



ISO/IEC 11801 : 2002
 ISO/IEC 61156-5
 EN 50173-1 : 2002
 EN 50288-6-1
 ANSI/TIA/EIA 568B.2.1 : 2002

Brand-Rex Copper Cables - Cat6Plus
 Communication Cable, U/UTP, 100 Ω, 4x2xAWG 23/1

| Electrical Characteristics @ 20°C | Specification | Typical Performance |
|-----------------------------------|------------------------------------|---|
| Conductor Loop Resistance | Max 19 Ω / 100m | 14 Ω / 100m |
| Conductor Resistance Unbalance | Max 2% | 0.5% |
| Dielectric Strength | 1.0kV dc or 0.7kV ac for 1 min | 100% in process test |
| Insulation Resistance | >500MΩ.km @ 100-500 V test voltage | >5 GΩ.km |
| Capacitance Unbalance to Earth | Max 160 pF/100m | 40 pF/100m |
| Velocity of Propagation | <534 nsec/100m @ 100MHz | 490 nsec/100m @ 100MHz (NVP for hand held testers = 0.69) |
| Skew | Max 40 nsec/100m @ 100MHz | 30 nsec/100m @ 100MHz |
| Mean Characteristic Impedance | 100 Ω +/- 5 Ω @ 100MHz | 100 Ω +/- 3Ω @ 100MHz |
| Coupling Attenuation up to 1Ghz | Min 40 dB | 56 dB |

| Frequency (MHz) | 1 | 4 | 10 | 16 | 20 | 31.25 | 62.5 | 100 | 155 | 200 | 250 | 300 | 550 |
|----------------------------|---------|------|------|------|------|-------|------|------|------|------|------|------|------|
| Insertion Loss (dB / 100m) | Spec | 2.1 | 3.8 | 6.0 | 7.6 | 8.5 | 10.7 | 15.5 | 19.9 | 25.3 | 29.1 | 33.0 | na |
| | Typical | 1.9 | 3.5 | 5.5 | 7.0 | 7.8 | 9.9 | 14.1 | 18.0 | 22.7 | 26.1 | 29.4 | 32.5 |
| NEXT (dB) | Spec | 66.0 | 65.3 | 59.3 | 56.2 | 54.8 | 51.9 | 47.4 | 44.3 | 41.4 | 39.8 | 38.3 | na |
| | Typical | 86.5 | 77.5 | 71.5 | 68.4 | 67.0 | 64.1 | 59.6 | 56.5 | 53.6 | 52.0 | 50.5 | 49.3 |
| PSNEXT (dB) | Spec | 64.0 | 63.3 | 57.3 | 54.2 | 52.8 | 49.9 | 45.4 | 42.3 | 39.4 | 37.8 | 36.3 | na |
| | Typical | 84.5 | 75.5 | 69.5 | 66.4 | 65.0 | 62.1 | 57.6 | 54.5 | 51.6 | 50.0 | 48.5 | 47.3 |
| ELFEXT (dB / 100m) | Spec | 66.0 | 58.0 | 50.0 | 45.9 | 44.0 | 40.1 | 34.1 | 30.0 | 26.2 | 24.0 | 22.0 | na |
| | Typical | 85.0 | 73.0 | 65.0 | 60.9 | 59.0 | 55.1 | 49.1 | 45.0 | 41.2 | 39.0 | 37.0 | 35.5 |
| PSELFEXT (dB / 100m) | Spec | 64.0 | 55.0 | 47.0 | 42.9 | 41.0 | 37.1 | 31.1 | 27.0 | 23.2 | 21.0 | 19.0 | na |
| | Typical | 82.0 | 70.0 | 62.0 | 57.9 | 56.0 | 52.1 | 46.4 | 42.0 | 38.2 | 36.0 | 34.0 | 32.5 |
| Return Loss (dB / 100m) | Spec | na | 23.0 | 25.0 | 25.0 | 25.0 | 23.6 | 21.5 | 20.1 | 18.8 | 18.0 | 17.3 | na |
| | Typical | 27.0 | 30.0 | 30.0 | 30.0 | 30.0 | 28.6 | 26.5 | 25.1 | 23.8 | 23.0 | 22.3 | 19.9 |
| ACR (dB / 100m) | Typical | 84.6 | 73.9 | 66.0 | 61.4 | 59.1 | 54.2 | 45.5 | 38.5 | 30.9 | 25.9 | 21.1 | 16.9 |
| PSACR (dB / 100m) | Typical | 82.6 | 71.9 | 64.0 | 59.4 | 57.1 | 52.2 | 43.5 | 36.5 | 28.9 | 23.9 | 19.1 | 14.9 |

Product Part Numbering

| Part Number | C6U | C6U-D | C6U-HF1 | C6U-HF1-D | C6U-HF3 | C6U-HF3-D |
|----------------------|---------------|---------------|-----------------|-----------------|----------------|----------------|
| Outer Sheath | PVC | PVC | LSZH | LSZH | LSZH | LSZH |
| Construction | Simplex | Duplex | Simplex | Duplex | Simplex | Duplex |
| Cable Weight | 43.5 kg/km | 87.0 kg/km | 43.0kg/km | 86.0 kg/km | 56.5 kg/km | 113 kg/km |
| Calorific Value | 0.19 k Wh/m | 0.38 k Wh/m | 0.18 k Wh/m | 0.36 k Wh/m | 0.26 k Wh/m | 0.52 k Wh/m |
| Outer Diameter (nom) | 6.2mm | 12.5 x 6.2mm | 6.2mm | 12.5 x 6.2mm | 7.0mm | 14.1 x 7.0mm |
| Sheath Colour | Grey RAL 7037 | Grey RAL 7037 | Violet RAL 4005 | Violet RAL 4005 | Blue RAL 5015 | Blue RAL 5015 |
| Fire Safety Rating | IEC 60332-1-2 | IEC 60332-1-2 | IEC 60332-1-2 | IEC 60332-1-2 | IEC 60332-3-24 | IEC 60332-3-24 |
| Acid Gas Emissions | na | na | IEC 60754-1 | IEC 60754-1 | IEC 60754-1 | IEC 60754-1 |
| Smoke Index | na | na | IEC 61034 | IEC 61034 | IEC 61034 | IEC 61034 |
| Packaging | RLX / WRL | WRL | RLX / WRL | WRL | WRL | WRL |



Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:

Cat6Plus U/UTP, 100 Ω, 4x2xAWG 23/1 premium grade Class E/Cat 6 cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:

Core

Conductor: 23 AWG Plain Annealed Copper Wire
 Insulation: Polyolefin
 Diameter: 1.00mm Nominal
 Pair: 2 of the above cores
 Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Final Assembly

Cable: 4 of the above pairs cabled together around a cross filler
 Sheath: PVC or LSZH compound

Mechanical and Environmental

Temp - Installation: 0°C to +50°C
 Temp - Operation: -20°C to +75°C
 Max Tensile Load: 10kg per simplex cable (installation)
 Min Bend Radius: 8 x Outer Diameter (installation)
 4 x Outer Diameter (operation)

Packaging

RLX 305m Reel Box
 WRL 500m Wooden Reel
 1000m Wooden Reel