-8
阻燃剂	FR-P (NM)	$\text{N}_m\text{H}_x\text{O}_y$	Fire retardant	0.14	
四季戊醇酯	Anti-oxide	$\text{C}_{73}\text{H}_{108}\text{O}_{12}$	Antioxidant	0.01	
颜料	Pigment	-	Colorant	0.04	