

NP 112E

Belden's new Brilliance® oxygen-free high-conductivity FRNC speaker cables deliver top performance and offer easy installation benefits in residential buildings.



Belden Brilliance® Oxygen-Free High-Conductivity FRNC Speaker Cables

Belden's Brilliance® oxygen-free high-conductivity (OFHC) halogen-free speaker cables are ideal for loud speaker manufacturers, installers and users. Designed for indoor, outdoor and burial applications, they deliver distinctive sound performance and installation benefits. Four types are available with 2.5 mm² and 4.00 mm² constructions, all of them with 100, 500 and 1000 m put-ups.

Enhanced Sound Performance

Belden Brilliance® OFHC halogen-free speaker cables are made using an upright shaft manufacturing process. The result is a highly efficient, high-purity copper conductor that transmits superb sound quality. Exceptional audio clarity is also achieved by using polyolefin insulation, a distinctly better dielectric than traditional PVC. Polyolefin's low capacitance gives the cable a superior high-frequency response, it also allows extended distance runs.

Where are the Cables used?

Belden Brilliance® OFHC halogen-free speaker cables are designed for residential buildings, cruise ships, conference rooms, airports, concert venues, hospitals, schools and anywhere high-performance speaker cables are required.

Installation Advantages

Installers will benefit from easy identification features that aid installation and increase customer satisfaction. These features include sequential meter markings and room and zone legends on the cable jackets.

The round, matte black, halogen-free jackets also make the cables suitable for situations where there is an increased need to protect human life or valuable materials.

Benefits and Features

Belden Brilliance® OFHC halogen-free speaker cables offer many advantages over competitive products:

- High-conductivity oxygen-free copper transmits consistently pure sound
- Low-capacitance polyolefin insulation delivers superior high-frequency response and allows extended distance runs
- Clear and precise sound transmission
- Print legends for easy location identification
- Cable jackets are meter marked
- Easy-to-pull constructions
- Cold flexible up to -40° C
- For indoor and outdoor use
- Highly stranded copper conductors make installation easier
- Twisted conductors are better for RF, better for sound quality and deliver improved EMC
- Color-coded conductors
- Matte black flexible FRNC jackets protect the cable
- UV-resistant
- Halogen-free plastic comply with IEC 60332-1 meaning no toxic gas formation and low smoke density in fire situations
- Designed with the smallest outer diameter to reduce the cable space required

Applications

These high-performance cables connect loudspeakers with amplifiers making them ideal for use in:

- Intercom/PA systems
- Sound/audio systems
- Security systems
- Speaker systems
- Home theater and entertainment systems
- Stadium and arena speaker systems

Cable Construction

These are unshielded cables with 2.5 mm² and 4.0 mm² constructions using highly stranded conductors with

polyolefin insulation and flexible, black, halogen-free jackets. Conductors are twisted and color coded for easy identification.

- **Single pair types**
 - 70003E2: 2.5 mm² (13 AWG), 651 strand, 2 conductor
 - 70004E2: 4.0 mm² (11 AWG), 651 strand, 2 conductor
- **Speaker snake types**
 - 70003E4: 2.5 mm² (13 AWG), 651 strand, 4 conductor – can be used as bi-amp cable or can be doubled up with two sets of conductors for increased power handling with the added benefit of a 'star' configuration.
 - 70003E8: 2.5 mm² (13 AWG), 1040 strand, 8 conductor – ideal for quad-amp or stereo bi-amp.

Flexible Halogen-Free Design

PVC normally gives cables flexibility. Belden Brilliance® OFHC speaker cables provide superior flexibility compared with other halogen-free products.

The table below shows the flexibility values of PVC compared with halogen-free materials.

| Flexible Test acc. ASTM D747 | Mpa |
|--|-----|
| Standard PVC material | 23 |
| Belden Brilliance® OFHC halogen-free speaker cable | 56 |
| Flexible (expensive) halogen-free material | 70 |
| Standard halogen-free material | 110 |

Belden at Your Service

Belden offers a complete line of cables available from a single source. All cables are featured in the new EMEA Master Catalog (section 19 and 21).

Home Cinema Audio Cables – Halogen-Free High-Conductivity (Oxygen-Free) Copper Speaker Cables

| De- scription | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Color Code |
|------------------|-------------|---------------------------------|---------------------|---|-------------------------|----|--|--------------------------|----|-----------------------------------|------------|----|---------------------|--------------------------|---------------------|------|------------|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | |

Low Cap • 13 AWG • 2 Conductor • Stranded (651x0.07) 2.1 mm Bare Copper

| Polyolefin Insulation • Overall Matte Black FRNC/LSNH Jacket | | | | | | | | | | | | | | | | | | |
|--|----------------|-----------|------|------|-------|------|---------------|-------|------|------------|-------|------|------|---|---------|----|----|------------|
| 300V RMS 60°C | 70003E2 | IEC 332-1 | 328 | 100 | 21.6 | 9.8 | 2.05 mm | 0.114 | 2.90 | Unshielded | 0.315 | 8.00 | 7.40 | – | CDR/CDR | 23 | 76 | Red, Black |
| | | | 1640 | 500 | 108.1 | 49.0 | 13 AWG | | | | | | | | | | | |
| | | | 3280 | 1000 | 216.1 | 98.0 | (651x0.07) BC | | | | | | | | | | | |



2 CDR
2x2.50 mm²

Pulling Tension: 350 N
Black jacket is UV resistant.

