Foamed Polyethylene Dielectric leaky Coaxial Cables

APPLICATION

Foamed polyethylene dielectric leaky coaxial cables solve wireless communication problems in confined areas, such as buildings, tunnels, and subways, functioning as a distributed antenna.

![Diagram of a distributed antenna system with fixed station, optical fiber transmitting system, and leaky coaxial cable in a tunnel setting.](image)

- **tunnel**
- **marketplace**
- **subway**
- **Underground parking**
## Foamed Polyethylene Dielectric leaky Coaxial Cables

<table>
<thead>
<tr>
<th></th>
<th>1/2”</th>
<th>7/8”</th>
<th>1-1/4”</th>
<th>1-5/8”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Retardant Jacket</td>
<td>HLCAYZ-50-12</td>
<td>HLCYTYZ-50-22</td>
<td>HLCYTYZ-50-32</td>
<td>HLCYTYZ-50-42</td>
</tr>
</tbody>
</table>

### Main Materials

<table>
<thead>
<tr>
<th></th>
<th>Copper Clad Aluminum</th>
<th>Smooth Copper Tube</th>
<th>Corrugated Copper-tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer Conductor</td>
<td>Corrugated Copper-tube With Slot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacket</td>
<td>Standard</td>
<td>Retardant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linear Low Density PE</td>
<td>Non-halogen flame retardant jacket</td>
<td></td>
</tr>
</tbody>
</table>

### Mechanical Performance

<table>
<thead>
<tr>
<th>Minimum Bending</th>
<th>Single Bending</th>
<th>Multiple Bending</th>
<th>Weight kg/km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending</td>
<td>140</td>
<td>250</td>
<td>23</td>
</tr>
<tr>
<td>Radius mm</td>
<td>240</td>
<td>500</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>760</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>1020</td>
<td>146</td>
</tr>
</tbody>
</table>

### Electrical Performance

<table>
<thead>
<tr>
<th></th>
<th>Velocity %</th>
<th>Capacitance pF/m</th>
<th>Impedance Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>88</td>
<td>76</td>
<td>9.30</td>
</tr>
<tr>
<td></td>
<td>88</td>
<td>76</td>
<td>12.90</td>
</tr>
<tr>
<td></td>
<td>88</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td></td>
<td>88</td>
<td>76</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attenuation dB/100m</th>
<th>20°C max</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 MHz</td>
<td>9.30</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>12.90</td>
</tr>
</tbody>
</table>

### Loss dB, 2m

| 900 MHz | 71 | 78 | 80 | 85 |
Details

Foamed Polyethylene Dielectric leaky Coaxial Cables

Standard Jacket: HLCAY - 50 - 12 (1/2”)
Fire retardant Jacket: HLCAYZ - 50 - 12 (1/2” Retardant)

Characteristics

Low Attenuation, low VSWR, High expansion, high power rating, Excellent environmental performance and Mechanical Performance.

Application

Foamed polyethylene dielectric leaky coaxial cables solve wireless communication problems in confined areas, such as buildings, tunnels, and subways.

Construction

Inner conductor
Copper Clad Aluminum
Diameter (mm) 4.83±0.10

Insulation
3 layers of Insulation
Diameter (mm) 12.0±0.5

Out conductor
Corrugated Copper-tube With Slot
Diameter over copper
Outer conductor (mm) 13.80±0.25
Diameter over trough(mm)11.70±0.25
Pitch (mm) 5.10±0.30

Jacket
Thickness (mm) 1.0±0.1
Diameter (mm) 15.6±0.2

Engineering data

Weigh (kg/km) 230
Minimum Bending Radius (mm)
Single Bending 140
Multiple Bending 250
Temperature range (°C)
Standard jacket -40 ~ +70
Fire Retardant Jacket-25 ~ +70

Standard: IEC 61196-1995

Electrical Performance

Impedance (Ω) 50±2
Capacitance (pF/m) 76±2
Velocity (%) 88
Dc Resistance (20°C, Ω/km)
Inner Conductor 1.62
Outer Conductor 2.38

Dc Breakdown, volts (V) 8000

Frequency  Attenuation
150 MHz 3.1
450 MHz 6.4
900 MHz 9.3
1800 MHz 12.9
2400 MHz 15.4

Couple loss (50%, 2m, max)
150 MHz 58
450 MHz 63
900 MHz 68
1800 MHz 73
2400 MHz 73

VSWR max
824 MHz ~ 960 MHz 1.30
1700 MHz ~ 1900 MHz 1.30
Details

Foamed Polyethylene Dielectric leaky Coaxial Cables.

