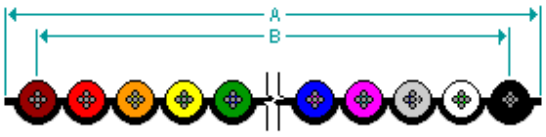
# Detailed Specifications & Technical Data

**ENGLISH MEASUREMENT VERSION**

**9R28034 Flat - Rainbow 9R280XX Series**




For more Information please call

1-800-Belden1

## Description:

Belden^s .050" pitch, color-coded PVC flat cable allows for quick identification and circuit tracing, along with easy breakouts for circuit routing, and is designed for mass-termination with standard IDC connectors.

## Physical Characteristics (Overall)

### Conductor

**AWG:**

| # Conductors | AWG | Stranding | Conductor Material |
|---|---|---|---|
| 34 | 28 | 7x36 | TC - Tinned Copper |

| | |
|---|---|
| **Conductor Spacing Center to Center:** | .050 +/- .005 |
| **Conductor Spacing Outside Center to Outside Center:** | 1.65 +/- .008 |

### Insulation

**Insulation Material:**

| Insulation Material | Wall Thickness (in.) |
|---|---|
| PVC - Polyvinyl Chloride | 0.005 |

| | |
|---|---|
| **Insulation Resistance:** | >10, 000 Mega Ohms |

**Insulation Color Code Chart:**

| Number | Color |
|---|---|
| 1 | Brown |
| 2 | Red |
| 3 | Orange |
| 4 | Yellow |
| 5 | Green |
| 6 | Blue |
| 7 | Purple |
| 8 | Gray |
| 9 | White |
| 10 | Black |
| Over 10 conductors | Repeat as required |

### Outer Shield

**Outer Shield Material:**

| Outer Shield Material |
|---|
| Unshielded |

### Overall Cable

| | |
|---|---|
| **Overall Nominal Thickness:** | .036 +/- .003 |
| **Overall Nominal Width:** | 1.70 |

## Mechanical Characteristics (Overall)

| | |
|---|---|
| **Operating Temperature Range:** | -20°C To +105°C |
| **Bulk Cable Weight:** | 45 lbs/1000 ft. |

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

| | |
|---|---|
| **UL Rating:** | AWM 20932, 105°C, 300 V RMS, VW-1 |
| **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 |

### Flame Test

| | |
|---|---|
| **UL Flame Test:** | VW-1 |

### Plenum/Non-Plenum

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

## Electrical Characteristics (Overall)

**Nom. Characteristic Impedance:**

| Description | Impedance (Ohm) |
|---|---|
| (GS) | 150 |
| (GSG) | 105 |

**Nom. Inductance:**

| Description | Inductance (µH/ft) |
|---|---|
| @ 1 MHz (GS) | .29 |
| @ 1 MHz (GSG) | .20 |

**Nom. Capacitance Conductor to Conductor:**

| Description | Capacitance (pF/ft) |
|---|---|
| @ 1 kHz (GSG) | 18 |
| @ 1 MHz (GS) | 10 |
| @ 1 MHz (GSG) | 15 |

**Nominal Velocity of Propagation:**

| Description | VP (%) |
|---|---|
| | 72 |

**Nominal Delay:**

| Delay (ns/ft) |
|---|
| 1.40 NS/FT. (GSG) |

**Nom. Conductor DC Resistance:**

| DCR @ 20°C (Ohm/1000 ft) |
|---|
| 68.2 OHMS/1000 FT. MAX. |

**Nom. Attenuation:**

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|---|---|
| 10 | 2.8 |
| 20 | 4.8 |
| 30 | 6.5 |
| 40 | 8.3 |
| 50 | 9.8 |
| 60 | 12 |
| 70 | 13 |
| 80 | 14 |
| 90 | 15.8 |
| 100 | 17 |

**Max. Operating Voltage - UL:**

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

**Max. Recommended Current:**

| Current |
|---|
| 1 Amp per conductor @ 20°C |

**Dielectric Withstand Voltage:** 2, 000 V RMS

**Typical Unbalanced Crosstalk:**

| Description | Pulse Rise Time (NS) (MHz) | Near End % (MHz) | Far End % (MHz) |
|---|---|---|---|
| 10 ft. sample length | 3 | 4.8 | 7 |
| 10 ft. sample length | 5 | 3.5 | 4.7 |
| 10 ft. sample length | 7 | 3 | 3 |

## Notes (Overall)

**Notes:** GS=Ground-Signal Mode; GSG=Ground-Signal-Ground Mode

## Related Documents:

No related documents are available for this product

## Put Ups and Colors:

| Item # | Putup | Ship Weight | Color | Notes | Item Desc |
|---|---|---|---|---|---|
| 9R28034 000100 | 100 FT | 3.900 LB | NONE | | 34 #28 PVC RAINBOW |

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