

## Thermal Transfer Printable Heat Shrink Tube (LS)

### PRODUCT SPECIFICATIONS:

#### Description:

Print Technology	Thermal Transfer
Material	Cross linked polyolefin (3:1 shrink ratio)
Colors	White
Shrink temperature	Min. 90 degrees C
Print operating temperature*1	5 to 35 degrees C
Service Temperature	From -55 to 135 degrees C
Storage Condition	From 10 to 25 degrees C and from 45 to 55%RH

\*1: Print on a tape under this condition.

#### Details

Model No.	Recommend wire diameter (mm)	Supplied (Before shrinking) (mm)		Recovered (After shrinking) (mm)		Length of tube	Labels per roll
	(inch)	Inside diameter	Wall thickness	Inside diameter	Wall thickness		
	(AWG)						
210STBWPX-90	3.5mm – 8.0mm	Min. 9.5	0.28	Max. 3.0	---	2.6+/-1.0 (mm)	1 roll (cont.)
210STBWPX	0.138" - 0.315"						
	AWG 4-12						

### APPLICATIONS

Wire and cable identification

### REGULATORY/AGENCY APPROVALS

#### RoHS

Epson Heat Shrink Tube is compliant to RoHS Standards to Directive (2011/65/ EU Annex II) with amendment (EU)2015/863.

#### REACH

Epson Heat Shrink Tube is compliant to Regulation (EC) No 1907/2006 - Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

**SAE:**

Epson Heat Shrink Tube meets the material and physical property requirements of SAE AMS DTL 23053/5 Class 1.

\*Does Not meet SAE-AS23053.

**PROPERTIES**

Properties	Items	Test method	Typical values *1
Physical	Tensile strength	ASTM D 638	>11.0N/mm <sup>2</sup>
	Elongation at break	ASTM D 638	≥ 200%
	Longitudinal change	ASTM D 2671	≤+5% to ≤ -10%
	Water absorption	ASTM D 570	0.20%
	Specific gravity	ASTM D 792	1.40g/cm <sup>3</sup>
Electrical	Dielectric strength	ASTM D 2671	20.0 kV/mm <sup>2</sup>
	Volume resistivity	ASTM D 257	≥ 10 <sup>14</sup> Ω/cm
Chemical	Chemical resistance	AMS-DTL-23053/5	Good
	Copper corrosion	ASTM D 2671 B	No corrosion
	Fungus resistance	AMS-DTL-7444	No Growth
Thermal	Heat shock 4 hours at 250°C	ASTM D 2671	No dripping, cracking or flowing
	Heat aging 168 hours at 175°C	ASTM D638	Elongation ≥ 200%
	Flammability - Flame spread index	ASTM E 162-16	Pass » rounded average = 10 - specified max = 35
	Low temperature flexibility 1h at - 55°C	ASTM D2671C	No cracking, no break, no detachment of coating
	Optical density of smoke (Dm)	ASTM E-662	Pass
	Smoke index - visible smoke release	ASTM E 1354	MJ/m <sup>2</sup> = 38,10
Fire Propagation	Fire resistance	ASTM D 2671 procedure B	pass
Environmental UV Stability	UV-B	ASTM G154 - Machine setup Temp 50-60°C (140°F) Cycle 8 h light 4h condensation UV wavelength 280-400nm Test duration 1000 h of exposure.	Pass - No damage to the marker and print legible after 20 rubs in accordance with AS3349/SAE AS81531.

**Note:**

All features and specifications described are subject to change without notice. Other companies or product names used herein are also trademarks or registered trademarks of their respective owners.

Product availability may vary by country. Please refer to your local Epson office for full details.

Note that the information about the characteristics, such as numeric values, described in this document are the evaluation results for information only, not for guarantees.