



HZ

HALOGEN FREE HEAT SHRINK TUBING

- Zero halogen, flame retardant and low smoke polyolefin tubing for insulation and identification marking.
- Ideal for applications where limited fire hazard and low smoke characteristics are required.
- Reduced marking costs as marking can be done on site with Partex marking machines.

General information

Design

HZ is a halogen free, flame retardant and low smoke crosslinked polyolefin tubing, ideal for use in enclosed spaces such as mass transit, marine and industrial installations.

Primary applications include marking, insulation and protection of cables, harnesses and electronic components. HZ is specifically developed to be used in rail, marine, aerospace, industrial marking, insulation, wire bundling and mechanical protection.

Its flexibility enables fast mounting.

Marking equipment

HZ is printable for on site production with Partex MK10 or EOS marking machines. See separate product information.

Technical specification

Material

Extruded, cross linked polyolefin

Shrink ratio 2:1

Colours (standard)

Yellow, white

Temperature range

Working temperature: -55°C to +105°C

Shrink temperature: $\geq 90^{\circ}\text{C}$

Compliances

Mark Permanence:

SAE AS-5942

LUL 3349

Print Resistance to solvents:

MIL-STD-202H

Test method 215

Industry standards

EN 60684-3

EN45545-2 Class HL3 R22-23-R24

NFPA 130

NF F 16-101

London Underground

1-085 A3

BOEING BSS 7239

UNI CEI 11170-3 (LR4)

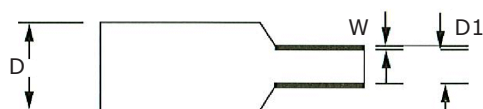
DIN 5510-2

BS6853: 1999 vehicle category 1a

HZD dimensions (nominal)

Article number	Size (mm)	Inside diameter (mm) before shrinking (D)	Inside diameter (mm) after shrinking (D1)	Wall thickness (mm) after shrinking (W)	Sleeve length (mm)	Packaging markers/reel
HZD024125LR*	2.40	2.50	1.20	0.43	12.5	4000
HZD024250LR*	2.40	2.50	1.20	0.43	25	2000
HZD024500LR*	2.40	2.50	1.20	0.43	50	1000
HZD032125LR*	3.20	3.60	1.60	0.55	12.5	4000
HZD032250LR*	3.20	3.60	1.60	0.55	25	2000
HZD032500LR*	3.20	3.60	1.60	0.55	50	1000
HZD048125LR*	4.80	5.20	2.40	0.55	12.5	4000
HZD048250LR*	4.80	5.20	2.40	0.55	25	2000
HZD048500LR*	4.80	5.20	2.40	0.55	50	1000
HZD064125LR*	6.40	6.70	3.20	0.65	12.5	4000
HZD064250LR*	6.40	6.70	3.20	0.65	25	2000
HZD064500LR*	6.40	6.70	3.20	0.65	50	1000
HZD095125LR*	9.50	10.00	4.80	0.65	12.5	2000
HZD095250LR*	9.50	10.00	4.80	0.65	25	1000
HZD095500LR*	9.50	10.00	4.80	0.65	50	500
HZD127125LR*	12.70	13.60	6.40	0.65	12.5	2000
HZD127250LR*	12.70	13.60	6.40	0.65	25	1000
HZD127500LR*	12.70	13.60	6.40	0.65	50	500
HZD190125LR*	19.10	20.40	9.50	0.70	12.5	2000
HZD190250LR*	19.10	20.40	9.50	0.70	25	1000
HZD190500LR*	19.10	20.40	9.50	0.70	50	500
HZD254125LR*	25.40	27.00	12.70	0.85	12.5	1200
HZD254250LR*	25.40	27.00	12.70	0.85	25	600
HZD254500LR*	25.40	27.00	12.70	0.85	50	300
HZD381250LR*	38.10	40.00	19.10	0.90	25	200
HZD381500LR*	38.10	40.00	19.10	0.90	50	100
HZD508250LR*	50.80	50.80	25.40	0.90	25	200
HZD508500LR*	50.80	50.80	25.40	0.90	50	100

*=color (4=yellow, 9=white)

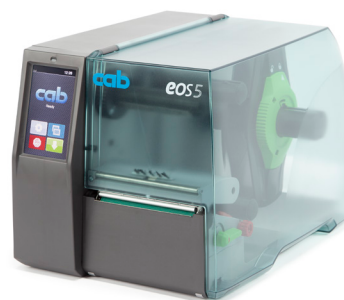


Print-on-Site



MK10

Printer for high volume on site marking production. See separate product information.



