

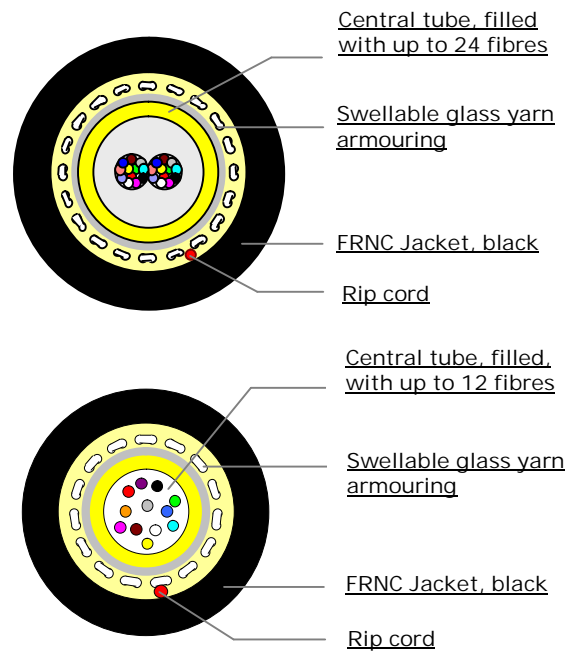
**Product Family:** LANscape® FutureLink™ Indoor / Outdoor Cable  
**Product:** Central tube Cable MPC / A-DQ(BN)H 4 – 24E9/125  
**Fibre:** Full- spectrum Single Mode Fiber, SMF28e , OS1

## Description and applications

FutureLink™ MPC (Multi-Purpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between floor distributors. The cables can be installed in conduits, ducts and be buried directly in the ground.

## Cable

- Low smoke to IEC 61034 and EN 50268) halogen free (LSZH™)
- Non corrosive to IEC 60754-2 and EN50267
- Flame retardant to IEC 60332-1 up to 24 fibers and IEC 60332-3C and EN 50266-2-4 up to 12 fibers
- Water blocking to IEC 60794-1-F5
- Metal-free cable, hence no ground loop problems.
- Enhanced rodent protection by swellable glass yarns.
- UV and microbe resistant.
- Can be directly buried or installed in ducts.
- Thin, robust cable.
- Telcordia (Bellcore) color standard for fibers and bundles



## Cable characteristics

Mechanical and environmental.

Temperature range		Laying and installation		[°C]		-5 to +50	
		Operation				-20 to +60	
		Transport and storage				-25 to +70	
Fibre count	Cable Ø [mm]	Cable weight [kg/km]	Min. bend radius during installation [mm]	Min. bend radius in service [mm]	Max. tensile load during installation [N]	Max. crash resistance (short term, reversible) [N/10cm]	Fire rating [MJ/m]
4	6,6	47	150	140	1000	1500	0,94
6	6,6	47	150	140	1000	1500	0,94
8	6,6	47	150	140	1000	1500	0,94
12	6,6	47	150	140	1000	1500	0,94
16 (2x8)	8,6	73	190	170	1500	1500	1,64
24 (2x12)	8,6	73	190	170	1500	1500	1,64

## Design

### Fibres and central tube

- Fibres colour coding: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
- Fibre bundle >12 fibres: blue, orange
- Buffer tube: yellow, up to 12 fibres Ø=3.0mm, >12 fibres Ø=5.0mm

### Cable

- Swellable glass yarn protection
- Flame retardant and halogen free jacket
- Jacket colour: black
- Cable printing:  
meter marking    handset    double sinus    FutureLink/MPC    <cable designation>

### Fibre

- The single mode fibers fully comply with ITU-T G.652 D (reduced OH-Peak) and show a minimum of attenuation throughout the range from 1285 nm to 1625 nm.
- According to TIA/EIA 492-CAAB
- According to IEC 60793-2-50 Type B1.3
- According to Telcordia GR-20