Connector

Type: N-M 1/2, N-F 1/2, DIN-M 1/2, DIN-F 1/2
Interface: N, 7-16 DIN, Male/Female
VSWR (Max) ≤ 1.10
Insertion loss (dB) ≤ 0.3
Impedance (Ω): 50
Insulation Resistance (MΩ): ≥ 10000
Frequency range (MHz) 1 ~ 3000
Proof Voltage (V) ≤ 2700
Mating Cycles: ≥ 500
**Details**

Foamed Polyethylene Dielectric leaky Coaxial Cables

Standard Jacket: HLCTY-50-22 (7/8”)
Fire retardant Jacket: HLCTYZ-50-22 (7/8”Retardant)

**Characteristics**

Low Attenuation, low VSWR, High expansion, high power rating, Excellent environmental performance and Mechanical Performance.

**Application**

Foamed polyethylene dielectric leaky coaxial cables solve wireless communication problems in confined areas, such as buildings, tunnels, and subways.

**Construction**

Inner conductor
- Smooth copper tube
- Diameter (mm) 9.00±0.10

Insulation
- 3 layers of Insulation
- Diameter (mm) 22.0±0.5

Out conductor
- Corrugated Copper-tube With Slot
- Diameter over copper
  - Outer conductor (mm) 24.94±0.30
  - Diameter over trough(mm)21.59±0.30
- Pitch (mm) 7.00±0.30

Jacket
- Thickness (mm) 1.3±0.1
- Diameter (mm) 27.6±0.5

**Engineering data**

Weigh (kg/km) 570
Minimum Bending Radius (mm)
  - Single Bending 240
  - Multiple Bending 500
Temperature range (*°C*)
  - Standard jacket -40 ~ +70
  - Fire Retardant Jacket-25 ~ +70

Standard: IEC 61196-1995

**Electrical Performance**

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Impedance (Ω)</th>
<th>Capacitance (pF/m)</th>
<th>Velocity (%)</th>
<th>Dc Resistance (Ω/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>50±2</td>
<td>76±2</td>
<td>88</td>
<td>Inner Conductor 1.18</td>
</tr>
<tr>
<td>450</td>
<td>3.4</td>
<td></td>
<td></td>
<td>Outer Conductor 1.25</td>
</tr>
<tr>
<td>900</td>
<td>5.0</td>
<td></td>
<td></td>
<td>10000</td>
</tr>
<tr>
<td>1800</td>
<td>7.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2400</td>
<td>8.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 MHz</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>450 MHz</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900 MHz</td>
<td>72</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1800 MHz</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2400 MHz</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSWR max</td>
<td>1.30</td>
<td>1.30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

824 MHz ~ 960 MHz 1.30
1700 MHz ~ 1900 MHz 1.30
## Details

Foamed Polyethylene Dielectric leaky Coaxial Cables

### Connector

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>N-M 1/2, N-F 1/2, DIN-M 1/2, DIN-F 1/2</td>
</tr>
<tr>
<td>Interface</td>
<td>N, 7-16 DIN, Male/Female</td>
</tr>
<tr>
<td>VSWR (Max)</td>
<td>≤1.10</td>
</tr>
<tr>
<td>Insertion loss (dB)</td>
<td>≤0.3</td>
</tr>
<tr>
<td>Impedance (Ω)</td>
<td>50</td>
</tr>
<tr>
<td>Insulation Resistance (MΩ)</td>
<td>≥10000</td>
</tr>
<tr>
<td>Frequency range (MHz)</td>
<td>1 ~ 3000</td>
</tr>
<tr>
<td>Proof Voltage (V)</td>
<td>≤2700</td>
</tr>
<tr>
<td>Mating Cycles</td>
<td>≥500</td>
</tr>
</tbody>
</table>
Details

Foamed Polyethylene Dielectric leaky Coaxial Cables

Standard Jacket: HLCTY-50-32 (1-1/4”)
Fire retardant Jacket: HLCTYZ-50-32 (1-1/4” Retardant)

Characteristics

Low Attenuation, low VSWR, high expansion, high power rating, excellent environmental performance and Mechanical Performance.

Application

Foamed polyethylene dielectric leaky coaxial cables solve wireless communication problems in confined areas, such as buildings, tunnels, and subways.

