

# mille-Tie™

## Flame Retardant Heavy-Duty



Best suited for bulkier cable management requirements where fire resistance combined with low toxicity characteristics are needed.



- 5 Metres (16') of Cable Management in 560mm (22") strips.
- 28 Latching Cells per Strip. Cut and reuse again and again.
- Ideal to contain or suspend larger or heavier cable bundles.
- Wider heavier format.
- Mounting and fixing holes on every cell.
- "All Weather" polymer.
- Complies with Def Stan 07-247.
- British Ministry of Defence (MOD) approval and certification

Expanding on the original Mille-Tie concept, the Flame Retardant Heavy-Duty Mille-Tie offers all the same advantages, but with increased strength, bundling capacity and fire resistance.

Designed for containing and supporting bulkier cables (up to 16Kg/35lb), the Flame Retardant Heavy-Duty Mille-Tie is the ideal choice for demanding cable management.

This sophisticated quick-fit fastener is available as 560mm (22") long strips, and can readily accommodate bundles in excess of 150mm (6") diameter.

The ties are essentially "waste-free" - whereby any unused portions may be used again - and are inherently soft and flexible.

They also stretch slightly to limit the binding pressure in an over-tightening situation, which greatly reduces the risk of costly cable damage, both during installation and subsequent operation.

Behind this is the unique "Intelligent Grip System" which promotes optimum performance on all high specification cable installations.

This novel design is also highly versatile and allows for a wide range of cable management options. These include multiple loops, spirals, and a quick-release configuration for easier maintenance.

The Flame Retardant Heavy-Duty Mille-Tie introduces fixing holes on each cell, and is now better suited for outdoor use, being made from 2mm thick UV-resisting polyurethane alloy.

The Flame Retardant Heavy-Duty Mille-Tie is the only plastic tie to be granted approval by the Institute of Naval Medicine. This technology has unique benefits in Armed forces assets such as Ships, Submarines and Airplanes.

The Mille-Tie has undergone severe testing to prove how resistant it is to explosions and the electromagnetic shocks they create. It has been proven that Emtelle fibre optics in conjunction with the Mille-Tie as a control medium can withstand and maintain functionality at extremes of EMS. Named the Mille-Tie FR, its properties will help where fire resistance combined with low toxicity characteristics are required such as rail and tube applications.

These special ties have a FR badge on the tab end of the tie opposite the tongue to differentiate them from the normal.

### LARGE HEAVY BUNDLES.

Holds single bundles up to 150mm (6") diameter, or several of smaller size. Simply remove & reuse the leftover strip. (Strips can also be joined together for bigger applications.)



### HOLDS VERTICAL CABLES.

Grips riser bundles with a positive gentle grip that won't crush the cables or allow them to slip. FR Heavy-Duty Mille-Tie will support up to 13Kg (30lb) when using a "secure-latch".



### MOUNTING POINTS.

Each cell on the FR Heavy-Duty Mille-Tie contains an integral 4mm (0.1") Fixing Hole, which provides a fast and effective way to hook, screw, nail or pin the tie in place.



### SUSPENDING CABLES.

Use a double loop to suspend cables up to 13Kg (30lb) or keep bundles segregated for easier identification and maintenance.



### TEMPORARY WORK.

The unique Mille-Tie design allows easy removal through the use of a "quick-release" technique. When used in this way, the Mille-Tie is ideal for temporary management system during installation.