### Optical Characteristics of fibers E9/125:

Mode field diameter	[µm]	9.2 ± 0.4
Attenuation at 1310 nm	[dB/km]	≤ 0.36
Attenuation at 1550 nm	[dB/km]	≤ 0.22
Attenuation at 1383 nm	[dB/km]	≤ 0.36
Dispersion in the range 1285 to 1330 nm	[ps/(nm*km)]	≤ 3.5
Dispersion at 1550 nm	[ps/(nm*km)]	≤ 18
Cable cutoff wavelength	[nm]	≤ 1260

### Ordering information:

Type description	A-DQ(BN)H 4E9/125	A-DQ(BN)H 6E9/125	A-DQ(BN)H 8E9/125
Delivery length	6000m	6000m	6000m
Ordering number	<b>LCXLM1-D0004-U700</b>	<b>LCXLM1-D0006-U700</b>	<b>LCXLM1-D0008-U700</b>

Type description	A-DQ(BN)H 12E9/125	A-DQ(BN)H 16E9/125	A-DQ(BN)H 24E9/125
Delivery length	6000m	6000m	6000m
Ordering number	<b>LCXLM1-D0012-U700</b>	<b>LCXLM1-D0016-U700</b>	<b>LCXLM1-D0024-U700</b>

Other cable and fibre types are possible upon request.

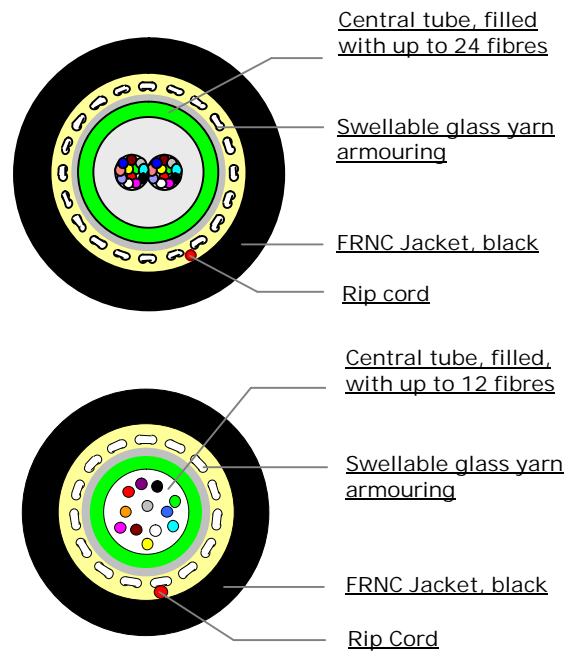
**Product Family:** LANscape® FutureLink™ Indoor / Outdoor Cable  
**Product:** Central tube Cable MPC / A-DQ(BN)H 4 - 24G50eSx+/125  
**Fibre:** Laser optimized multimode fibres, InfiniCor® eSx+ , OM3+

## Description and applications

FutureLink™ MPC (Multi-Purpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between floor distributors. The cables can be installed in conduits, ducts and be buried directly in the ground.

### Cable

- Low smoke to IEC 61034 and EN 50268) halogen free (LSZH™)
- Non corrosive to IEC 60754-2 and EN50267
- Flame retardant to IEC 60332-1 up to 24 fibers and IEC 60332-3C and EN 50266-2-4 up to 12 fibers
- Water blocking to IEC 60794-1-F5
- Metal-free cable, hence no ground loop problems.
- Enhanced rodent protection by swellable glass yarns.
- UV and microbe resistant.
- Can be directly buried or installed in ducts.
- Thin, robust cable.
- Telcordia (Bellcore) color standard for fibers and bundles



## Cable characteristics

Mechanical and environmental.

