

ETM-C31 Mil-spec 3:1 continuous tubing

express**MARK**

ETM-C31 is a flat continuous format heat shrink tubing suitable for wire and cable marking. This basic method provides a low cost solution suited for repetitive markers. Supplied on a continuous reel the tubing can be thermally printed and cut by hand, or with a printer cutter/perforator attachment.

Ordering information

ETM-C31 standard spools

| Sleeve Diameter | Part Number (WHITE) | Part Number (YELLOW) | Pack Size |
|-----------------|---------------------|----------------------|-----------|
| 2.4 | ETM-9-024C31-30M | ETM-4-024C31-30M | 30M |
| 3.2 | ETM-9-032C31-30M | ETM-4-032C31-30M | 30M |
| 4.8 | ETM-9-048C31-30M | ETM-4-048C31-30M | 30M |
| 6.4 | ETM-9-064C31-30M | ETM-4-064C31-30M | 30M |
| 9.5 | ETM-9-095C31-30M | ETM-4-095C31-30M | 30M |
| 12.7 | ETM-9-127C31-25M | ETM-4-127C31-25M | 25M |
| 19.0 | ETM-9-190C31-25M | ETM-4-190C31-25M | 25M |
| 25.4 | ETM-9-254C31-20M | ETM-4-254C31-20M | 20M |
| 38.1 | ETM-9-381C31-20M | ETM-4-381C31-20M | 20M |

All dimensions are in mm

ETM-C31 bulk spools

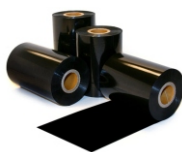
| Sleeve Diameter | Part Number (WHITE) | Part Number (YELLOW) | Pack Size |
|-----------------|---------------------|----------------------|-----------|
| 2.4 | ETM-9-024C31-50M | ETM-4-024C31-50M | 50M |
| 3.2 | ETM-9-032C31-100M | ETM-4-032C31-100M | 100M |
| 4.8 | ETM-9-048C31-100M | ETM-4-048C31-100M | 100M |
| 6.4 | ETM-9-064C31-100M | ETM-4-064C31-100M | 100M |
| 9.5 | ETM-9-095C31-100M | ETM-4-095C31-100M | 100M |
| 12.7 | ETM-9-127C31-100M | ETM-4-127C31-100M | 100M |
| 19.0 | ETM-9-190C31-100M | ETM-4-190C31-100M | 100M |
| 25.4 | ETM-9-254C31-100M | ETM-4-254C31-100M | 100M |
| 38.1 | ETM-9-381C31-60M | ETM-4-381C31-60M | 60M |

All dimensions are in mm

Black High Performance Ribbon

| | |
|-------------|--------------|
| 1966-RIBBON | 100mm x 300M |
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Compatible with the following printer models : T2212, T200-IDENT, T3212, T3224, TE3112, TE3124, EOS1, EOS2 and SQUIX.



External Reel Holder

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|-----------------------|
| UNIVERSAL-REEL-HOLDER |
| UNI-REEL-ADAPTORS |

Designed to hold spools of heat shrink.

The adaptors slide on to the spindle and hold the spool in a central position allowing the tubing to be back-fed to the printer.



Technical Data



Standard Colours

White and Yellow.

Other colours on request.

Material

Radiation cross linked polyolefin.
Flat printable continuous sleeving.
3:1 shrink ratio.

Operating Temperature

-40°C to +135°C

Shrink Temperature

>90°C

Mark permanence

SAE AS81531:1998, point 4.6.2

Chemical & solvent resistance

MIL-STD-202G method 215J

Standards

UL 224 125°C 600V VW-1
(recognised file E203950)

CSA 125°C 600V Certified
(certified file 220127)

SAE-AMS-DTL-23053/5 Class 1&3

Regulations

REACH and RoHS compliant

Print Method

Thermal transfer

Storage

Store in original packaging.
Recommended storage environment
is +10°C to +25°C and 50% relative
humidity.

Physical

| Properties | Test Method | Typical Value |
|---------------------|-------------------|-----------------------|
| Tensile strength | ASTM D 638 | ≥14 N/mm ² |
| Elongation at break | ASTM D 638 | ≥400% |
| Longitudinal change | SAE-AMS-DTL-23053 | 0% - -2% |
| Specific gravity | ASTM D 792 | 1.34g/cm ³ |
| Secant modulus | ASTM D 882 | 65 Mpa |

Electrical

| Properties | Test Method | Typical Value |
|------------------------------------|-------------|-----------------------------|
| Dielectric strength | UL 224 | 15 kV/mm |
| Volume resistivity | ASTM D 876 | 3.1 x 10 ¹⁴ Ω cm |
| Voltage rating | UL 224 | 600V |
| Die-electric voltage (2.5kV x 60s) | UL 224 | Pass. No breakdown. |

Chemical

| Properties | Test Method | Typical Value |
|--|-------------------|------------------|
| Fungus resistance | ASTM G 21 | Pass. No growth. |
| Fluid resistance (after 24hrs at 23°C) | SAE-AMS-DTL-23053 | 7.25 - 14 MPa |

Thermal

| Properties | Test Method | Typical Value |
|--|-------------------|---------------|
| Heat shock (4hrs at 250°C) | SAE-AMS-DTL-23053 | Pass. |
| Elongation heat ageing (4hrs 158°C) | SAE-AMS-DTL-23053 | ≥400% |
| Copper corrosion (168hrs at 158°C) | SAE-AMS-DTL-23053 | Pass |
| Stability against copper (168hrs at 158°C) | SAE-AMS-DTL-23053 | Pass |
| Low temp flexibility (4hrs at -55°C) | SAE-AMS-DTL-23053 | No cracking |
| Flammability | UL 224 | VW-1 pass |

Tubing Dimensions 3:1

| Size (mm) | Supplied ID (mm) | Recovered ID (mm) | Recovered Wall Thickness (mm) |
|-----------|------------------|-------------------|-------------------------------|
| 2.4 | 2.79 | 0.79 | 0.57 |
| 3.2 | 3.64 | 1.0 | 0.61 |
| 4.8 | 5.26 | 1.6 | 0.67 |
| 6.4 | 6.92 | 2.4 | 0.71 |
| 9.5 | 10.2 | 3.2 | 0.77 |
| 12.7 | 13.5 | 4.75 | 0.80 |
| 19.0 | 20.1 | 6.4 | 0.84 |
| 25.4 | 26.7 | 8.47 | 0.86 |
| 38.1 | 39.8 | 12.9 | 0.89 |



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