



# PATCH CORDS, PIGTAILS, ADAPTERS

## Fibre Optic Patch Cables

SXPC-E2000/SC-APC/PC-OS-D

|  |                       |
|--|-----------------------|
| Outer jacket                                   | LSOH                  |
| Strength member                                | aramid yarn           |
| Operating temperature                          | -40 to +70 °C         |
| Storage temperature                            | -40 to +70 °C         |
| Cable diameter                                 | 2,0 mm                |
| The diameter of the primary protection         | 250 µm                |
| The diameter of the secondary protection       | 900 µm                |
| Singlemode fibre type                          | G.652.D, G.657.A1     |
| Multimode fibre type                           | G.651.1               |
| Ferrule  | UPC, APC              |
| Minimum bend radius (short term)               | 10x D cable           |
| Minimum bend radius (long term)                | 20x D cable           |
| Life cycle                                     | min. 1 000 insertions |
| Ferrule diameter of the LC connector           | 1,25 mm               |
| Ferrule diameter of the SC/ST/E2000 connectors | 2,5 mm                |

Solarix fibre optic patch cables provides connection between active and/or passive components at the end of physical link. All patch cables are made of LSOH coating. Their ferrules are of the UPC (ultra physical contact) type for both singlemode and multimode patch cables or APC (angled physical contact) type for singlemode patch cables. Singlemode patch cables use the G.652.D or G.657.A1 type fibres, on the other hand, multimode patch cables use the G.651.1 type. Solarix fibre optic patch cables are available in various combinations with different connectors such as LC, SC, ST, E2000. E2000 connectors are supplied by R & M. The standard lengths of Solarix patch cables are 1, 2, 3, and 5 m or any length to the specific order, but most often in the length of 7, 10, 15 and 20 m.

| Parameter               | Multimode UPC | Singlemode UPC | Singlemode APC |
|-------------------------|---------------|----------------|----------------|
| Max IL – insertion loss | < 0,3 dB      | < 0,3 dB       | < 0,3 dB       |
| Max RL – return loss    | > 35 dB       | > 50 dB        | > 60 dB        |

| Part No.                  | Description                                  |
|---------------------------|--|
| SXPC-E2000/SC-APC-OS-D    | Patch cable 9/125 E200apc/SCapc SM OS duplex |
| SXPC-E2000/SC-APC/PC-OS-D | Patch cable 9/125 E200apc/SCpc SM OS duplex  |

# FIBRE OPTICS

## Optical Fibres Parameters

### Singlemode Fibres Basic Parameters

| Geometric Parameters                    | Unit       | ITU-T G.652.D        | ITU-T G.657.A1       | ITU-T G.657.A2       |
|---|------------|----------------------|----------------------|----------------------|
| <b>Mode Field Diameter (MFD)</b>        |            |                      |                      |                      |
| @ 1 310 nm                              | µm         | 9,2 ± 0,4            | 9,0 ± 0,4            | 8,6 ± 0,4            |
| @ 1 550 nm                              | µm         | 10.4 ± 0,5           | 9,2 ± 0,4            | 9,6 ± 0,4            |
| Cladding diameter                       | µm         | 125 ± 1,0            | 125 ± 0,7            | 125 ± 0,7            |
| Coating diameter                        | µm         | 247 ± 7,0            | 245 ± 5,0            | 242 ± 5,0            |
| Core-Cladding Concentricity Error       | µm         | ≤ 0,6                | ≤ 0,5                | ≤ 0,5                |
| Cladding-Coating Concentricity Error    | µm         | ≤ 12                 | ≤ 10                 | ≤ 12                 |
| <b>Transmission Parameters</b>          |            |                      |                      |                      |
| <b>Attenuation</b>                      |            |                      |                      |                      |
| @ 1 310 nm                              | dB/km      | ≤ 0,35 <sup>1)</sup> | ≤ 0,38 <sup>1)</sup> | ≤ 0,35 <sup>1)</sup> |
| @ 1 550 nm                              | dB/km      | ≤ 0,21 <sup>1)</sup> | ≤ 0,22 <sup>1)</sup> | ≤ 0,20 <sup>1)</sup> |
| @ 1 625 nm                              | dB/km      | ≤ 0,24 <sup>1)</sup> | ≤ 0,25 <sup>1)</sup> | ≤ 0,23 <sup>1)</sup> |
| <b>Dispersion Coefficient</b>           |            |                      |                      |                      |
| @ 1 550 nm                              | ps/(nm*km) | ≤ 18                 | ≤ 18                 | ≤ 18                 |
| @ 1 625 nm                              | ps/(nm*km) | ≤ 22                 | ≤ 22                 | ≤ 23                 |
| PMD individual fibre                    | ps/√km     | 0,1                  | 0,1                  | 0,06                 |
| Cable Cutoff Wavelength λ <sub>cc</sub> | nm         | ≤ 1 260              | ≤ 1 260              | ≤ 1 260              |
| Fibre Cutoff Wavelength λ <sub>c</sub>  | nm         | 1 150 - 1 330        | 1 150 - 1 330        | 1 150 - 1 330        |

<sup>1)</sup> A typical value for fibres in loose tube cables.

### Multimode Fibres Basic Parameters

| Geometric Parameters                 | Unit   | ITU-T G.651.1 OM2   | ITU-T G.651.1 OM3   | ITU-T G.651.1 OM4   | ITU-T G.651.1 OM5   |
|--------------------------------------|--------|---------------------|---------------------|---------------------|---------------------|
| Core diameter                        | µm     | 50 ± 2,0            | 50 ± 2,0            | 50 ± 2,0            | 50 ± 2,0            |
| Cladding diameter                    | µm     | 125 ± 1,0           | 125 ± 1,0           | 125 ± 1,0           | 125 ± 1,0           |
| Core-Cladding Concentricity Error    | µm     | ≤ 1,0               | ≤ 1,0               | ≤ 1,0               | ≤ 1,0               |
| Cladding-Coating Concentricity Error | µm     | ≤ 6,0               | ≤ 6,0               | ≤ 10,0              | ≤ 10,0              |
| <b>Transmission Parameters</b>       |        |                     |                     |                     |                     |
| Numerical aperture                   | -      | 0,200 ± 0,015       | 0,200 ± 0,015       | 0,200 ± 0,015       | 0,200 ± 0,015       |
| <b>Attenuation</b>                   |        |                     |                     |                     |                     |
| @ 850 nm                             | dB/km  | ≤ 2,7 <sup>1)</sup> | ≤ 3,0 <sup>1)</sup> | ≤ 3,0 <sup>1)</sup> | ≤ 3,0 <sup>1)</sup> |
| @ 1 300 nm                           | dB/km  | ≤ 0,8 <sup>1)</sup> | ≤ 1,0 <sup>1)</sup> | ≤ 1,0 <sup>1)</sup> | ≤ 1,0 <sup>1)</sup> |
| <b>Bandwidth</b>                     |        |                     |                     |                     |                     |
| @ 850 nm                             | MHz*km | ≥ 500               | ≥ 1 500             | ≥ 3 500             | ≥ 3 500             |
| @ 953 nm                             | MHz*km | -                   | -                   | -                   | ≥ 1 850             |
| @ 1 300 nm                           | MHz*km | ≥ 500               | ≥ 500               | ≥ 500               | ≥ 500               |

<sup>1)</sup> A typical value for fibres in loose tube cables.