Temperature range		Laying and installation		[°C]			
		Operation				-5 to +50	
		Transport and storage				-20 to +60	
						-25 to +70	
Fibre count	Cable Ø [mm]	Cable weight [kg/km]	Min. bend radius during installation [mm]	Min. bend radius in service [mm]	Max. tensile load during installation [N]	Max. crash resistance (short term, reversible) [N/10cm]	Fire rating [MJ/m]
4	6.6	47	150	140	1000	1500	0,94
6	6.6	47	150	140	1000	1500	0,94
8	6.6	47	150	140	1000	1500	0,94
12	6.6	47	150	140	1000	1500	0,94
16 (2x8)	8.6	73	190	170	1500	1500	1,64
24 (2x12)	8.6	73	190	170	1500	1500	1,64

## Design

### Fibres and central tube

- Fibres colour coding: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
- Fibre bundle >12 fibres: blue, orange
- Buffer tube: green, up to 12 fibres Ø=3.0mm, >12 fibres Ø=5.0mm

### Cable

- Swellable glass yarn protection
- Flame retardant and halogen free jacket
- Jacket colour: black
- Cable printing:  
meter marking    handset    double sinus    FutureLink/MPC    <cable designation>

### Fibre

- The fibre is fully compliant to the ITU-T G651
- Optimized for VCSEL coupling conditions
- Warranted min. lengths for 1 and 10 Gigabit transmission according to IEEE 802.3z and IEEE 802.3ae

### Optical Characteristics of fibres G50eSx+/125 InfiniCor® eSx+ OM3+:

Attenuation at 850 nm	[dB/km]	max. 3.0
Bandwidth-length product (OFL= Overfilled Launch) for 1 km at 850 nm	[MHz x km]	≥ 1500
Laser Bandwidth-length product (EMB=Effective Modal Bandwidth) for 1 km at 850 nm	[MHz x km]	≥ 4700
Guaranteed minimum distances for 1 Gigabit Ethernet at 850 nm	m	1100
Guaranteed minimum distances for 10 Gigabit Ethernet at 850 nm	m	550

The capability of the fiber will be calculated by „minimum calculated effective modal bandwidth (minEMBC)“ according to IEC 60793-2-10 Type A1a.2 Ed 2.0 and IEC 60793-1-49 Ed.2.0. This measurement method guarantees a future proof application at 10Gbit. The fiber fulfills all requirements of TIA/EIA 492AAAC-A, OM3 classification according to standard ISO/IEC 11801 (2002) and EN 50173-1 (2003)

### Ordering information:

Type description	A-DQ(BN)H 4G50eSx+/125	A-DQ(BN)H 6G50eSx+/125	A-DQ(BN)H 8G50eSx+/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-K0004-F700</b>	<b>LCXLM1-K0006-F700</b>	<b>LCXLM1-K0008-F700</b>

Type description	A-DQ(BN)H 12G50eSx+/125	A-DQ(BN)H 16G50eSx+/125	A-DQ(BN)H 24G50eSx+/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-K0012-F700</b>	<b>LCXLM1-K0016-F700</b>	<b>LCXLM1-K0024-F700</b>

Other cable and fibre types are possible upon request.

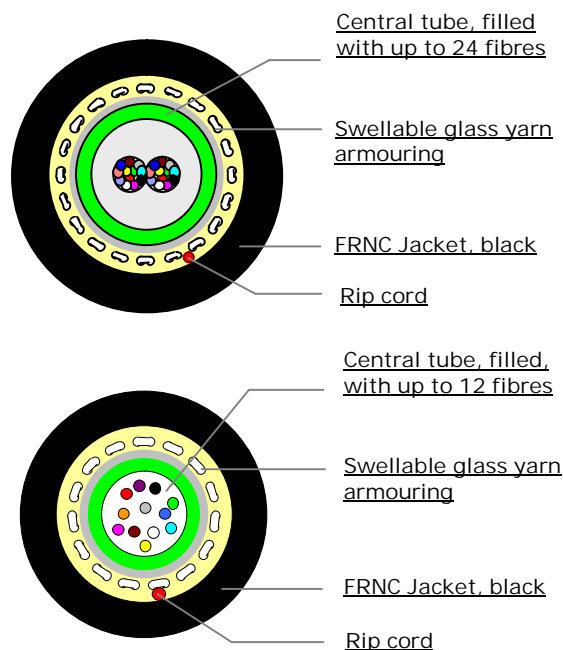
**Product Family:** LANscape® FutureLink™ Indoor / Outdoor Cable  
**Product:** Central tube Cable MPC / A-DQ(BN)H 4 - 24G50L/125  
**Fibre:** Laser optimized multimode fibres, InfiniCor® 600 , OM2

## Description and applications

FutureLink™ MPC (Multi-Purpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between floor distributors. The cables can be installed in conduits, ducts and be buried directly in the ground.

