



MS-VLA MS-VLA(C)

AMS-Military Grade Heat Shrinkable Wire Identification Sleeves



Description

MSVLA series is the military grade cable and wire identification sleeves, which is made of cross-linked environmentally friendly polyolefin bombarded by high-power electron beam with electronic accelerators to meet requirements of high end markets where highly reliable cable & wire identification is required. It accords to Classes 1 and 3 of AMS-DTL-23053/5 half-hard high molecular materials. For this product, both 2:1 and 3:1 shrink ratio are available on your request.

Features

- Military grade, lightweight, well suited for aerospace vehicles, tank, and submarines identification purposes
- High temperature resistant(temperature rating 135°C/275°F)
- Highly flame retardant, VW-1
- RoHS compliant
- Highly reliable and permanent identification
- Thermo-sensitive, quick recovery
- Computer-printable, any characters and logo are easy to design



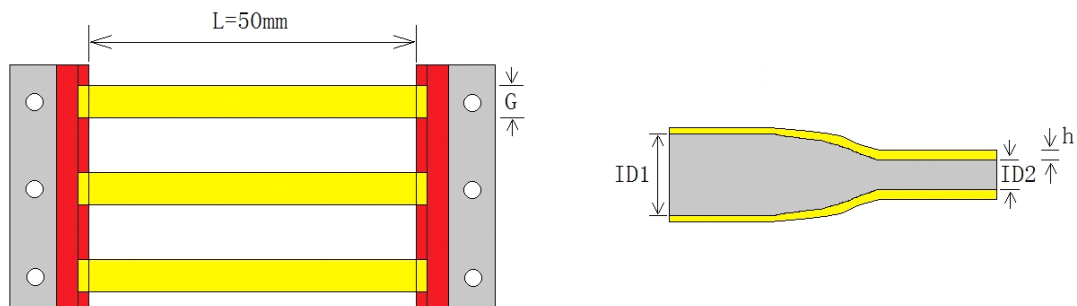
Rated Temperature

- Continuous operating temperature: $-55^{\circ}\text{C}\sim 135^{\circ}\text{C}/-67^{\circ}\text{F}\sim 275^{\circ}\text{F}$
- Min. shrink temperature: $85^{\circ}\text{C}/185^{\circ}\text{F}$
- Full recovery temperature: $115^{\circ}\text{C}\sim 200^{\circ}\text{C}/239^{\circ}\text{F}\sim 392^{\circ}\text{F}$, 8~3minutes
- Max. storage and transportation temperature: $\leq +50^{\circ}\text{C}/122^{\circ}\text{F}$

Standards

- Meets AMS-DTL-23053/5, compatibility: UL224
- Color code soundness: SAE-AS 81531 and MIL-STD-202F/215J

Structure



Dimensions(2:1)

Order Description	Expanded As Supplied(mm)			Recovered After Heating(mm)	
	Inner Diameter ID1	Flatten width G	Dual Wall Thickness H	Inner Diameter ID2	Single Wall Thickness h
MSVLA-2X-1.6/	2.00±0.20	3.7±0.3	0.48±0.10	≤0.79	0.45±0.06
MSVLA-2X-2.4/	2.79±0.20	5.0±0.3	0.48±0.10	≤1.18	0.49±0.06
MSVLA-2X-3.2/	3.64±0.23	6.3±0.4	0.48±0.10	≤1.59	0.51±0.06



MSVLA-2X-4.8/	5.26±0.25	8.9±0.4	0.49±0.10	≤2.36	0.54±0.06
MSVLA-2X-6.4/	6.92±0.28	11.5±0.4	0.50±0.10	≤3.18	0.56±0.06
MSVLA-2X-9.5/	10.2±0.32	16.7±0.5	0.51±0.11	≤4.75	0.59±0.06
MSVLA-2X-12.7/	13.5±0.36	21.8±0.6	0.52±0.11	≤6.35	0.60±0.07
MSVLA-2X-19/	20.1±0.40	32.2±0.6	0.53±0.11	≤9.53	0.62±0.07
MSVLA-2X-25/	26.7±0.45	42.5±0.7	0.55±0.12	≤12.7	0.63±0.07
MSVLA-2X-38/	39.8±0.51	63.2±0.8	0.57±0.12	≤19.1	0.64±0.07
MSVLA-2X-51/	53.0±0.56	83.9±0.9	0.58±0.13	≤25.4	0.64±0.08
MSVLA-2X-76/	79.4±0.56	125.3±1.0	0.59±0.13	≤38.1	0.64±0.09

