Delivering optimum signal transmission and precise electrical length-matching capability in a compact size, Temp-Flex® MediSpec™ High-Density Micro-Ribbon Cables are ideal for invasive and implantable medical applications

Solving the challenge of achieving high-density, long-length, precise signal transmission, Temp-Flex® MediSpec™ High-Density Micro-Ribbon Cables reduce costs on invasive and implantable medical equipment by replacing individual primary wires and flexible circuits with ribbonized parallel wires. The adjacent, parallel wires are bonded together using fluoropolymer technology into an organized, dense package for ease-of-routing and electrical length matching. This technology ensures each wire is the same length on a tightly controlled pitch to deliver precise electrical performance. The continuous cables are available in long lengths and are not limited by standard manufacturing capability or pricing constraints of traditional flex-circuit designs. The intermittently bonded optional design has both ribbon and discrete sections within a cable length for 360° mobility.

**Features and Benefits**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-loss dielectric constant (down to 2.1) dependent on insulation material</td>
<td>For optimum signal transmission with minimum loss</td>
</tr>
<tr>
<td>Continuous, ribbonized parallel wires are bonded together in long cable lengths (continuous spools based on customer’s requirements)</td>
<td>Ensures precise electrical length matching and ease-of-routing</td>
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<tr>
<td>Industry leader in fine-wire, fluoropolymer-insulated Micro-Ribbon Cable</td>
<td>Highly reliable cabling solutions in an extremely condensed format</td>
</tr>
<tr>
<td>Compact size comprised of a small pitch (76µm [0.003&quot;], tight tolerance (13µm [0.0005&quot;] and a variety of wire gauges (36 to 50 AWG)</td>
<td>Enables multiple, high-density signal channels (up to 13 signals per mm or 169 signals/mm²)</td>
</tr>
<tr>
<td>Proven Temp-Flex MediSpec performance using biocompatible materials</td>
<td>Ensures cables are ideal for implantable and invasive medical applications</td>
</tr>
<tr>
<td>Variety of conductor materials including silver-plated copper (SPC), MP35N, precious metals and stainless steel</td>
<td>Supports a high degree of customization</td>
</tr>
</tbody>
</table>

**Applications**

**Medical Equipment**
- Catheters
- Heart Mapping
- Ablation
- Video Arthroscopy
- Complementary metal–oxide–semiconductor (CMOS) Sensors
- Minimally Invasive Imaging
- Ultrasound
- Endoscopy
- Implantable Therapeutic
- Pain Management
- Glucose Monitoring
Specifications

Reference Information
Packaging:
- 6.00” spools typical or as per customer request
UL File No.: E61522
  - Style Number 20809 for 36 to 46 AWG,
  - with PFA insulation only
Designed In: Millimeters
RoHS: Yes
Halogen Free: No

Construction
Conductor Material:
- Silver-Plated Copper, Alloy (MP35N), Precious
  Metals, Stainless Steel
Conductor Size: 36 to 50 AWG
Insulation: ETFE, PFA, Pebax® TPE, Nylon, and others
Pitch:
  - Dependent on specific order number,
    as small as 76µm (0.003“)
Pitch tolerance: +/- 13µm (0.0005“)

Electrical
Dielectric Constant:
- 2.5 (ETFE), 2.1 (PFA), 3.2 to 5 (Nylon), 2.8 (TPE)
Time Delay:
- 5.282 ns/m (1.61 ns/ft) ETFE; 4.822 ns/m
  (1.47 ns/ft) PFE; 5.971 to 7.448m
  (1.82 to 2.27 ns/ft) Nylon
Dielectric Withstanding Voltage: 250V DC

Physical
Fire Resistance:
- ETFE and PFA — UL94 V-0
  Nylon — UL94 HB
Operating Temperature:
- ETFE: -55 to +150°C
  PFA: -55 to +260°C
  Nylon: -40 to +80°C
  TPE: -40 to +125°C

RoHS: Yes
Halogen Free: No

Mechanical
Bend (+/- 90°) Flex Life:
  - Dependent on specific order number
Rolling Flex Life:
  - Dependent on specific order number
Weight:
  - Dependent on specific order number

Additional Features
Temp-Flex MediSpec High-Density Micro-Ribbon Cables are an ideal, cost-effective alternative to
collectors’ flexible circuits when 0.48m (1.5 ft.)
or longer lengths are required
Continuous, ribbonized parallel wires are bonded
together in long cable lengths (no predetermined
length — continuous spools based on customer’s
requirements)

Ordering Information

<table>
<thead>
<tr>
<th>Series No.</th>
<th>URL</th>
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</table>

*Pebax is a registered trademark of Arkema