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please call

1-800-Belden1



## General Description:

IBM Type 1A, 22 AWG solid BC conductors, plenum, foam FEP Teflon® insulation, each pair individually Beldfoil® shielded + overall TC braid shield (65% coverage), rip cord, Flammarrest® jacket.

## Usage (Overall)

Suitable Applications: Token Ring 4 & 16 Mbps, FDDI over copper and video

## Physical Characteristics (Overall)

### Conductor

AWG:

| # Pairs | AWG | Stranding | Conductor Material |
|---------|-----|-----------|--------------------|
| 2       | 22  | Solid     | BC - Bare Copper   |

Total Number of Conductors: 4

### Insulation

Insulation Material:

| Insulation Material                        |
|--|
| FFEP - Foam Fluorinated Ethylene Propylene |

Insulation Resistance: > 16000 Megaohms

### Inner Shield

Inner Shield Material:

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

### Outer Shield

Outer Shield Material:

| Type  | Outer Shield Material | Coverage (%) |
|-------|-----------------------|--------------|
| Braid | TC - Tinned Copper    | 65           |

### Outer Jacket

Outer Jacket Material:

| Outer Jacket Trade Name | Outer Jacket Material                 |
|-------------------------|---------------------------------------|
| Flammarrest®            | LS PVC - Low Smoke Polyvinyl Chloride |

Outer Jacket Ripcord: Yes

## Overall Cable

Overall Nominal Diameter: 6.299 x 8.839 mm

## Pair

Pair Color Code Chart:

| Number | Color          |
|--------|----------------|
| 1      | Black & Orange |
| 2      | Red & Green    |

## Mechanical Characteristics (Overall)

Operating Temperature Range: 0°C To +75°C

Bulk Cable Weight: 96.733 Kg/Km

Max. Recommended Pulling Tension: 369.201 N

Min. Bend Radius/Minor Axis: 63.500 mm

Min. Bend/Installation: 63.500 mm

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMP

CEC/C(UL) Specification: CMP

|   |                           |
|---|---------------------------|
| EU Directive 2011/65/EU (ROHS II):            | Yes                       |
| IEEE Specification:                           | IEEE802.3 Token Ring      |
| 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):         | 10/01/2005                |
| 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                       |
| Other Specification:                          | Verified IBM Type 1A      |
| Customer Part Number Reference Specification: | IBM P/N: 4716749, 33G8220 |

**Flame Test**

|                 |          |
|-----------------|----------|
| UL Flame Test:  | NFPA 262 |
| CSA Flame Test: | FT6      |

**Plenum/Non-Plenum**

|                    |      |
|--------------------|------|
| Plenum (Y/N):      | Yes  |
| Non-Plenum Number: | 9688 |

**Surface Printing (Overall)**

|                   |  |
|-------------------|--|
| Surface Printing: | BELDEN 82688 CMP 75C 2PR22 SHIELDED (UL) E108998 C(UL0---ETL VERIFIED TO IBM-A SPECIFICATION 33G8220 AND IBM SPECIFICATION 4716749 |
|-------------------|--|

**Electrical Characteristics (Overall)**

**Nom. Characteristic Impedance:**

|                        |
|------------------------|
| <b>Impedance (Ohm)</b> |
| 150                    |

**Nom. Capacitance Conductor to Conductor:**

|                           |
|---------------------------|
| <b>Capacitance (pF/m)</b> |
| 27.8885                   |

Maximum Capacitance Unbalance (pF/100 m): 100

**Nominal Velocity of Propagation:**

|               |
|---------------|
| <b>VP (%)</b> |
| 78            |

**Nom. Conductor DC Resistance:**

|                            |
|----------------------------|
| <b>DCR @ 20°C (Ohm/km)</b> |
| 54.7927                    |

**Max. Attenuation:**

| Freq. (MHz) | Attenuation (dB/100 m) |
|-------------|------------------------|
| 4           | 2.2                    |
| 16          | 4.4                    |
| 31.25       | 6.9                    |
| 62.5        | 9.8                    |
| 100         | 12.3                   |
| 200         | 17.4                   |
| 300         | 21.4                   |

**Max. Operating Voltage - UL:**

|                |
|----------------|
| <b>Voltage</b> |
| 300 V RMS      |

**Max. Recommended Current:**

|                               |
|-------------------------------|
| <b>Current</b>                |
| 2.3 Amps per conductor @ 25°C |

**Common Mode Attenuation:**

| Freq. (MHz) | Attenuation (dB/100 m) |
|-------------|------------------------|
| 62.5        | 10.6                   |
| 100         | 13.4                   |
| 200         | 19.0                   |
| 300         | 23.3                   |
| 400         | 26.9                   |

## METRIC MEASUREMENT VERSION

## 82688 Multi-Conductor - IBM Type 1A

|     |      |
|-----|------|
| 550 | 31.5 |
| 600 | 32.9 |

### Electrical Characteristics-Premise (Overall)

#### Premise

Minimum NEXT:

| Freq. (MHz) | NEXT (dB) |
|-------------|-----------|
| 4           | 58.0      |
| 16          | 50.4      |
| 31.25       | 46.1      |
| 62.5        | 41.5      |
| 100         | 38.5      |
| 200         | 34.0      |
| 300         | 31.3      |

### Notes (Overall)

**Notes:** IBM qualified Type 1A media cable for use in IBM cabling systems.

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color | Notes | Item Desc              |
|---------------|----------|-------------|-------|-------|------------------------|
| 82688 0101000 | 1,000 FT | 47.000 LB   | BLACK | C Z   | 2 PR #22 FFEP SH FRPVC |

**Notes:**

C = CRATE REEL PUT-UP.

Z = FINAL PUT-UP LENGTH MAY VARY (+ OR -) 10% FOR SPOOLS OR REELS AND(+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN.

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