Dimensions(3:1)

Order Description	Expanded As Supplied(mm)			Recovered After Heating(mm)	
	Internal Diameter ID1	Flatten Width G	Dual Wall Thickness H	Inner Diameter ID2	Single Wall Thickness
MSVLA-3X-1.6/	2.00±0.20	3.7±0.3	0.47±0.10	≤0.53	0.52±0.06
MSVLA-3X-2.4/	2.79±0.20	5.0±0.3	0.47±0.10	≤0.79	0.57±0.06
MSVLA-3X-3.2/	3.64±0.23	6.3±0.4	0.48±0.10	≤1.06	0.61±0.06
MSVLA-3X-4.8/	5.26±0.25	8.9±0.4	0.49±0.10	≤1.59	0.67±0.06
MSVLA-3X-6.4/	6.92±0.28	11.5±0.4	0.50±0.10	≤2.36	0.71±0.06
MSVLA-3X-9.5/	10.2±0.32	16.7±0.5	0.52±0.11	≤3.18	0.77±0.06
MSVLA-3X-12.7/	13.5±0.36	21.8±0.6	0.53±0.11	≤4.75	0.80±0.07
MSVLA-3X-19/	20.1±0.40	32.2±0.6	0.55±0.11	≤6.35	0.84±0.07
MSVLA-3X-25/	26.7±0.45	42.5±0.7	0.56±0.12	≤8.47	0.86±0.07
MSVLA-3X-38/	39.8±0.51	63.2±0.8	0.57±0.12	≤12.9	0.89±0.07
MSVLA-3X-51/	53.0±0.56	83.9±0.9	0.57±0.13	≤17.2	0.90±0.08
MSVLA-3X-76/	79.4±0.56	125.3±1.0	0.59±0.13	≤25.8	0.92±0.09

Standard Package Data



No.	Sizes	Packaging(Pcs/Reel)	
		Box 210	Box 146
1	Φ1.6	2500	250
2	Φ2.4	2500	250
3	Φ3.2	2000	250
4	Φ4.8	2000	250
5	Φ6.4	1500	250
6	Φ9.5	1000	250
7	Φ12.7	500	250
8	Φ19	500	250
9	Φ25	500	250
10	Φ38	250	250
11	Φ51	250	250
12	Φ76	250	250

Technical Performance

Performance			Indicators	Test Method
Typical properties	Unit	States		
Tensile Strength	Mpa	Unaged	≥10.3	ASTM G 154,MIL-DTL-23053E ISO 37,500mm/min 175°C,168h,ISO 188
		Heat aged/ After fluids/UV aged	≥6.9	
Elongation at break	%	Unaged	≥200	



		Heat aged/ After fluid	≥100	
Secant Modulus	Mpa	Unaged	< 173	ASTM D 882
Voltage Withstand	V	Unaged / After aged	2500V , No breakdown in 60 sec.	IEC 243,ASTM G 154 175°C,168h,ISO 188
Dielectric Strength	MV/m	Before aged	≥19.7	
		Heat aged/ After fluid/ UV aged	≥15.8	
Volume Resistivity	Ω.cm	Unaged	≥10 ¹⁴	IEC 93
Dielectric constant	-	Unaged	≤3.1	ASTM 150
Water Absorption	-	Unaged	≤0.5%	ASTM 570,23°C,24h
Bare Copper Corrosion	-	Unaged	No corrosion	23°C,Rh 95±5%,24h 175°C,16h
Heat Shock	-	Unaged	No cracks, flowing, dripping	Wind to the specified mandrel , 225°C,4h
Cold Flexibility	-	Unaged	No cracks	Wind to the specified mandrel , -55°C,1h
Flammability	-	Unaged	VW-1	IEC 60332-1-3 Ed.1.0 b:2004
Longitudinal Change	%	Unaged	2X : -10~+1	200°C,Constant 3min
			3X : -15~+5	
Smoke Density	-	Unaged	-	DIN 5510-2
Toxicity Index	-	Unaged	-	BS 6853:1999