# Detailed Specifications & Technical Data

**ENGLISH MEASUREMENT VERSION**

**7810R Coax - RG-8 Type**

For more Information please call

1-800-Belden1

## General Description:

RG-8 type, 10 AWG solid .108" bare copper-covered aluminum conductor, gas-injected foam HDPE insulation, Duobond® II + tinned copper braid shield (95% coverage), PVC jacket.

## Physical Characteristics (Overall)

### Conductor

**AWG:**

| # Coax | AWG | Stranding | Conductor Material | Dia. (in.) |
|---|---|---|---|---|
| 1 | 10 | Solid | BCCA - Bare Copper Covered Aluminum | .108 |

| | |
|---|---|
| **Total Number of Conductors:** | 1 |

### Insulation

**Insulation Material:**

| Insulation Material | Dia. (in.) |
|---|---|
| Gas-injected FHDPE - Foam High Density Polyethylene | .285 |

### Outer Shield

**Outer Shield Material:**

| Layer # | Outer Shield Trade Name | Type | Outer Shield Material | Coverage (%) |
|---|---|---|---|---|
| 1 | Bonded Duofoil® | Tape | Bonded Aluminum Foil-Polyester Tape-Aluminum Foil | 100 |
| 2 | | Braid | TC - Tinned Copper | 95 |

### Outer Jacket

**Outer Jacket Material:**

| Outer Jacket Material |
|---|
| PVC - Polyvinyl Chloride |

### Overall Cable

| | |
|---|---|
| **Overall Nominal Diameter:** | 0.403 in. |

## Mechanical Characteristics (Overall)

| | |
|---|---|
| **Operating Temperature Range:** | -40°C To +75°C |
| **UL Temperature Rating:** | 60°C |
| **Bulk Cable Weight:** | 86 lbs/1000 ft. |
| **Max. Recommended Pulling Tension:** | 150 lbs. |
| **Min. Bend Radius/Minor Axis:** | 4 in. |

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

| | |
|---|---|
| **NEC/(UL) Specification:** | CMR |
| **CEC/C(UL) Specification:** | CMG |
| **EU Directive 2011/65/EU (ROHS II):** | Yes |
| **EU CE Mark:** | Yes |
| **EU Directive 2000/53/EC (ELV):** | Yes |
| **EU Directive 2002/95/EC (RoHS):** | Yes |
| **EU RoHS Compliance Date (mm/dd/yyyy):** | 01/01/2004 |
| **EU Directive 2002/96/EC (WEEE):** | Yes |
| **EU Directive 2003/11/EC (BFR):** | Yes |
| **CA Prop 65 (CJ for Wire & Cable):** | Yes |
| **MII Order #39 (China RoHS):** | Yes |
| **RG Type:** | 8/U |
| **Series Type:** | RF 400 |

### Flame Test

| | |
|---|---|
| **UL Flame Test:** | UL1666 Vertical Shaft |
| **CSA Flame Test:** | FT4 |

### Suitability

| | |
|---|---|
| **Suitability - Indoor:** | Yes |

### Plenum/Non-Plenum

| | |
|---|---|
| **Plenum (Y/N):** | No |

## Electrical Characteristics (Overall)

**Nom. Characteristic Impedance:**

| Impedance (Ohm) |
|---|
| 50 |

**Nom. Inductance:**

| Inductance (µH/ft) |
|---|
| 0.060 |

**Nom. Capacitance Conductor to Shield:**

| Capacitance (pF/ft) |
|---|
| 23.0 |

**Nominal Velocity of Propagation:**

| VP (%) |
|---|
| 86 |

**Nominal Delay:**

| Delay (ns/ft) |
|---|
| 1.17 |

**Nom. Conductor DC Resistance:**

| DCR @ 20°C (Ohm/1000 ft) |
|---|
| 1.34 |

**Nominal Outer Shield DC Resistance:**

| DCR @ 20°C (Ohm/1000 ft) |
|---|
| 2 |

**Maximum VSWR:**

| Description | Freq. (MHz) | Start Freq. (MHz) | Stop Freq. (MHz) | Max. VSWR |
|---|---|---|---|---|
| | | 5 | 6000 | 1.25:1 |

**Nom. Attenuation:**

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|---|---|
| 30 | 0.7 |
| 50 | 0.9 |
| 150 | 1.5 |
| 220 | 1.8 |
| 450 | 2.7 |
| 900 | 3.8 |
| 1500 | 5.1 |
| 1800 | 5.6 |
| 2000 | 6.0 |
| 2500 | 6.7 |
| 3000 | 7.5 |
| 3500 | 8.2 |
| 4500 | 9.5 |
| 5800 | 11.1 |
| 6000 | 11.4 |

**Max. Attenuation:**

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|---|---|
| 30 | 0.70 |
| 50 | 0.93 |
| 150 | 1.58 |
| 220 | 1.94 |
| 450 | 2.83 |
| 900 | 4.06 |
| 1500 | 5.32 |
| 1800 | 5.98 |
| 2000 | 6.35 |
| 2500 | 7.08 |

| | |
|---|---|
| 3000 | 7.97 |
| 3500 | 8.80 |
| 4500 | 10.23 |
| 5800 | 12.00 |
| 6000 | 12.23 |

**Max. Power Rating:**

| Freq. (MHz) | Rating (W) |
|---|---|
| 30 | 3427 |
| 50 | 2588 |
| 150 | 1428 |
| 220 | 1195 |
| 450 | 817 |
| 900 | 575 |
| 1500 | 437 |
| 1800 | 399 |
| 2000 | 375 |
| 2500 | 334 |
| 3000 | 305 |
| 3500 | 282 |
| 4500 | 247 |
| 5800 | 217 |
| 6000 | 213 |

**Max. Operating Voltage - Non-UL:**

| Voltage |
|---|
| 300 V RMS |

### Sweep Test

**Sweep Testing:** 100% Sweep tested to 6 GHz.

## Misc. Information (Overall)

## Notes (Overall)

**Notes:** 100% Sweep tested. 6 GHz. Belden® The Wire in Wireless®

## Put Ups and Colors:

| Item # | Putup | Ship Weight | Color | Notes | Item Desc |
|---|---|---|---|---|---|
| 7810R 0101000 | 1,000 FT | 95.000 LB | BLACK | C | #10 LDPE/FHDPE SH FRPVC |
| 7810R 010500 | 500 FT | 47.000 LB | BLACK | C | #10 LDPE/FHDPE SH FRPVC |

**Notes:**
C = CRATE REEL PUT-UP.

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