

## 7937A Multi-Conductor - DataTuff® Waterblocked Cate 5e Cable



For more Information  
please call

1-800-Belden1



### General Description:

24 AWG solid bare copper conductors, twisted bonded pairs, polyolefin insulation, polymer gel waterblocked, inner LLPE jacket, overall Beldfoil shield (100% coverage), 24 AWG stranded TC drain wire, industrial grade sunlight- and oil-resistant LLPE jacket.

### Usage (Overall)

**Suitable Applications:** Industrial Ethernet Cable, Harsh Environments, 100MHz Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, RS-422, CMX - Outdoor, RJ-45 Compatible, Noisy Environments

### Physical Characteristics (Overall)

#### Conductor

AWG:

| # Pairs | AWG | Stranding | Conductor Material | Dia. (in.) |
|---------|-----|-----------|--------------------|------------|
| 4       | 24  | Solid     | BC - Bare Copper   | 0.020      |

**Total Number of Conductors:** 8

#### Insulation

Insulation Material:

| Insulation Material | Wall Thickness (in.) | Dia. (in.) |
|---------------------|----------------------|------------|
| PO - Polyolefin     | 0.009                | 0.038      |

#### Inner Jacket

Inner Jacket Material:

| Inner Jacket Material                  | Nom. Dia. (in.) |
|--|-----------------|
| LLPE - Linear Low Density Polyethylene | 0.215           |

#### Outer Shield

Outer Shield Material:

| Outer Shield Trade Name | Type | Outer Shield Material        | Coverage (%) |
|-------------------------|------|------------------------------|--------------|
| Beldfoil®               | Tape | Aluminum Foil-Polyester Tape | 100          |

Outer Shield Drain Wire AWG:

| AWG | Stranding | Drain Wire Conductor Material |
|-----|-----------|-------------------------------|
| 24  | 7x32      | TC - Tinned Copper            |

#### Outer Jacket

Outer Jacket Material:

| Outer Jacket Material                  | Nom. Wall Thickness (in.) |
|--|---------------------------|
| LLPE - Linear Low Density Polyethylene | 0.020                     |

**Outer Jacket Ripcord:** No

#### Overall Cable

**Overall Nominal Diameter:** 0.276 in.

#### Pair

Pair Color Code Chart:

| Number | Color                        |
|--------|------------------------------|
| 1      | White/Blue Stripe & Blue     |
| 2      | White/Orange Stripe & Orange |
| 3      | White/Green Stripe & Green   |
| 4      | White/Brown Stripe & Brown   |

### Mechanical Characteristics (Overall)

**Storage Temperature Range:** -40°C To +85°C

**Installation Temperature Range:** -25°C To +75°C

**Operating Temperature Range:** -40°C To +75°C

**Bulk Cable Weight:** 33 lbs/1000 ft.

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|                                   |           |
|-----------------------------------|-----------|
| Max. Recommended Pulling Tension: | 40 lbs.   |
| Min. Bend Radius/Minor Axis:      | 2.750 in. |

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| EU Directive 2011/65/EU (ROHS II):    | Yes                                 |
| Other Standards:                      | ISO/IEC 11801 ed 2.1 (2008) Class D |
| 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                                 |
| Telecommunications Standards:         | Category 5e - TIA 568.C.2           |
| Other Specification:                  | NEMA WC-63.1 Category 5e            |

#### Applicable Patents:

|         |                  |
|---------|------------------|
| Country | www.belden.com/p |
|---------|------------------|

#### Suitability

|                        |                            |
|------------------------|----------------------------|
| Suitability - Outdoor: | Yes                        |
| Suitability - Burial:  | Yes - Telcordia, IEC, ICEA |
| Sunlight Resistance:   | Yes                        |
| Oil Resistance:        | Yes                        |
| Non-halogenated:       | Yes                        |

#### Plenum/Non-Plenum

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

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

|                     |    |
|---------------------|----|
| Capacitance (pF/ft) | 15 |
|---------------------|----|

|   |     |
|---|-----|
| Maximum Capacitance Unbalance (pF/100 m): | 330 |
|---|-----|