Twisted conductors. Cold flexibel up to -40°C and for in- and outdoor use.
Print legends that incorporate location information (room 12345, zone ABCDE).
Flexible, easy-to-pull constructions (highly stranded conductors; halogen-free jackets).

Low Cap • 13 AWG • 4 Conductor • Stranded (651x0.07) 2.1 mm Bare Copper • Conductors Cabled with Fillers • Paper Wrap

| Polyolefin Insulation • Overall Matte Black FRNC/LSNH Jacket | | | | | | | | | | | | | | | | | | |
|--|----------------|-----------|------|------|-------|-------|---------------|-------|------|------------|-------|-------|------|---|---------|----|----|----------------------------|
| 300V RMS 60°C | 70003E4 | IEC 332-1 | 328 | 100 | 38.7 | 17.6 | 2.05 mm | 0.114 | 2.90 | Unshielded | 0.394 | 10.00 | 7.40 | – | CDR/CDR | 23 | 76 | Red, Black Green, White |
| | | | 1640 | 500 | 193.6 | 87.8 | 13 AWG | | | | | | | | | | | |
| | | | 3280 | 1000 | 387.1 | 175.6 | (651x0.07) BC | | | | | | | | | | | |



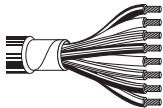
4 CDR
4x2.50 mm²

Pulling Tension: 700 N
Black jacket is UV resistant.

Twisted conductors. Cold flexibel up to -40°C and for in- and outdoor use.
Print legends that incorporate location information (room 12345, zone ABCDE).
Flexible, easy-to-pull constructions (highly stranded conductors; halogen-free jackets).

Low Cap • 13 AWG • 8 Conductor • Stranded (651x0.07) 2.1 mm Bare Copper • Conductors Cabled with Fillers • Paper Wrap

| Polyolefin Insulation • Overall Matte Black FRNC/LSNH Jacket | | | | | | | | | | | | | | | | | | |
|--|----------------|-----------|------|------|-------|-------|---------------|-------|------|------------|-------|-------|------|---|---------|----|----|---|
| 300V RMS 60°C | 70003E8 | IEC 332-1 | 328 | 100 | 62.2 | 28.2 | 2.05 mm | 0.114 | 2.90 | Unshielded | 0.488 | 12.40 | 7.40 | – | CDR/CDR | 23 | 76 | Red, Black Green, White Orange, Blue Yellow, Brown |
| | | | 820 | 250 | 155.5 | 70.6 | 13 AWG | | | | | | | | | | | |
| | | | 1640 | 500 | 311.1 | 141.1 | (651x0.07) BC | | | | | | | | | | | |
| | | | 3280 | 1000 | 622.1 | 282.2 | | | | | | | | | | | | |



8 CDR
8x2.50 mm²

Pulling Tension: 1500 N
Black jacket is UV resistant.

Twisted conductors. Cold flexibel up to -40°C and for in- and outdoor use.
Print legends that incorporate location information (room 12345, zone ABCDE).
Flexible, easy-to-pull constructions (highly stranded conductors; halogen-free jackets).

Low Cap • 11 AWG • 2 Conductor • Stranded (1040x0.07) 2.6 mm Bare Copper

| Polyolefin Insulation • Overall Matte Black FRNC/LSNH Jacket | | | | | | | | | | | | | | | | | | |
|--|----------------|-----------|------|------|-------|-------|----------------|-------|------|------------|-------|------|------|---|---------|----|-----|------------|
| 300V RMS 60°C | 70004E2 | IEC 332-1 | 328 | 100 | 30.3 | 13.8 | 2.60 mm | 0.138 | 3.50 | Unshielded | 0.370 | 9.40 | 4.50 | – | CDR/CDR | 35 | 116 | Red, Black |
| | | | 1640 | 500 | 151.6 | 68.8 | 11 AWG | | | | | | | | | | | |
| | | | 3280 | 1000 | 303.1 | 137.5 | (1040x0.07) BC | | | | | | | | | | | |



2 CDR
2x4.00 mm²

Pulling Tension: 550 N
Black jacket is UV resistant.

Twisted conductors. Cold flexibel up to -40°C and for in- and outdoor use.
Print legends that incorporate location information (room 12345, zone ABCDE).
Flexible, easy-to-pull constructions (highly stranded conductors; halogen-free jackets).

BC = Bare Copper • DCR = DC resistance