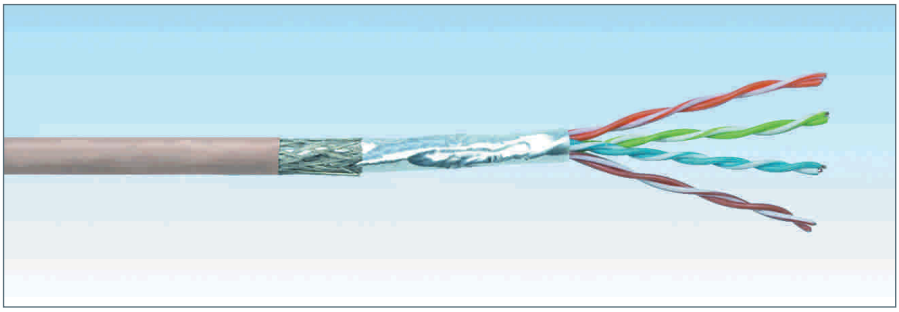
# Category 5e SF/UTP 100 Ohm Horizontal LAN Cables



## Description

HCS DataLink 100e cable series consists of 100 Ohm impedance, 4-pair and 8-pair SF/UTP cables for horizontal installations in local area networks (LANs). All cables fully conform to and provide a substantial margin above all Category 5e requirements of TIA/EIA-568-B.2 and IEC 61156-5.

## Applications

HCS DataLink 100e Horizontal cables support all presently available LAN applications, including the following protocols:

- 1000BASE-T Gigabit Ethernet
- ATM 155
- TP-PMD
- 100BASE-T Fast Ethernet
- 100BASE-T2
- 100BASE-T4
- 100BASE-TX
- Token Ring 100 Mbps
- ATM 52
- ATM 25
- 10BASE-T Ethernet
- Token Ring 4 Mbps and 16 Mbps
- Broadband and Baseband Video
- ISDN Basic and Primary Access
- 1BASE-5 Starlan
- ISALAN
- ITU V.21 and X.11

## Qualifications and Approvals

HCS DataLink 100e Cables are tested and verified for full compliance with the following standards:

- ❑ Category 5e according to ANSI/TIA/EIA-568-B.2
- ❑ Category 5e according to IEC 61156-5 (for ISO/IEC-11801 2nd Edition).
- ❑ 100 MHz according to CENELEC EN 50288-2
- ❑ Category 5 according to ICEA S-90-661-1997

## Benefits & Features

- ✓ Testing every box or reel of cable prior to shipment - providing the highest degree of quality assurance.
- ✓ Exceptional material properties and cable design - providing a unique Century™ Lifetime Warranty.
- ✓ High ACR values - providing low BER (Bit-Error-Rate) in all applications.
- ✓ Extremely high pair-balance - providing excellent EMC (Electro Magnetic Compatibility), minimizing radiation and maximizing noise immunity.
- ✓ Revolutionary pair lay scheme - providing an extremely low delay skew.
- ✓ Co-extruded crisp and clear spiral color coding of wires - providing positive wire identification and ease of installation.
- ✓ Descending sequential meter mark - providing easy stock and left-over handling.
- ✓ Smooth and rigid jacket - proving fast and easy cable pulling and installation.
- ✓ Batch number printed every meter - providing fast retrieval of test results from data-base.
- ✓ A comprehensive product range - providing all state-of-the-art cable constructions.
- ✓ Large variety of packaging options - providing minimum scrap and left-over cable sections.
- ✓ Unique DoubleSafe™ Quality Assurance Program - providing lowest rejection rate available.

