



# FIBRE OPTIC CABLES

## Outdoor DUCT singlemode

SXKO-DUCT-24-OS-HDPE



Outer jacket

Cable secondary protection  
Cable type acc. to the number of tubes  
Operating/Storage temperature  
Installation temperature

Fibre type

Diameter of the primary protection

Short-term tensile resistance

Short-term pressure resistance

Minimum bend radius (short term)

Minimum bend radius (long-term)

Cable diameter

Cable weight

The number of fibres in the tube

HDPE  
reaction to fire  $F_{ca}$

gel-filled tube

CLT

-40 to +70 °C

-20 to +60 °C

G.652.D

250  $\mu$ m

1 200 N

1 000 N/100 mm

10x D cable

20x D cable

12f: 5,1 mm, 24f: 6,0 mm

12f: 46 kg/km,

24f: 60 kg/km

12 and 24

Outdoor fibre optic DUCT cable Solarix SXKO-DUCT-OS-HDPE reaction to fire  $F_{ca}$ . Thanks to its design, the cable is ideal for pulling into HDPE ducts or for overhead installations with spans up to 60 m. G.652.D type fibres are placed in a central gel-filled tube to protect them from moisture. The cable contains aramid yarns wrapped around a central tube and two FRP strength members inside the sheath to increase mechanical resistance. The fibre optic cable contains no metal elements and is fully dielectric. DUCT cable is available in 12 and 24 fibre versions.

### Part No.

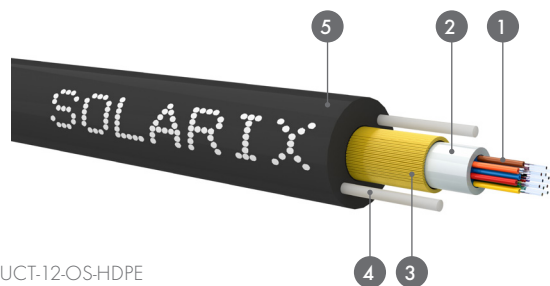
### Description

SXKO-DUCT-12-OS-HDPE

Outdoor cable DUCT Solarix 12f 9/125, HDPE  $F_{ca}$ , black

SXKO-DUCT-24-OS-HDPE

Outdoor cable DUCT Solarix 24f 9/125, HDPE  $F_{ca}$ , black



SXKO-DUCT-12-OS-HDPE

### Cable construction

1. Fibres
2. Gel-filled tube
3. Aramid yarn
4. Strength member
5. Outer jacket



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# 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.

# FIBRE OPTICS

## Color Coding for Fibres and Tubes

### Fibres Color Coding

Fibre	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	braun	grey	white	red	black	yellow	purple	pink	turquoise
Fibre	13	14	15	16	17	18	19	20	21	22	23	24
Colour <sup>1)</sup>	blue	orange	green	braun	grey	white	red	black	yellow	purple	pink	turquoise

<sup>1)</sup> Colour with a strip

### Tubes Color Coding for MLT Cables

Tube	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	braun	grey	white	red	black	yellow	purple	pink	turquoise

### Tubes Color Coding for MLT Cables

Tube	1	2	3	4
Colour	red	green	natural	natural