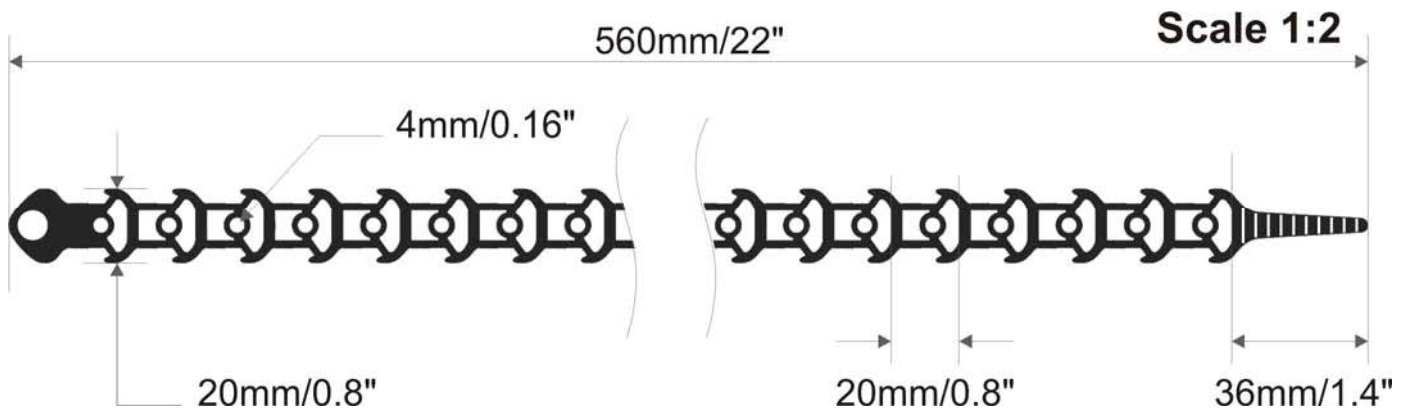
### ALL-WEATHER DESIGN.

A custom UV and bacterial resistant polymer means this FR Heavy-Duty Mille-Tie is ideal for use in almost any outdoor environment.



Product Code	EAN Code	Description	Pack Size	Packs per Outer Case
HDMT-BK10-FR	5060029110192	Black 22"	10	100

## Flame Retardant Heavy-Duty Mille-Tie Technical Specification



### Physical Properties:

Length Of Strip:	560mm (22")
Width (Latching Cell):	20 mm (0.8")
Width (Spacer Cell):	12 mm (0.5")
Thickness:	2.0mm (0.1")
Cells per Strip / Fastening Holes (One per cell):	28 (1 per 20mm (0.75") apx.)
Maximum Bundle Size (Full Strip):	> 150 mm (6") diameter
Maximum Bundle Size:	< 25mm (1") diameter
Uses Per Strip @ 25mm (1") Diameter:	5
Average Usage per Strip @ 30mm (24x CAT6 cables):	4
Fastening Hole Diameter:	4 mm (0.1") (Accepts M4 / 3BA fasteners)
Standard Colours Available:	Black (UV stabilised, All Weather)
Differentiation:	Marked with 'FR' in relief or recess on Tab

### Material Properties:

Material:	Thermoplastic Polyurethane Elastomer Alloy
Density:	1.16Kgm-3 (0.0419 lbin-3)
Tensile and Tear Strength:	High
Ultimate Material Tensile Strength:	40MPa (5800 Psi)
Ultimate Material Elongation:	Min. 460%
Taper Abrasion H-18 Wheel, 1000g (1.1lb) Load:	Low (Good abrasion resistance)
Modulus of Elasticity:	Very Low (Very flexible)
Resistance to Fuels and Oils:	Excellent

### Mechanical Properties:

Maximum Load – single loop:	9Kg (20 lb)
Maximum Latch Strength – secure latch:	23Kg (50 lb)
Maximum Load – secure latch:	23Kg (50 lb)

### Thermal Properties:

Recommended Service Temperature	
Range [no load]:	-20°C to +60°C (-4°F to 140°F)
Short Temp Peak Temperature	
Range [no load]:	-30°C to +80°C (-22°F to 176°F)
Vicat Softening Temperature:	130°C (266°F)
Glass Transition Temperature:	-30°C (-22°F) [Pellet sample]

### Ultra-Violet Properties:

UV Properties [Black UV resistant]:	Excellent
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### Fire and Toxicity Characterisation:

Property	Test Method	Result
Smoke Index	Def Stan 02-711	24.7
Oxygen Index	BS EN ISO 4589-2	23.1
Flammability Temperature	BS EN ISO 4589-3 Annex A	>173°
Halogen Content	Lassaigue Sodium Fusion	Nitrogen Positive Chloride Positive Bromide Negative Flouride Negative Sulphur Negative
Toxicity Index	Def Stan 02-713	6.1 / 100g
Vertical Flame Test	UL 94	94V-0

Full Fire and Toxicity details available on request.

\*Specification subject to change without notice