



## FEATURES

- ◆ Passive, long length sensor
- ◆ Very tough, water resistant and flexible
- ◆ Temperature stability to 85°C
- ◆ Self-shielded coaxial construction
- ◆ High voltage response
- ◆ Low impedance per unit length
- ◆ Field repairable
- ◆ Simplified interconnections

## APPLICATIONS

- ◆ Perimeter intrusion detection
- ◆ Safety and security fencing
- ◆ Door edge / vehicle bumper switch
- ◆ Cable tampering detector
- ◆ Traffic classification / counting
- ◆ Weather sensing (rain & hail)
- ◆ Structural NDT, strain, vibration
- ◆ Underwater acoustics
- ◆ Patient mattress monitor
- ◆ Sports scoring & foul line detection

# PIEZO SPIRAL WRAPPED COAXIAL CABLE

## SPECIFICATIONS

- ◆ Coaxial design piezo sensor
- ◆ Shielded construction
- ◆ Ideal for linear application
- ◆ Rugged
- ◆ Water resistant
- ◆ Piezo film technology

Piezo cable is another form of piezo polymer sensors. Designed as a coaxial cable, the Piezo polymer is the dielectric between the center core and the outer braid. When the cable is compressed or stretched, a charge or voltage is generated which is proportional to the stress.

Piezo cable has a number of advantages in certain applications. Due to its coaxial design, the cable is self-shielded, allowing its use in a high EMI environment. The piezo cable can also be spliced to passive coax, using standard coax splice techniques. It is extremely rugged and will stand up to heavy loads. Its linear format makes it ideal for monitoring large areas.

In the cable construction, two narrow ribbons of PVDF film are helically wound around the inner conductor, which comprises a 20 AWG stranded silver-plated copper wire. The cable is then braided, and jacketed with an extruded high-density polyethylene.

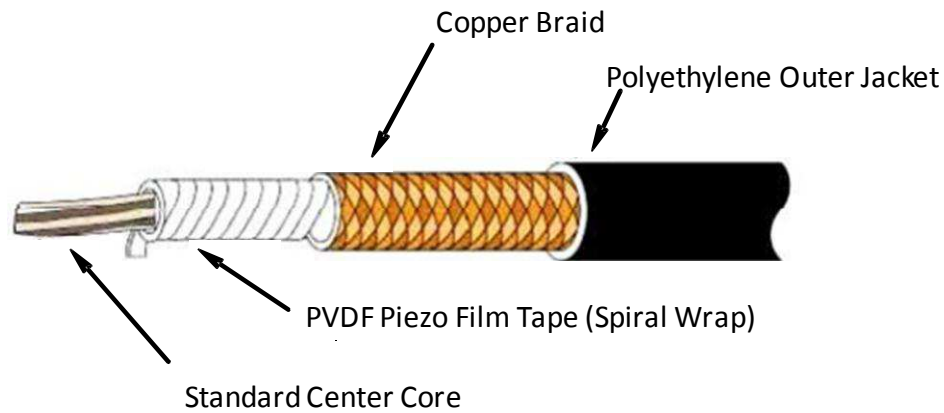
The cable is available in short lengths (in multiples of 1 m), or as long, single cut lengths wound on spools.

# PIEZO SPIRAL WRAPPED COAXIAL CABLE

## PERFORMANCE SPECIFICATIONS

| Properties                                 | Typical Value | Units        |
|--|---------------|--------------|
| Outside Diameter                           | 2.69          | mm           |
| Capacitance @ 1 kHz                        | 950           | pF/m         |
| Weight                                     | 14.5          | kg/km        |
| Resistance of shield (DC)                  | 47            | $\Omega$ /km |
| Tan Delta (dissipation factor)             | 0.016         | @ 1 kHz (1m) |
| Hydrostatic Piezo Coefficient ( $d_{33}$ ) | 20            | pC/N         |
| Resistance of center core (DC)             | 31            | $\Omega$ /km |

## DIMENSIONS IN INCHES (mm)



**20 AWG Cable - Spiral Wrap**

| Description                 | Dimensions   |                  | Capacitance<br>pF/ft (pF/m) | Part Number |
|-----------------------------|--------------|------------------|-----------------------------|-------------|
|                             | Center Core  | Outside Diameter |                             |             |
| 20 AWG Piezo Cable (spiral) | 0.040 (1.02) | 0.105 (2.67)     | 279 (980)                   | 1005801-1   |

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