## Cable

- Low smoke to IEC 61034 and EN 50268) halogen free (LSZH™)
- Non corrosive to IEC 60754-2 and EN50267
- Flame retardant to IEC 60332-1 up to 24 fibers and IEC 60332-3C and EN 50266-2-4 up to 12 fibers
- Water blocking to IEC 60794-1-F5
- Metal-free cable, hence no ground loop problems.
- Enhanced rodent protection by swellable glass yarns.
- UV and microbe resistant.
- Can be directly buried or installed in ducts.
- Thin, robust cable.
- Telcordia (Bellcore) color standard for fibers and bundles



## Cable characteristics

Mechanical and environmental.

Temperature range		Laying and installation		[°C]			
		Operation				-5 to +50	
		Transport and storage				-20 to +60	
						-25 to +70	
Fibre count	Cable Ø [mm]	Cable weight [kg/km]	Min. bend radius during installation [mm]	Min. bend radius in service [mm]	Max. tensile load during installation [N]	Max. crash resistance (short term, reversible) [N/10cm]	Fire rating [MJ/m]
4	6,6	47	150	140	1000	1500	0,94
6	6,6	47	150	140	1000	1500	0,94
8	6,6	47	150	140	1000	1500	0,94
12	6,6	47	150	140	1000	1500	0,94
16 (2x8)	8,6	73	190	170	1500	1500	1,64
24 (2x12)	8,6	73	190	170	1500	1500	1,64

## Design

### Fibres and central tube

- Fibres colour coding: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
- Fibre bundle >12 fibres: blue, orange
- Buffer tube: green, up to 12 fibres Ø=3.0mm, >12 fibres Ø=5.0mm

### Cable

- Swellable glass yarn protection
- Flame retardant and halogen free jacket
- Jacket colour: black
- Cable printing:  
meter marking    handset    double sinus    FutureLink/MPC    <cable designation>

### Fibre

- The fibre is fully compliant to the ITU-T G651
- Optimized for VCSEL coupling conditions
- Warranted min. lengths for 1 and 10 Gigabit transmission according to IEEE 802.3z and IEEE 802.3ae

### Optical Characteristics of fibres G50L/125 InfiniCor® 600 OM2:

Typical attenuation at 850 nm	[dB/km]	2.5
Typical attenuation at 1300 nm	[dB/km]	0.7
Bandwidth-length product (OFL=Overfilled Launch) for 1 km at 850 nm	[MHz x km]	≥ 500
Bandwidth-length product (OFL= Overfilled Launch) for 1 km at 1300 nm	[MHz x km]	≥ 500
Laser Bandwidth-length product (RML=Restricted mode launch) for 1 km at 850 nm	[MHz x km]	≥ 585
Guaranteed minimum distances for Gigabit Ethernet at 850 nm	m	600
Guaranteed minimum distances for Gigabit Ethernet at 1300 nm	m	550
Guaranteed minimum distances for 10 Gigabit Ethernet at 850 nm	m	100

The capability of the fibre is predicted by RML BW according to TIA/EIA 455-204 and IEC 60793-1-41 for laser BW < 850 MHz\*km. This measurement method guarantees a future proof application at 1Gbit and 10Gbit. The fibre fulfils all requirements of TIA/EIA 492AAAB, OM2 classification according to standard ISO/IEC 11801 (2002) and EN 50173-1 (2003)

### Ordering information:

Type description	A-DQ(BN)H 4G50L/125	A-DQ(BN)H 6G50L/125	A-DQ(BN)H 8G50L/125
Delivery length	4000m	4000m	4000m
<b>Ordering number</b>	<b>LCXLM1-K0004-B701</b>	<b>LCXLM1-K0006-B700</b>	<b>LCXLM1-K0008-B700</b>

Type description	A-DQ(BN)H 12G50L/125	A-DQ(BN)H 16G50L/125	A-DQ(BN)H 24G50L/125
Delivery length	4000m	4000m	4000m
<b>Ordering number</b>	<b>LCXLM1-K0012-B700</b>	<b>LCXLM1-K0016-B700</b>	<b>LCXLM1-K0024-B700</b>

Other cable and fibre types are possible upon request.

