



**Product:** [4509FE](#) 

Life Cycle Status: Capability

Security & Sound, 12 Conductor 22 AWG BC, OS, LSZH

## Product Description

Security & Commercial Audio Cable, 12-22 AWG stranded bare copper conductors with polypropylene insulation, Beldfoil® shield, LSZH jacket with ripcord

## Technical Specifications

### Product Overview

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Suitable Applications: | Intercom/PA Systems, Sound/Audio Systems, Control Systems |
|------------------------|-----------------------------------------------------------|

### Physical Characteristics (Overall)

#### Conductor

| AWG | Stranding | Material         | No. of Conductors |
|-----|-----------|------------------|-------------------|
| 16  | 7x30      | BC - Bare Copper | 12                |

|                  |    |
|------------------|----|
| Conductor Count: | 12 |
|------------------|----|

#### Insulation

| Type       | Material           | Nominal Diameter | Diameter +/- Tolerance | Nominal Wall Thickness |
|------------|--------------------|------------------|------------------------|------------------------|
| Insulation | PP - Polypropylene | 1.07 mm          | 0.05 mm                | 0.2 mm                 |

#### Color Chart

| Color     |
|-----------|
| Black     |
| Red       |
| White     |
| Green     |
| Brown     |
| Blue      |
| Orange    |
| Yellow    |
| Purple    |
| Gray      |
| Pink      |
| Turquoise |

#### Outer Shield

| Type | Material                | Coverage [%] | Drainwire Material | Drainwire AWG |
|------|-------------------------|--------------|--------------------|---------------|
| Tape | Bi-Laminate (Alum+Poly) | 100%         | TC - Tinned Copper | AWG24/7       |

#### Outer Jacket

| Material                                        | Nominal Diameter | Nominal Wall Thickness | Ripcord |
|-------------------------------------------------|------------------|------------------------|---------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 5.7 mm           | 0.4 mm                 | Yes     |

|                            |                               |
|----------------------------|-------------------------------|
| Outer Jacket1 Table Notes: | Ripcord provided under sheath |
|----------------------------|-------------------------------|

### Electrical Characteristics

#### Conductor DCR

| Nominal Conductor DCR | Nominal Outer Shield DCR |
|-----------------------|--------------------------|
|-----------------------|--------------------------|

|           |           |
|-----------|-----------|
| 54 Ohm/km | 46 Ohm/km |
|-----------|-----------|

Capacitance

| Nom. Capacitance Conductor to Conductor | Nom. Capacitance Conductor to Other Conductor to Shield |
|-----------------------------------------|---------------------------------------------------------|
| 70 pF/m                                 | 130 pF/m                                                |

Current

| Max. Recommended Current [A] |
|------------------------------|
| 2 A                          |

Voltage

| Voltage Rating [V] |
|--------------------|
| 300 V              |

Temperature Range

|                                 |                |
|---------------------------------|----------------|
| Installation Temperature Range: | -20°C To +70°C |
| Storage Temperature Range:      | -30°C To +70°C |
| Operating Temperature Range:    | -20°C To +70°C |

Mechanical Characteristics

|                                          |       |
|------------------------------------------|-------|
| Maximum Recommended Pulling Tension:     | 200 N |
| Minimum Bend Radius During Installation: | 57 mm |
| Min Setting Radius:                      | 45 mm |

Suitability

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

Flammability, LSOH, Toxicity Testing

|                                                            |               |
|------------------------------------------------------------|---------------|
| IEC Flammability:                                          | IEC 60332-1-2 |
| IEC 60754-1 - Halogen Amount:                              | Zero          |
| IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity: | 2.5 µS/mm     |
| IEC 60754-2 - Halogen Acid Gas Amount - Min. pH:           | 4.3           |
| IEC 61034-2 - Smoke Density Min. Transmittance:            | 60%           |

Product Notes

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes: | This is a preliminary Technical Design Specification (TDS). The minimum business quantity to offer is 3km for the first order. This product will have Grey as standard color and 305mt as standard put-ups. Additional options for colors and put-ups are available on special request. The estimated production lead time for the first order will be similar to the production lead time of 4209fe. Please liaise with your Belden representative for confirmation. |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

History

|                      |                                                |
|----------------------|------------------------------------------------|
| Update and Revision: | Revision Number: 0.2 Revision Date: 09-30-2026 |
|----------------------|------------------------------------------------|

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