

**Part Number** CB-MTTM

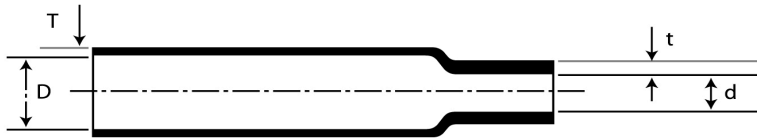
**Header** CB-MTTM 3X Heat Shrink Marker Sleeve, Halogen Free

**Description** CB-MTTM is used to identify wire and cable, tools, hoses and equipment in operating environments where temperatures range from -55°C to 135°C. It can withstand abrasion and exposure to cleaning solvents and other industrial fluids. Sleeves are flame-retardant and can be used for electrical insulation. This tubing can be custom printed with words and symbols on both sides by thermal transfer equipment and all markings are permanent after printing. Available in a 3:1 shrink ratio and in many different sizes and shapes. Certificate: UL, CUL, Sony Green Partner Standard: UL224. Standard color: flat white and yellow.

**Agency Approval & Compliance** UL, cUL, RoHS, Halogen Free, Flame Retardant, UL224, REACH, VW1

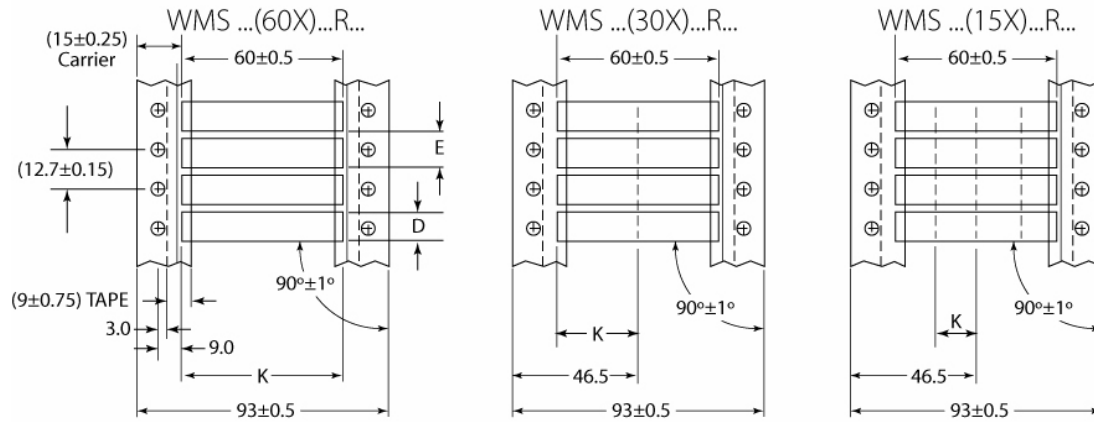
**Application** CB-MTTM wire markers are designed to meet wire identification needs of commercial and industrial customers.

**Shrink Ratio and Operating Temperature** 3:1, -55°C~135°C

**Size**

**Size CB-MTTM 3X (continuous & card type)**

Size (Inch)	Size (mm)	As Supplied			After Recovery	
		Inside Diameter (D)	Wall thickness (T)	Outside Diameter Flat	Wall Thickness (t)	Inside Diameter (d)
3/32	Φ2.4	≥2.4	0.20±0.05	4.9±0.5	0.40±0.10	≤0.79
1/8	Φ3.2	≥3.2	0.20±0.05	6.1±0.5	0.40±0.10	≤1.07
3/16	Φ4.8	≥4.8	0.20±0.05	8.4±0.5	0.40±0.10	≤1.57
1/4	Φ6.4	≥6.4	0.20±0.05	11.2±0.8	0.40±0.10	≤2.11
3/8	Φ9.5	≥9.5	0.20±0.05	16.8±0.8	0.40±0.10	≤3.18
1/2	Φ12.7	≥12.7	0.20±0.05	21.8±1.0	0.40±0.10	≤4.22
3/4	Φ19.1	≥19.1	0.30±0.06	33.4±1.0	0.60±0.15	≤6.35
1	Φ25.4	≥25.4	0.30±0.06	42.4±1.5	0.60±0.15	≤8.46
1-1/2	Φ38.1	≥38.1	0.30±0.06	63.7±1.5	0.60±0.15	≤12.7
2	Φ50.8	≥50.8	0.30±0.06	82.2±1.5	0.60±0.15	≤16.9

# CARD TYPE (See Dimensions & Standards table below)



## Pre-score Dimensions & Standards (CARD TYPE)

Size	Tube Spacing mm (E)	Tube Length (K) – Full (mm)	Tube Length (K) – Half (mm)	Tube Length (K) – Quarter (mm)
Φ2.4 (2X, 3X)	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ3.2 (2X, 3X)	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ4.8 (2X, 3X)	13.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ6.4 (2X, 3X)	16.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ9.5 (2X, 3X)	21.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ12.7 (2X, 3X)	26.8±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ19.1 (2X, 3X)	38.2±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ25.4 (2X, 3X)	47.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ38.1 (2X, 3X)	69.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ50.8 (2X, 3X)	87.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25

## Specifications

Item	Specifications
<b>Physical performance</b>	
Shrink Temperature (°C)	90°C~150°C
Temperature Range (°C)	-55°C~135°C
Tensile Strength (MPa)	≥10.3Mpa
Ultimate Elongation (%)	≥200%
Flexibility (-55°C, 4hrs)	No cracking
Heat shock	No cracking, dripping, flowing
Radial Shrinking Ratio	3:1

<b>Print performance</b>	
UL 224	50 Rubber erasure, identification
MIL-M-81531-4.6.2	50 Rubber erasure, identification
MIL-STD-202 method 215K	30 Rubber erasures, Isopropyl Alcohol/Mineral Spirits
	30 Rubber erasures, Terpene Defluxer
	30 Rubber erasures, H <sub>2</sub> O/PGME Monoethanolamine
<b>Electrical performance</b>	
Aging in Circulating-air Oven	No breakdown
Dielectric Strength (kV/mm)	≥19.7KV/mm
Dielectric Voltage (V) AC	
Volume Resistivity (Ω.cm)	≥1014Ω.cm
Flammability as per AMS-DTL-23053	VW-1
Fluid resistance (23°C, 24hrs)	Print identified
Tensile strength (M Pa)	≥6.5MPa
Ultimate elongation ratio (%)	≥100%
MIL-M-81531-4.6.2	20 rubber erasure, identification

**Availability** Master spools, ladder reels and cut pieces

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