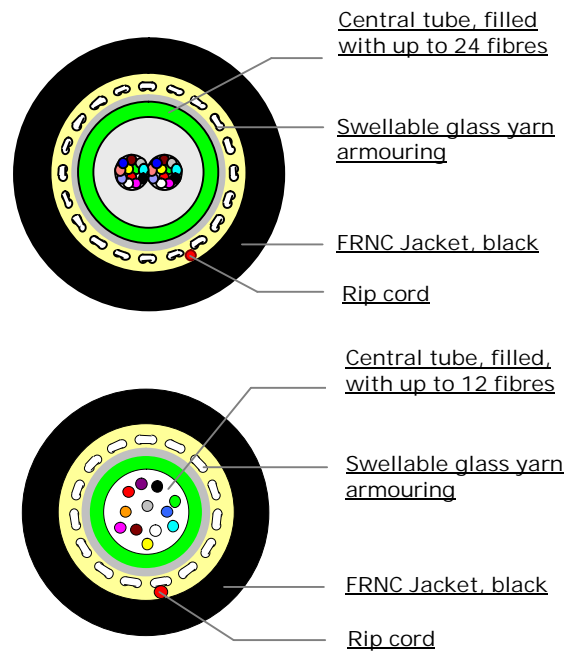
**Product Family:** LANscape® FutureLink™ Indoor / Outdoor Cable  
**Product:** Central tube Cable MPC / A-DQ(BN)H 4 - 24G50Sx+/125  
**Fibre:** Laser optimized multimode fibres, InfiniCor® Sx+ , OM3

## Description and applications

FutureLink™ MPC (Multi-Purpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between floor distributors. The cables can be installed in conduits, ducts and be buried directly in the ground.

## Cable

- Low smoke to IEC 61034 and EN 50268) halogen free (LSZH™)
- Non corrosive to IEC 60754-2 and EN50267
- Flame retardant to IEC 60332-1 up to 24 fibers and IEC 60332-3C and EN 50266-2-4 up to 12 fibers
- Water blocking to IEC 60794-1-F5
- Metal-free cable, hence no ground loop problems.
- Enhanced rodent protection by swellable glass yarns.
- UV and microbe resistant.
- Can be directly buried or installed in ducts.
- Thin, robust cable.
- Telcordia (Bellcore) color standard for fibers and bundles



## Cable characteristics

Mechanical and environmental.

Temperature range		Laying and installation		[°C]			
		Operation				-5 to +50	
		Transport and storage				-20 to +60	
						-25 to +70	
Fibre count	Cable Ø [mm]	Cable weight [kg/km]	Min. bend radius during installation [mm]	Min. bend radius in service [mm]	Max. tensile load during installation [N]	Max. crash resistance (short term, reversible) [N/10cm]	Fire rating [MJ/m]
4	6.6	47	150	140	1000	1500	0,94
6	6.6	47	150	140	1000	1500	0,94
8	6.6	47	150	140	1000	1500	0,94
12	6.6	47	150	140	1000	1500	0,94
16 (2x8)	8.6	73	190	170	1500	1500	1,64
24 (2x12)	8.6	73	190	170	1500	1500	1,64



## Design

### Fibres and central tube

- Fibres colour coding: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
- Fibre bundle >12 fibres: blue, orange
- Buffer tube: green, up to 12 fibres Ø=3.0mm, >12 fibres Ø=5.0mm

### Cable

- Swellable glass yarn protection
- Flame retardant and halogen free jacket
- Jacket colour: black
- Cable printing:  
meter marking    handset    double sinus    FutureLink/MPC    <cable designation>