## Physical and Mechanical Properties

4 color-coded, unshielded twisted pairs cabled together, overall taped-wrapped with a polyester tape, shielded with an aluminum foil plus a tin-coated copper braid and overall jacketed. Siamese (Figure-8) cables are made of two identical 4-pair cables connected in a zip-cord formation, one cable identified with a longitudinal rib.

| | |
|---|---|
| Basic Conductor | Solid, 24AWG, 0.5 mm, bare annealed copper |
| Insulation | Polyolefin |
| Number of insulated conductors | 8, twisted in 4 pairs. (8 pairs in FIG-8 cables) |
| Color Code of Pairs | Blue x White/Blue, Orange x White/Orange, Green x White/Green, Brown x White/Brown. |
| Overall Tape Wrap | Polyester tape, providing 100% coverage. |
| Overall inner shield | Laminated aluminum foil (foil face outward) providing 100% coverage. |
| Overall outer shield | Tin coated copper braid, laid in close contact over the foil. |
| Outer Jacket | LS0H Halogen free flame retardant or PVC compound. |
| Standard Jacket Color | Light Gray RAL 7035. Other colors available upon request. |
| Standard Surface Marking | Includes HCS P/N, cable description, Meter mark and Batch Number. |
| Pulling force | 50 N/mm$^2$ max. |
| Short Term Bend Radius | 8xOD mm |
| Long Term Bend Radius | 4xOD mm |
| Storage Temperature | -20 to +80C |
| Temperature operating range | -20 to +60C |
| Installation temperature range | 0 to +50C |
| Flame Test | IEC 60332-1 |
| Halogen content in LS0H cables | Null. |

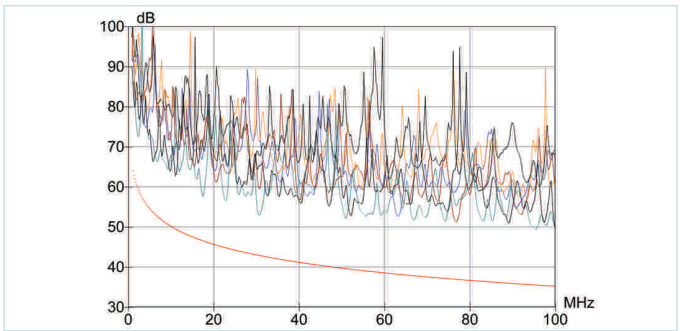
# Category 5e SF/UTP 100 Ohm Horizontal LAN Cables

## Transmission Properties and Electrical Specifications

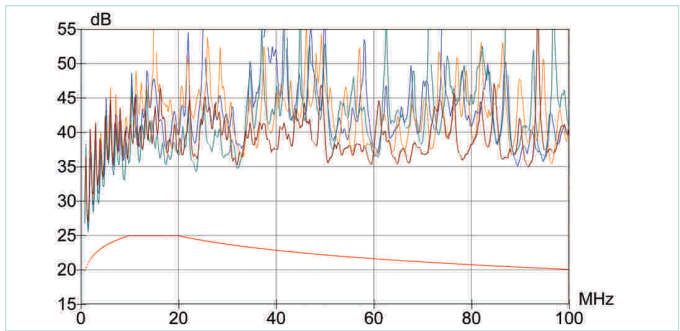
| Frequency | Insertion Loss | | NEXT | | PS NEXT | | EL FEXT | | PS EL FEXT | | RL | | SKEW | Prop. Delay | TCL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | dB/100m | | dB | | dB | | dB/100m | | dB/100m | | dB | | nS/100m | nS/100m | dB |
| MHz | Max | Nom | Min | Nom | Min | Nom | Min | Nom | Min | Nom | Min | Nom | Max | Max | Min |
| 1.00 | 2.0 | 1.8 | 65.3 | 90 | 62.3 | 86 | 63.8 | 90 | 60.8 | 87 | 20.0 | 30 | 40.0 | 550 | 40.0 |
| 4.00 | 4.1 | 3.7 | 56.3 | 75 | 53.3 | 71 | 51.7 | 80 | 48.8 | 77 | 23.3 | 35 | 40.0 | 532 | 34.0 |
| 8.00 | 5.8 | 5.3 | 51.8 | 70 | 48.8 | 66 | 45.7 | 75 | 42.7 | 72 | 25.0 | 35 | 40.0 | 527 | 31.0 |
| 10.00 | 6.5 | 6.0 | 50.3 | 67 | 47.3 | 63 | 43.8 | 70 | 40.8 | 67 | 25.0 | 35 | 40.0 | 525 | 30.0 |
| 16.00 | 8.2 | 7.6 | 47.3 | 65 | 44.3 | 61 | 39.7 | 65 | 36.7 | 62 | 25.0 | 40 | 40.0 | 523 | 28.0 |
| 25.00 | 10.4 | 9.6 | 44.3 | 63 | 41.3 | 59 | 35.8 | 60 | 32.8 | 57 | 25.0 | 40 | 40.0 | 521 | 26.0 |
| 31.25 | 11.7 | 10.7 | 42.9 | 60 | 39.9 | 56 | 33.9 | 55 | 30.9 | 52 | 24.1 | 40 | 40.0 | 520 | 25.1 |
| 62.50 | 17.0 | 15.3 | 38.4 | 58 | 35.4 | 54 | 27.8 | 50 | 24.8 | 47 | 22.0 | 35 | 40.0 | 519 | 22.0 |
| 100.00 | 22.0 | 19.8 | 35.3 | 53 | 32.3 | 49 | 23.8 | 45 | 20.8 | 42 | 20.6 | 35 | 40.0 | 518 | 20.0 |