Construction

Inner conductor
- Smooth copper tube
- Diameter (mm) 13.1±0.10

Insulation
- 3 layers of Insulation
- Diameter (mm) 32.0±0.5

Out conductor
- Corrugated Copper-tube With Slot
- Diameter over copper
  - Outer conductor (mm) 35.80±0.30
  - Diameter over trough (mm) 31.70±0.30
- Pitch (mm) 8.00±0.30

Jacket
- Thickness (mm) 1.2±0.1
- Diameter (mm) 38.6±0.3

Engineering data

- Weight (kg/km) 960
- Minimum Bending Radius (mm)
  - Single Bending 400
  - Multiple Bending 760
- Temperature range (°C)
  - Standard jacket -40 ~ +70
  - Fire Retardant Jacket -25 ~ +70

Standard: IEC 61196-1995

Electrical Performance

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Impedance (Ω)</th>
<th>Capacitance (pF/m)</th>
<th>Velocity (%)</th>
<th>Dc Resistance (20°C, Ω/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150MHz</td>
<td>50±2</td>
<td>76±2</td>
<td>88</td>
<td>Inner Conductor 0.78</td>
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<tr>
<td>450MHz</td>
<td>50±2</td>
<td>76±2</td>
<td>88</td>
<td>Outer Conductor 0.72</td>
</tr>
</tbody>
</table>

DC Breakdown, volts (V) 10000

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Attenuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>150MHz</td>
<td>1.2</td>
</tr>
<tr>
<td>450MHz</td>
<td>2.8</td>
</tr>
<tr>
<td>900MHz</td>
<td>4.1</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>5.2</td>
</tr>
<tr>
<td>2400 MHz</td>
<td>6.5</td>
</tr>
</tbody>
</table>

Couple loss (50%, 2m, max)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Attenuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>150MHz</td>
<td>64</td>
</tr>
<tr>
<td>450MHz</td>
<td>75</td>
</tr>
<tr>
<td>900MHz</td>
<td>77</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>84</td>
</tr>
<tr>
<td>2400 MHz</td>
<td>76</td>
</tr>
</tbody>
</table>

VSWR max

<table>
<thead>
<tr>
<th></th>
<th>824MHz ~ 960MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>1700MHz ~ 1900MHz</td>
</tr>
</tbody>
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Details

Foamed Polyethylene Dielectric leaky Coaxial Cables

**Connector**

- **Type**: N-M 1/2, N-F 1/2, DIN-M 1/2, DIN-F 1/2
- **Interface**: N, 7-16 DIN, Male/Female
- **VSWR (Max)**: ≤1.10
- **Insertion loss (dB)**: ≤0.3
- **Impedance (Ω)**: 50
- **Insulation Resistance (MΩ)**: ≥10000
- **Frequency range (MHz)**: 1 ~ 3000
- **Proof Voltage (V)**: ≤2700
- **Mating Cycles**: ≥500
Details

Foamed Polyethylene Dielectric leaky Coaxial Cables

Standard Jacket: HLHTY-50-42 (1-5/8”)
Fire retardant Jacket: HLHTYZ-50-42 (1-5/8” Retardant)

Characteristics

Low Attenuation, low VSWR, high expansion, high power rating, excellent environmental performance and Mechanical Performance.

Application

Foamed polyethylene dielectric leaky coaxial communication cables solve wireless communication problems in confined areas, such as buildings, tunnels, and subways.

Construction

Inner conductor
Corrugated Copper-tube
Diameter (mm) 17.30±0.10

Insulation
3 layers of Insulation
Diameter (mm) 42.0±0.5

Out conductor
Corrugated Copper-tube With Slot
Diameter over copper
Outer conductor (mm) 46.50±0.30
Diameter over trough(mm)41.30±0.30
Pitch (mm) 10.0±0.30

Jacket
Thickness (mm) 1.5±0.1
Diameter (mm) 49.5±0.5

Engineering data

Weigh (kg/km) 1460
Minimum Bending Radius (mm)
Single Bending 600
Multiple Bending 1020

Temperature range (°C)
Standard jacket -40 ~ +70
Fire Retardant Jacket-25 ~ +70

Electrical Performance

Impedance (Ω) 50±2
Capacitance (pF/m) 76±2
Velocity (%) 88
Dc Resistance (20°C, Ω/km)
Inner Conductor 0.91
Outer Conductor 0.58
Dc Breakdown, volts (V) 10000
Frequency 150MHz 1.30
450MHz 1.30
900MHz 1.30
1800 MHz 1.30
2400 MHz 1.30
Couple loss (50%, 2m, max)
150MHz 71
450MHz 80
900MHz 79
1800 MHz 89
2400 MHz 89
VSWR max
824MHz ~ 960MHz 1.30
1700MHz ~ 1900MHz 1.30

Standard : IEC 61196-1995
## Foamed Polyethylene Dielectric leaky Coaxial Cables

### Connector

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