### Fibre

- The fibre is fully compliant to the ITU-T G651
- Optimized for VCSEL coupling conditions
- Warranted min. lengths for 1 and 10 Gigabit transmission according to IEEE 802.3z and IEEE 802.3ae

### Optical Characteristics of fibres G50Sx+/125 InfiniCor® Sx+ OM3:

Attenuation at 850 nm	[dB/km]	max. 3.0
Bandwidth-length product (OFL= Overfilled Launch) for 1 km at 850 nm	[MHz x km]	≥ 1500
Laser Bandwidth-length product (EMB=Effective Modal Bandwidth) for 1 km at 850 nm	[MHz x km]	≥ 2000
Guaranteed minimum distances for 1 Gigabit Ethernet at 850 nm	m	1000
Guaranteed minimum distances for 10 Gigabit Ethernet at 850 nm	m	300

The capability of the fibre will be calculated by „minimum calculated effective modal bandwidth (minEMBC)“ according to IEC 60793-2-10 Type A1a.2 Ed 2.0 and IEC 60793-1-49 Ed.2.0. This measurement method guarantees a future proof application at 10Gbit. The fibre fulfils all requirements of TIA/EIA 492AAAC-A, OM3 classification according to standard ISO/IEC 11801 (2002) and EN 50173-1 (2003)

### Ordering information:

Type description	A-DQ(BN)H 4G50Sx+/125	A-DQ(BN)H 6G50Sx+/125	A-DQ(BN)H 8G50Sx+/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-K0004-D700</b>	<b>LCXLM1-K0006-D700</b>	<b>LCXLM1-K0008-D700</b>

Type description	A-DQ(BN)H 12G50Sx+/125	A-DQ(BN)H 16G50Sx+/125	A-DQ(BN)H 24G50Sx+/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-K0012-D700</b>	<b>LCXLM1-K0016-D700</b>	<b>LCXLM1-K0024-D700</b>

Other cable and fibre types are possible upon request.



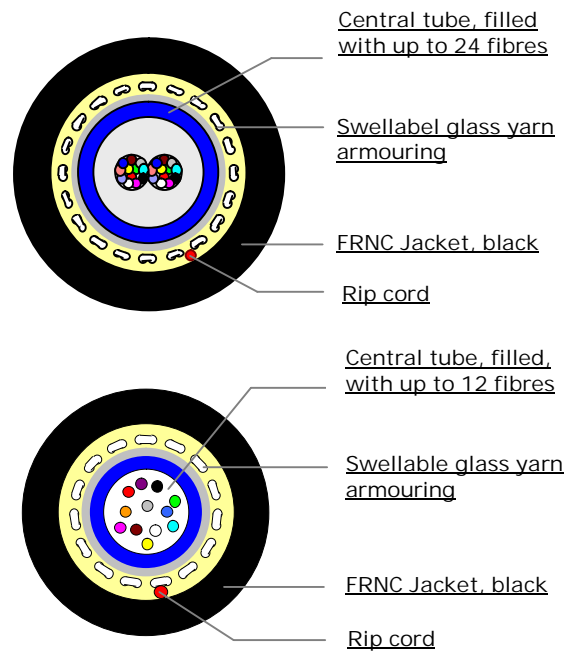
**Product Family:** LANscape® FutureLink™ Indoor / Outdoor Cable  
**Product:** Central tube Cable MPC / A-DQ(BN)H 4 - 24G62,5L/125  
**Fibre:** Laser optimized multimode fibre, InfiniCor® 300 , OM1

## Description and applications

FutureLink™ MPC (Multi-Purpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between floor distributors. The cables can be installed in conduits, ducts and be buried directly in the ground.