| | |
|---|---|
| Characteristic Impedance | 100±6 Ohm @ 1-100 MHz. |
| DC Resistance | 93 Ohm/Km max. |
| Resistance unbalance | 2% max. |
| Capacitance | 47 pF/m nom. @ 1 KHz |
| Cap. Unbalance (wire to ground) | 1500 pF/Km max. @ 1 KHz. |
| Voltage rating | 72 Vdc max. |
| Dielectric strength | 1500 Volts/1 minute min rms |
| Velocity of Propagation (NVP) | 67-69% |
| Insulation Resistance | 5000 MegaOhm • Km min. @ 500 Vdc |
| Coupling attenuation | 65 dB min @ 30-100 MHz |
| Transfer Impedance | 30 mOhm/m max. @ 1-30 MHz |

### Typical NEXT Loss




### Typical Return Loss




## Ordering Information

| HCS P/N | Description | OD mm | Weight Kg/Km | Cal. Value Kj/m | Packaging | Notes |
|---|---|---|---|---|---|---|
| H5E-00421-DP | 4x2x24# SF/UTP CAT 5e PVC Grey | 6.3 | 52 | 520 | 500m Drum | - |
| H5E-00421-DM | 4x2x24# SF/UTP CAT 5e PVC Grey | 6.3 | 52 | 520 | 1000m Drum | - |
| H5E-00422-DP | 4x2x24# SF/UTP CAT 5e LS0H Grey | 6.3 | 51 | 523 | 500m Drum | - |
| H5E-00422-DM | 4x2x24# SF/UTP CAT 5e LS0H Grey | 6.3 | 51 | 523 | 1000m Drum | - |
| H5E-00823-DP | 2x(4x2x24#) CAT 5e SF/UTP PVC Grey | 6.4x12.9 | 105 | 1050 | 500m Drum | FIG-8 |
| H5E-00823-DM | 2x(4x2x24#) CAT 5e SF/UTP PVC Grey | 6.4x12.9 | 105 | 1050 | 1000m Drum | FIG-8 |
| H5E-00824-DP | 2x(4x2x24#) CAT 5e SF/UTP LS0H Grey | 6.4x12.9 | 103 | 1055 | 500m Drum | FIG-8 |
| H5E-00824-DM | 2x(4x2x24#) CAT 5e SF/UTP LS0H Grey | 6.4x12.9 | 103 | 1055 | 1000m Drum | FIG-8 |

Note: Standard jacket color: Light Gray RAL 7035. Other colors available upon request.