EOS

Printer for on site marking production. See separate product information.

Properties

Properties PHYSICAL	Data	Test Method
Tensile Strength	10.0 N/mm ²	ASTM D 638
Elongation at break	≥ 200%	ASTM D 638
Longitudinal Change	-10% to +5%	ASTM D 2671
Water absorption	≤ 0,15%	ASTM D 570
Specific gravity	1,40	ASTM D 792
Properties ELECTRICAL	Data	Test Method
Dielectric Strength	20.0 kV/mm ²	ASTM D 2671
Volume Resistivity	≥ 10 ¹⁴ Ω /cm	ASTM D 257
Properties CHEMICAL	Data	Test Method
Chemical resistance	Good, pass	EN 60684-2-36
Copper corrosion	No chemical interaction, pass	EN 60684-2-33
Copper stability	N-A	N-A
Properties THERMAL	Data	Test Method
Heat shock 4 hours at 175°C	No dripping, cracking or flowing	ASTM D 2671
Heat aging 168 hours at 150°C	Elongation ≥ 100%	ASTM D 638
Flammability	Pass » flame retardant	ASTM D 2671 Procedure C
Low temperature flexibility / Bending	No cracking, no break, no detachment of coating	1h at - 55°C EN 60684-2
Optical density of smoke (Ds)	Flaming mode 41 , non flaming mode 111	ASTM E 662
Smoke index	Smoke class F1	NF F 16-101
Surface Flammability of Materials - Flame Spread Index	Specified Maximum = 35	ASTM E 162
Heat and visible smoke release rate	Average Heat Release Rate & Average specific Extinguishing area M ² / kg at 3 minutes is measured	ASTM E 1354
Generation of Toxic gases 3x3 inches sample burning in controlled setting	Toxicity for CO, HF, HCN, HCl, SO ₂ and NO _x in Combustion Gases	BSS 7239

Fire propagation comparison

Normatives	Toxicity	Low Oxygen Index(LOI)	Smoke Density	Flammability Spread Index	Capacity of forming drops
EN45545-2	HL3	HL3	HL3		
NF F 16 101			Class F1	Class I4	
BS 6853 - Superceded	1a	1a	1a		
DIN 5510-2	Pass		SR2		ST1
NFPA130	Pass		Pass	Pass	
UNI CEI 11170-3	LR4	LR4		LR4	

Fire behavior standard classification for identificaton products

Standards	Classification	Usage
EN 45545-2 (R22 - R23 - R24)	HL3	Unlimited Usage All Vehicles
BS6853	1a	Unlimited Usage All Vehicles
UNI CEI 11170-3	LR4	Unlimited Usage All Vehicles
DIN 5510-2	SR2, ST1	Usage Limited
NF F 16-101	F1 & I4	Usage Limited to External Vehicles
NFPA 130	National Fire Protection Association	Usage Permitted upon agreement with end user
BSS 7239	Boeing	Usage Permitted upon agreement with end user

Compliance on fire behavior for idintifidations products

Standards	Flame Propagation Flame Spread Index	Toxicity	Smoke Optical Density	TEST METHOD	
				Low Oxygen Index	Heat and Visible Smoke Release
BS6853		BS 6853 appendix B1 or NF X-70-100	BS 6853 D8.3	ISO 4589-2	
NF F-16 101	NF EN 60-695-2	NF X 70-100	NF X 10-702-1 & 2	ISO 4589-2	
NFPA130	ASTM E 162	BSS 7239	ASTM E 662	N/A	ASTM E 1354
EN 45545-2		NF X 70-100 600°C	EN ISO 5659-2	ISO 4589-2	
DIN 5510-2	DIN 54837	DIN ISO 5510-2	DIN 54837		