#### Nominal Velocity of Propagation:

|        |    |
|--------|----|
| VP (%) | 70 |
|--------|----|

#### Maximum Delay:

|                  |              |
|------------------|--------------|
| Delay (ns/100 m) | 538 @ 100MHz |
|------------------|--------------|

#### Max. Delay Skew:

|                       |    |
|-----------------------|----|
| Delay Skew (ns/100 m) | 45 |
|-----------------------|----|

#### Maximum Conductor DC Resistance:

|                        |      |
|------------------------|------|
| DCR @ 20°C (Ohm/100 m) | 9.38 |
|------------------------|------|

#### Max. Operating Voltage - UL:

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

#### Maximum DCR Unbalanced:

|                          |   |
|--------------------------|---|
| DCR Unbalance @ 20°C (%) | 3 |
|--------------------------|---|

### Electrical Characteristics-Premise (Overall)

#### Premise Cable Electrical Table 1:

| Freq. (MHz) | Max. Attenuation (dB/100 m) | Min. NEXT (dB) | Min. PSNEXT (dB) | Min. ACR (dB) | Min. PSACR (dB) | Min RL (dB) | Min. SRL (dB) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|---------------|
| 1           | 2.0                         | 65.3           | 62.3             | 63.0          | 60.0            | 20.0        | 23            |
| 4           | 4.1                         | 56.3           | 53.3             | 51.0          | 49.0            | 23.0        | 23.0          |
| 8           | 5.8                         | 51.8           | 48.8             | 46.0          | 43.0            | 24.5        | 24.5          |

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|       |      |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|------|
| 10    | 6.5  | 50.3 | 47.3 | 43.0 | 41.0 | 25.0 | 25.0 |
| 16    | 8.2  | 47.3 | 44.3 | 39.0 | 36.0 | 25.0 | 25.0 |
| 20    | 9.3  | 45.8 | 42.8 | 36.5 | 33.5 | 25.0 | 25.0 |
| 25    | 10.4 | 44.3 | 41.3 | 33.9 | 30.9 | 24.3 | 24.3 |
| 31.25 | 11.7 | 42.9 | 39.9 | 31.0 | 28.0 | 23.6 | 23.6 |
| 62.5  | 17.0 | 38.4 | 35.4 | 22.0 | 19.0 | 21.5 | 21.5 |
| 100   | 22.0 | 35.3 | 32.3 | 14.0 | 11.0 | 20.1 | 20.1 |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ELFEXT (dB) | Min. PSELFEXT (dB) |
|-------------|------------------------------|------------------|------------------|--------------------|
| 1           | 100 ± 15                     | 100 ± 15         | 63.8             | 60.8               |
| 4           | 100 ± 15                     | 100 ± 15         | 51.7             | 48.7               |
| 8           | 100 ± 15                     | 100 ± 15         | 45.7             | 42.7               |
| 10          | 100 ± 15                     | 100 ± 15         | 43.8             | 40.8               |
| 16          | 100 ± 15                     | 100 ± 15         | 39.7             | 36.7               |
| 20          | 100 ± 15                     | 100 ± 15         | 37.7             | 34.7               |
| 25          | 100 ± 15                     | 100 ± 15         | 35.8             | 32.8               |
| 31.25       | 100 ± 15                     | 100 ± 15         | 33.9             | 30.9               |
| 62.5        | 100 ± 15                     | 100 ± 15         | 27.8             | 24.8               |
| 100         | 100 ± 15                     | 100 ± 15         | 23.8             | 20.8               |

### Notes (Overall)

**Notes:** Operating temperatures are subject to length de-rating. Cable passes -40°C Cold Bend per UL 1581. Sequential marking at two foot intervals. Polymer gel waterblocking material.

**Notes (Cont'd.):** T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color | Notes | Item Desc                      |
|---------------|----------|-------------|-------|-------|--------------------------------|
| 7937A 0101000 | 1,000 FT | 38.000 LB   | BLACK |       | 4 PR #24 P0 GEL LLDPO FS LLDPO |

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