Issue P: 01/10/2020

**Emtelle UK Ltd.**
Haughhead
Hawick TD9 8LF
United Kingdom

info@emtelle.com
emtelle.com

# Product Datasheet MHT 423

## Generic Specification Low Fire Hazard bundles

CE EN61386-22 – 1, 2, 2, 0

FibreFlow™

## Product Description

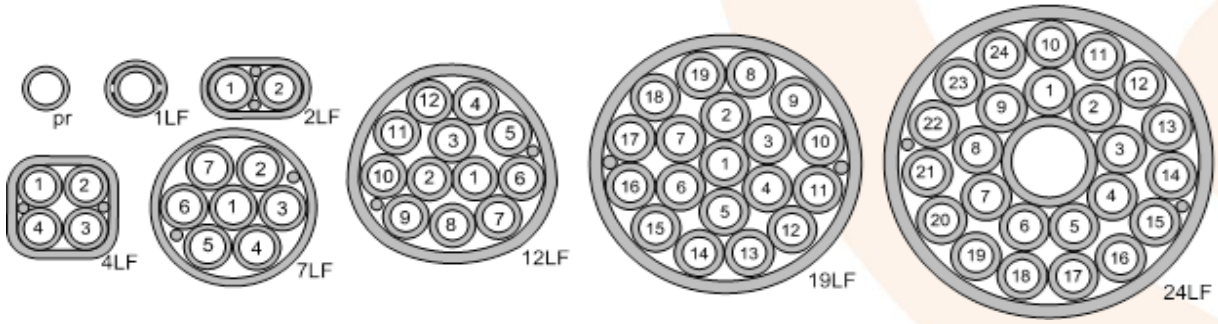
Assemblies of LFH microducts (m/d) as specification MHT 381 (5/3.5), each with low friction performance for fibre blowing. Each assembly is surrounded with a sheath of LFH material, giving excellent performance in a fire scenario: They are a) Low flammability b) Low smoke c) Low acid/fume d) Halogen-free. These lightweight, metal-free, flexible products are intended for indoor installation, and may be pulled into suitable indoor ducts using low tensions (listed). They are not for direct burial or aerial use.

Conduits from single to 19-way have limited levels of heat release, smoke and acid gas evolution and their reaction to fire performance should allow for their installation in combination with cables of **Euroclass $C_{ca}$, s1a, d2, a1** in accordance with EN13501-6 without degrading the overall reaction to fire performance of the overall infrastructure. For further details see tests 7-10 on page 2.
Any suitable sized Emtelle fibre unit: The 5/3.5mm microduct bundles will accommodate all Fibre Unit counts: 2FU - 24FU.

## Product Benefits

| | | | |
|---|---|---|---|
| Microducts are tested according to IEC 60794-5 | Blowing track: 2000 m Performance confirmed | Em-Liner for Low Friction and best blowing results | Pressure tight up to 15 bar |

## Application and Design




**Inner surface:**
Smooth or ribbed + Em-Liner

**Colour identification of single ducts:**
Translucent, stripes possible
Other colours upon request

## Generic Details: Single Microduct

| | |
|---|---|
| Outer diameter | 5.0mm |
| Inner diameter | 3.5mm |
| Mass, nominal | 15g/m |
| Min. bending radius of primary duct* | 50mm |
| Max. pull tension, single duct | 60N (25 kg) |

NB: ** This radius relates to the microduct capability only and does not indicate a suitable radius for blowing FU.

1. Microduct sizes are compatible with designated connectors
2. Max air pressure for blowing, all microducts: 10bar.
3. Max blowing temperature 40°C
4. Operating temperature (not blowing): -20ºC to +60ºC
5. Storage temperature: -25ºC to +65ºC
6. Storage of bundles and unprotected m/ds: Indoors and well shielded from daylight

## Generic Details: Microduct Bundle

1. Extruded from 100% virgin compound with these characteristics:
2. Tensile strength 11.5MPa, 102% retention after 7d at 110ºC IEC60811-501
3. Elongation at break 155%, 94% retention after 7 days at 110°C
4. Cold elongation at -25°C minimum 43%
5. No halogen content (chlorine, bromine, fluorine)
6. Oxygen Index (LOI) 40%

## Product-Specific Details

| Type | Outer Diameter | Mass | Max. Pull Tension (Installation) | Min. Bend Radius |
|---|---|---|---|---|
| **5/3.5mm** | | | | |
| 1-WAY LF | 7.2 mm | 45 g/m | 0,15 kN / 15 kg | 100 mm |
| 2-WAY LF | 7.2 x 12.2 mm | 80 g/m | 0.25 kN / 25 kg | 150 mm |
| 4-WAY LF | 12.2 x 14.3 mm | 127 g/m | 0.4 kN / 40 kg | 150 mm |
| 7-WAY LF | 17.2 mm | 190 g/m | 0.6 kN / 60 kg | 220 mm |
| 12-WAY LF | 22.9 mm | 310 g/m | 0.95 kN / 95 kg | 300 mm |
| 19-WAY LF | 26.9 mm | 438 g/m | 1.3 kN / 130 kg | 350 mm |
| 24-WAY LF | 32.5 mm | 591 g/m | 1.8 kN / 180 kg | 500 mm |

* After applying pulling tensions, allow time for the pulled product to relax. See Installation manual.

## Testing

Mechanical:

| | | |
|---|---|---|
| Tensile | IEC 60794-1-2-Method E1 | Procedure to IEC 60794-5 |
| Crush | IEC 60794-1-2-Method E3 | Procedure to IEC 60794-5 |
| Impact | IEC 60794-1-2-Method E4 | Procedure to IEC 60794-5 |
| Kink | IEC 60794-1-2-Method E10 | Procedure to IEC 60794-5 |
| Bend | IEC 60794-1-2-Method E11 | Procedure to IEC 60794-5 |
| EN61386-22 | Conduit systems for cable management | Particular requirements pliable conduit systems. |

Fire:
EN50575:2014 : Power, control and communication cables – Cables for general applications in construction works subject to reaction to fire requirements.

| | |
|---|---|
| Heat Release | EN 50399 |
| Vertical Burn | IEC 60332-1 |
| Corrosive gas Emission | BS EN 60754-2: 2014 |
| Smoke Emission | BS EN 61034-2: 2005 |

EN13501-6:2014 Fire classification of construction products and building elements.

For further details of tests 7-10 see BRE Global reports P104087-1000-

*Note 1: Diameters and thicknesses are measured to the nearest 0.1mm.*
*Note 2: 'nominal' data is based on middle-spec, and is for information only, not for inspection purposes.*
*Note 3: Sketches are for information purposes only and should not be used for inspection.*
*Note 4: When interpreting performance data and installing m/ds, bundles, or fibre units, it is assumed that the user has been trained by Emtelle.*
*Note 5: Users must establish the suitability of these products for their own applications.*