

# mille-Tie™

## Low-Smoke-Zero-Halogen



Using unmodified high-grade polymers, natural Mille-Ties are rated as a low smoke and halogen free component. LSOH/LSZH Mille-Ties are recommended for all indoor structured cabling uses.

### LOW SMOKE ZERO HALOGEN

Most people killed in fires die because of smoke, not heat or flames. The inhalation of smoke rapidly incapacitates, and impaired visibility slows exit and makes firefighting harder. So reducing smoke in the event of a fire is of paramount importance in public and enclosed or underground places. Coupled with this are the far-reaching toxic effects of many of the gases emitted from common plastic components when they burn, and this includes those used in cabling. Low fume (LF) materials are available, but these typically release some quantities of halogenated compounds and would not always qualify as LSOH/LSZH).

### HALOGENS

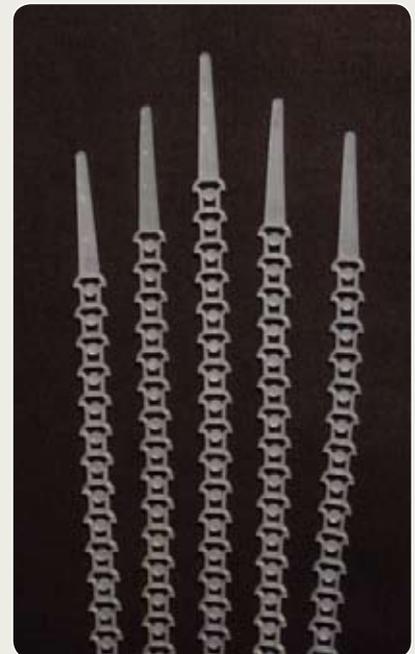
The halogens are a family of elements that are rarely found in natural organic compounds, but which are extensively used in manmade polymers as convenient fire retardants. When these compounds burn, the halogens escape to form a protective blanket against the fire. But many toxic substances are also produced, including dioxins, PCBs, PAHs and nitro-PAHs. Some of these are amongst the most carcinogenic substances known to man. In a fire, the most significant of these emissions are hydrogen chloride and hydrogen bromide gases (HCl and HBr), which react with moisture to produce toxic and corrosive acids. Not only are these chemicals harmful to humans, they also take their toll on exposed infrastructure components.

### THE ENVIRONMENT

From an environmental perspective, the halogens also represent a serious risk. Bacteria can't easily break down halogen compounds and halogen gases act as ozone depleters. It often takes years for these pollutants to disperse.

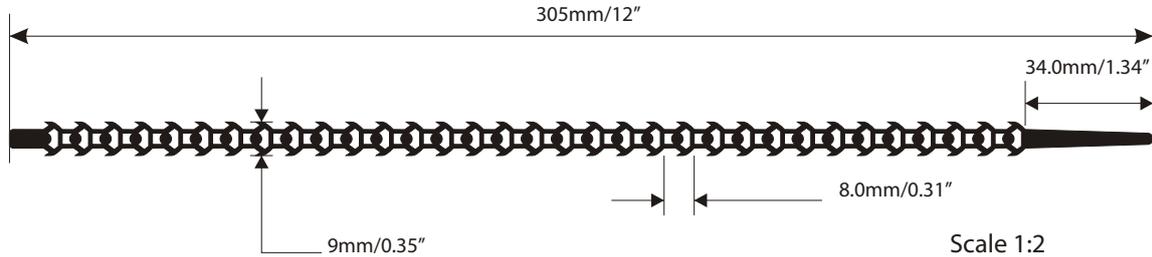
### THE MILLEPEDE SOLUTION

As well as being the most versatile cable tie available, the Mille-Tie now also offers you the added reassurance of enhanced fire safety and reduced environmental impact. Whatever the application, LSOH Mille-Ties can play an essential role in maintaining system performance and meeting modern environmental and safety regulations.



Product Code	EAN Code	Description	Pack Size	Packs per Outer Case
STMT-NT100-GL	818857001008	Natural 12"	100	50

## Standard Mille-Tie Technical Specification



### Physical Properties:

Nominal Moulded Length:	305mm (12")
Width:	9.0mm (0.35")
Thickness:	1.3mm (0.05")
Apertures:	33 (1 per 8mm (0.35") apx.)
Maximum Bundle Size (basic strip):	> 75mm (3") diameter
Maximum Bundle Size (when stretched before use):	> 110mm (4.5") diameter
Minimum Bundle Size:	< 5mm (0.2") diameter
Uses Per Strip @ 10mm (0.4") Diameter:	6 approx
Standard Colours Available:	Red (Plenum), Black (UV), Uncoloured/Natural (LSOH), Green, Grey

### Material Properties:

Material:	Thermoplastic Polyurethane Elastomer
Density:	1220Kg/m <sup>3</sup>
Tensile and Tear Strength:	High
Abrasion Resistance:	Excellent
Elasticity and Resilience:	High
Resistance to Fuels and Oils:	Excellent

### Mechanical Properties:

Flexural Modulus:	124.1MPa (180,000 PSI)
Taper Abrasion H-18 Wheel, 1000g (1.1lb) Load:	50mg (1/560 Oz) Loss [1000 cycles]
Material Tensile Strength:	4.14MPa (6,000 PSI)
Maximum Mille-Tie Loop Strength:	>10kg (22lb) [Using a secure latch]

### Thermal Properties:

Low Temperature Brittle Point:	<-68°C (-90°F)
Deflection Temperature Under Load:	59°C (139°F) [4.55kPa (66 PSI)]
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:	Rate A, 168°C (334°F)
Flammability UL94 Flame Class:	1.5mm (0.06") Thickness, Class HB

### Flame & UV Properties:

UV Properties [Black or UV resistant coloured]:	Very Good
UV Properties [Natural coloured]:	Some loss of physical properties & yellowing may occur under conditions of prolonged exposure.

### Low Smoke Zero Halogen Version:

Low Smoke:	BS 6853 : 1999 Apx D Clause D 8.3 (Smoke)
Zero Halogen:	IEC 754-1: 1994

### Air Handling Spaces (PLENUM) Version:

"For Positioning Only, Indoors only, Suitable for use in Air Handling Spaces in accordance with Section 300-22 (C) and (D) of the National Electric Code, and Rules 12-010 (3), (4), and (5), and 12-020 of the Canadian Electric Code, Part 1, File E230261"

USA Meets:	Section 300.22 (C ) and (D ) of the National Electric Code
Canada Meets:	Rules 12-010 (3), (4) and (5) , and 12-020, Part 1, Canadian Electrical Code