

# CTMS-135

## Heat-shrinkable identification marker sleeves

### 1) Application

CTMS-135 heat-shrinkable identification marker sleeves are designed to meet the requirements of high- performance identification of wire and cable, tools, hoses and equipment. Made from reliable flame-retardant polyolefin with outstanding properties, sleeves can also be used as electrical insulation. Marks are permanent after printing.

### 2) Features/Benefits

Sleeves meet the requirements of AMS-DTL-23053/5 (materials and performance).

Flexible, highly flame-retardant.

Sleeves meet the print performance requirements of MIL-M-81531.

Markers can also provide insulation and strain relief.

Marks are permanent after printing; mark performance improves after shrinking.

Conform to European RoHS environmental directive.

### 3) Operating Temperature Range

Operating temperature range: -55°C~135°C

Minimum shrink temperature: 70°C

Minimum full recovery temperature: 110°C

### 4) Specifications/Standards

UL224 125°C VW-1

UL approval, VW-1

AMS-DTL-23053/5 class 1 (materials and performance)

MIL-M-81531, MIL-STD-202

### 5) Specification values

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#### Physical properties:

Tensile strength		10.3 MPa min.
Elongation		200% min.
Low temperature flexibility	(-55°C, 4hrs)	No cracking
Heat shock	(250°C, 4hrs)	No cracking, dripping, or flowing

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#### Print performance:

UL224		50 rubs, legible
MIL-M-81531		50 rubs, legible
MIL-STD-202		30 strokes, legible

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#### Electrical properties:

Dielectric voltage withstand	2.5KV, 60 sec	No breakdown
Dielectric strength		19.7KV/mm min.
Volume resistivity		10 <sup>14</sup> Ω·cm min.

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**Chemical properties:**

Corrosion

No corrosion

Flammability AMS-DTL-23053/5

Average burn time is less than 1

minute

**Fluid resistance:** (23°C, 24 hrs)

Followed by print

performancetests of MIL-M-81531

Hydraulic fluids (MIL-H-5606)

JP-4 fuel (MIL-T-5624)

Lubricating oil (MIL-L-7808)

Lubricating oil (MIL-L-23699)

Freeze resistance liquid (MIL-A-8243)

**6) Product sizes**

mm/inch

Size (inch)	Inside diameter		Recommended use range (MM/INCH)
	As supplied (min.)	After recovery (max.)	
3/32	2.4 (0.093)	0.8 (0.031)	0.9-2.0 (0.035-0.079)
1/8	3.2 (0.125)	1.0 (0.042)	1.1-2.7 (0.044-0.105)
3/16	4.8 (0.187)	1.6 (0.062)	1.8-4.1 (0.069-0.160)
1/4	6.4 (0.250)	2.1 (0.083)	2.3-5.5 (0.091-0.215)
3/8	9.5 (0.375)	3.2 (0.125)	3.5-8.0 (0.137-0.320)
1/2	12.7 (0.500)	4.2 (0.166)	4.7-10.8 (0.183-0.425)
3/4	19.1 (0.750)	6.35 (0.250)	7.0-16.3 (0.275-0.640)
1	25.4 (1.000)	8.5 (0.333)	9.3-21.6 (0.366-0.850)
1 1/2	38.1 (1.500)	19.1 (0.750)	21.0-33.0 (0.825-1.300)
2	50.8 (2.000)	25.4 (1.000)	27.0-48.0 (1.063-1.890)

**7) Ordering information****Standard color:** White(-WH), yellow(-YL)**Nonstandard color:** Special colors can be available upon request.**Nonstandard size**

Special sizes are available upon request.

**Standard packaging:** 2 inch pieces, or spool packing