

## Category 5e F/UTP PVC Cable

V.3.0

### Description

FibreFab's Category 5e F/UTP PVC cables are designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Each Category 5e F/UTP PVC exceed the minimum specified performance for Category 5e F/UTP cables and support all CLASS D applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

### Construction

|                   |                                                                                                                                                        |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conductor</b>  | A single strand of 24AWG (0.51mm) solid copper                                                                                                         |
| <b>Insulation</b> | Polyethylene                                                                                                                                           |
| <b>Cable</b>      | 8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together to form a cohesive unit.                                           |
| <b>Screen</b>     | An aluminised polyester tape screen applied with a 15% minimum overlap (The aluminium side is in continuous contact with the tinned copper drain wire) |
| <b>Sheath</b>     | A uniform layer of Grey coloured PVC compound (RAL 7035)                                                                                               |
| <b>Diameter</b>   | 5.0mm                                                                                                                                                  |

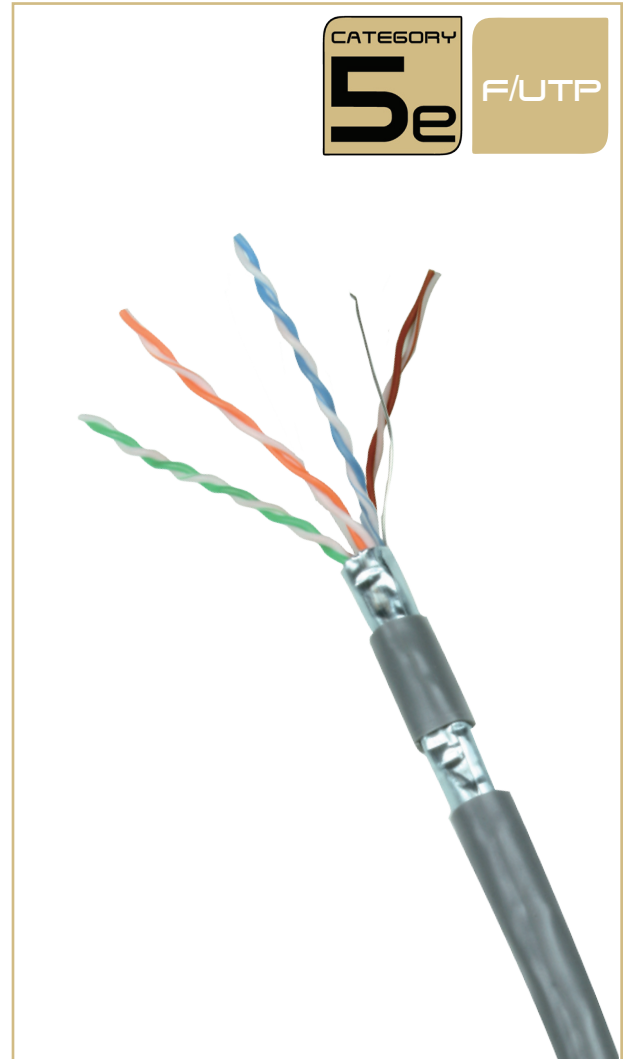
### Applicable Standards

The Category 5e F/UTP PVC cable is manufactured and tested directly in accordance with the major industry standards:

- ▶ **ISO/IEC 11801 2nd Edition**
- ▶ **ANSI/TIA 568-C.2**
- ▶ **EN 50173**
- ▶ **IEC 61156-5**
- ▶ **EN 50288-3-1**

### Other Relevant Information

- ▶ **RoHS compliant 2002/95/EC**
- ▶ **REACH / SVHC compliant regulation (EC) No. 1907/2006**
- ▶ **Pair colour code:**  
Pair 1: Orange and White/Orange  
Pair 2: Blue and White/Blue  
Pair 3: Brown and White/Brown  
Pair 4: Green and White/Green



### Electrical properties at 20°C

|                                                      |              |
|------------------------------------------------------|--------------|
| Characteristic Impedance (1-100MHz)                  | 100 ± 15Ω    |
| DC loop resistance                                   | ≤ 19.0Ω/100m |
| Resistance unbalance                                 | ≤ 2%         |
| Capacitance unbalance to earth                       | ≤ 1600 pF/km |
| Nominal velocity of propagation                      | 67%          |
| Propagation delay (Nominal)                          | ≤ 535ns/100m |
| Test voltage (d.c. for 1 minute) Conductor/Conductor | 1000V        |
| Insulation resistance (500V d.c)                     | ≥ 500MΩ.km   |
| Coupling attenuation                                 | ≥ 40dB       |

### Transmission line performance at 20°C

| Frequency Mhz | Attenuation Db/100m | Next Db | Acr Db/100m | Psnext Db | Elfext Db/100m | Pselfext Db/100m | Return loss |
|---------------|---------------------|---------|-------------|-----------|----------------|------------------|-------------|
| 1             | 2.1                 | 65.3    | 63.2        | 62.3      | 63.8           | 60.8             | 20.0        |
| 4             | 4.0                 | 56.3    | 52.3        | 53.3      | 51.8           | 48.8             | 23.1        |
| 10            | 6.3                 | 50.3    | 44.0        | 47.3      | 43.8           | 40.8             | 24.5        |
| 16            | 8.0                 | 47.3    | 39.3        | 44.2      | 39.7           | 36.7             | 25.0        |
| 20            | 9.0                 | 45.8    | 46.8        | 42.8      | 37.8           | 34.8             | 25.0        |
| 31.25         | 11.4                | 42.9    | 31.5        | 39.9      | 33.9           | 30.9             | 23.6        |
| 62.5          | 16.5                | 38.4    | 21.9        | 35.4      | 27.9           | 24.9             | 21.5        |
| 100           | 21.3                | 35.3    | 14.0        | 32.3      | 23.8           | 20.8             | 20.1        |

### Fire Performance

Category 5e F/UTP PVC cables exceed the requirements of:

- ▶ **IEC 60332-1-2**

### Mechanical Characteristics

| Temperature Range     |                 | Minimum Bend Radii |                    |
|-----------------------|-----------------|--------------------|--------------------|
| Operation             | -20°C to + 60°C | Installation       | 8 x Cable Diameter |
| Installation          | 0°C to +50°C    | Installed          | 4 x Cable Diameter |
| Storage               | -20°C to + 70°C |                    |                    |
| Maximum Tensile Force |                 |                    |                    |
| During Installation   | 100N            |                    |                    |

### Ordering Information

| DESCRIPTION                    | PART NO.            |
|--------------------------------|---------------------|
| Category 5e F/UTP PVC 305m Box | <b>FUTP5E305PVC</b> |
| Category 5e U/UTP PVC 500m Box | <b>FUTP5E500PVC</b> |