## Cable

- Low smoke to IEC 61034 and EN 50268) halogen free (LSZH™)
- Non corrosive to IEC 60754-2 and EN50267
- Flame retardant to IEC 60332-1 up to 24 fibers and IEC 60332-3C and EN 50266-2-4 up to 12 fibers
- Water blocking to IEC 60794-1-F5
- Metal-free cable, hence no ground loop problems.
- Enhanced rodent protection by swellable glass yarns.
- UV and microbe resistant.
- Can be directly buried or installed in ducts.
- Thin, robust cable.
- Telcordia (Bellcore) color standard for fibers and bundles



## Cable characteristics

Mechanical and environmental.

Temperature range		Laying and installation		Operation		Transport and storage		[°C]	
Fibre count	Cable Ø [mm]	Cable weight [kg/km]	Min. bend radius during installation [mm]	Min. bend radius in service [mm]	Max. tensile load during installation [N]	Max. crash resistance (short term, reversible) [N/10cm]	Fire rating [MJ/m]	-5 to +50	-20 to +60
4	6.6	47	150	140	1000	1500	0,94	-5 to +50	-20 to +60
6	6.6	47	150	140	1000	1500	0,94	-20 to +60	-25 to +70
8	6.6	47	150	140	1000	1500	0,94	-25 to +70	
12	6.6	47	150	140	1000	1500	0,94		
16 (2x8)	8.6	73	190	170	1500	1500	1,64		
24 (2x12)	8.6	73	190	170	1500	1500	1,64		

## Design

### Fibres and central tube

- Fibres colour coding: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
- Fibre bundle >12 fibres: blue, orange
- Buffer tube: blue, up to 12 fibres  $\varnothing=3.0\text{mm}$ , >12 fibres  $\varnothing=5.0\text{mm}$

### Cable

- Swellable glass yarn protection
- Flame retardant and halogen free jacket
- Jacket colour: black
- Cable printing:  
meter marking    handset    double sinus    FutureLink/MPC    <cable designation>

### Fibre

- The fibre is fully compliant to the ITU-T G651
- Optimized for VCSEL coupling conditions
- Warranted min. lengths for 1 and 10 Gigabit transmission according to IEEE 802.3z and IEEE 802.3ae

### Optical characteristics of InfiniCor® 300 OM1 Multimode fibres:

Typical attenuation at 850 nm	[dB/km]	3.1
Typical attenuation at 1300 nm	[dB/km]	0.8
Bandwidth-length product (OFL= Overfilled Launch) for 1 km at 850 nm	[MHz x km]	≥ 200
Bandwidth-length product (OFL= Overfilled Launch) for 1 km at 1300 nm	[MHz x km]	≥ 600
Laser Bandwidth-length product (RML) for 1 km at 850 nm	[MHz x km]	≥ 220
Guaranteed min. transmission length for Gigabit Ethernet at 850 nm	m	300
Guaranteed min. transmission length for Gigabit Ethernet at 1300 nm	m	550
Guaranteed min. transmission length for 10 Gigabit Ethernet at 850 nm	m	33

The fibre performances are estimated through measurement and monitoring of the „Restricted Mode Launch (RML)“ according to TIA/EIA455-204 and IEC 60793-1-41. These methods ensure a guaranteed and future-proof functionality under 1 and 10 Gbit Laser operations. Therewith all requirements for OM1 fibres according to IEC 60793-2-10 Type A1b Ed.2.0, TIA/EIA 492AAAA, ISO/IEC 11801 Stand 2002 and EN 50173-1 Stand 2003 are fulfilled.

### Ordering information:

Type description	A-DQ(BN)H 4G62,5L/125	A-DQ(BN)H 6G62,5L/125	A-DQ(BN)H 8G62,5L/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-M0004-A700</b>	<b>LCXLM1-M0006-A700</b>	<b>LCXLM1-M0008-A700</b>

Type description	A-DQ(BN)H 12G62,5L/125	A-DQ(BN)H 16G62,5L/125	A-DQ(BN)H 24G62,5L/125
Delivery length	4000m	4000m	4000m
Ordering number	<b>LCXLM1-M0012-A700</b>	<b>LCXLM1-M0016-A700</b>	<b>LCXLM1-M0024-A700</b>

Other cable and fibre types are possible upon request.