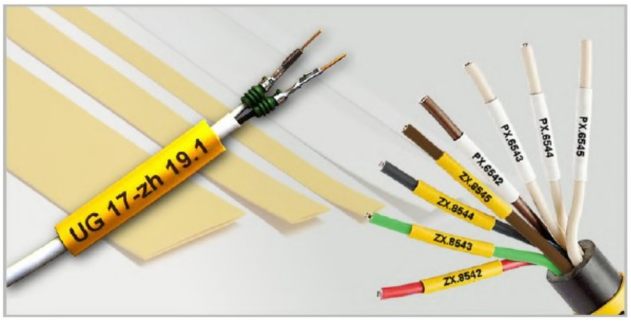
Webpage: www.hilltop-products.co.uk Email: sales@hilltop-products.co.uk Telephone: 01942 723101

ZH201B

Endless flattened Zero Halogen heatshrink tubing with ideal properties for identification by thermal transfer printing. Developed for general purpose and for applications in underground, railway, marine and offshore.

Features

- Excellent Print Quality
- Zero Halogen
- Ready to use thermal transfer printers
- 2:1 shrink ratio in inch size
- Shrink temperature > 90°C
- Operating Temperature -30°C to +105°C
- Designed to be flattened for marking systems



Dimensions

Size inch	Size mm	Flat Width (NOM) mm	Max. ID recovered mm	Recovered wall thickness (NOM) mm
3/32	2.4	4.2	1.2	0.51
1/8	3.2	5.6	1.6	0.63
3/16	4.8	7.6	2.4	0.63
1/4	6.4	10.7	3.2	0.72
3/8	9.5	15.1	4.8	0.70
1/2	12.7	20.9	6.4	0.70
3/4	19.1	30.9	9.5	0.77
1	25.4	40.5	12.7	0.92
1 1/2	38.1	60.5	19.1	0.97
2	50.8	79.3	25.4	0.97

MIL SAE AS81531 4.6.2* MIL-STD-202G method 215K*

ASTM D 635-HB

DIN 5510 part 2 appendix C Low smoke toxicity

Railway normative UNI CEI 11170-3 class LR4 CEN/TS 45545-2 class HL3

Zero Halogen

Print Performance

Description	Test Method	Typical Value
Adherance test (eraser method)	SAE AS81531	legible
Fluid Resistance	MIL-STD-202G method 215K	
Isopropyl Alcohol/Mineral Spirits Blend	10 rubs (x3)	legible
Terpene Defluxer	10 rubs (x3)	legible
H20/PGME/Monoethanolamine	10 rubs (x3)	legible

Description	Test Method	Ribbon Y201P	Ribbon Y501
Scratch test(rough sponge method)	in-house		
	10 rubs	good	very good
Solvent test	in-house		
isopropyl alcohol 99.9%	10 rubs	good	excellent
isopropyl alcohol 99.9%	20 rubs	good	excellent

Description	Ribbon Y201P	Ribbon Y501
Smear Resistance (10 rubs)		
Deisel	3	2
Hydraulic Oil	1	1
Unleaded gasoline	5	4
Ethyl alcohol 92%	1	1
Ethyl alcohol 95%	1	1

Legend: 1 - no effect; 2 - slight fading; 3 - moderate fading but still legible; 4 - severe fading and print illegible; 5 - complete print removal

Stock Colours

white yellow

Non Stock Colours

black baby blue baby red baby green + all others

Physical properties

Description	Test method	Typical value
Tensile strength	ASTM D 638	10 N/mm^2
Elongation at break	ASTM D 638	200%
Longitudinal change	ASTM D 2671	-10% to +5%
Water absorption	ASTM D 570	≤ 0.15%
Specific gravity	ASTM D 792	1.40

Thermal properties

Description	Test method	Typical value
Heat shock 4 hours at 175°C		no dripping, cracking or flowing
Heat aging 168 hours at 175°C	ASTM D 638	elongation ≥ 100%
Low temp. flexibility at -30°C	ASTM D 2671 C	no cracking
Flammability	ASTM D 635-HB	pass
Smoke density	BS 6853	class II

Electrical properties

Description	Test method	Typical value
Dielectric strength	ASTM D 2671	20 kV/mm
Volume resistivity	ASTM D 257	10^{14} ohm cm

Chemical properties

Description	Test method	Typical value
Fungus resistance	ASTM G21	no growth
Chemical resistance	AMS-DTL-23053/5	good
Copper corrosion	ASTM D 2671 B	no corrosion
Oxygen index	EN ISO 4589-2 (1999)	36%