

FIBER OPTIC CABLES AND FTTX PRODUCTS CATALOG



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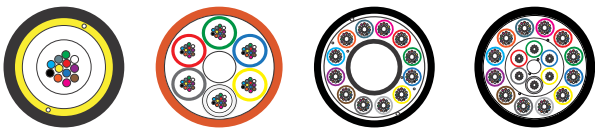
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Introduction

Optical Fiber Cables come in all sorts of lengths, sizes and configurations. In this catalogue you'll find a wide variety of cables that will fit into many different application areas.

OPTICAL FIBER CABLES

An optical fiber cable contains one or more optical fibers. The fiber elements are individually coated with plastic layers and contained in a protective tubes suitable for the environment where the cable will be deployed. Fiber bundles vary in number according to cable types. (Single & Multi Tube)



Different types of cable are used for different applications, for example long distance telecommunication, or providing a high-speed data connection between different parts of a building or between buildings.

OUTER SHEATH:

- POLIAMID PA-12
- HIGH DENSITY POLIETHYLENE HDPE
- LOW SMOKE ZERO HALOGEN LSZH



In this catalogue we showcase Single & Multi Loose Tube Micro Fiber Optic Cables with Single Mode Optical Fiber G-657A and G-652D.

The offered cables are fully compliant to the relevant IEC specifications.

All of provided cables are completely dielectric / non metallic - immune to electromagnetic interferences.

Application types :

- Indoor use (LSZH)
- Outdoor use
- Blowing into Micro- and HDPE Pipes
- Backbone Networks
- FTTH / House connections



ACCESSORIES

CABLE77 provides a broad range of accessories for fiber cable installation, maintenance and handling. Ranging from machines for installation of fiber cable to duct scissors and connectors.

We've spent a lot of time and energy finding out which tools get the job done flawlessly, every time.



DUCTS

We provide a virtually endless selection of different Multiduct, Flatliner, Cable Duct and DB Microduct products.

All of our Optical Fiber Cables are tested and ensured to work optimally and with as little friction as possible when used in conjunction with duct products .

BLOWING TESTS

CABLE77 has been conducting blowing tests to provide clients with most accurate numbers regarding different fiber optical cable types. We have been testing our products in different circumstances to find the best solutions which can then be used on site. Our KNOW-HOW is the sum of years of constant tests and developments. We are able to assure that the products we offer are the best available products on the market.



OUR EXPERIENCE

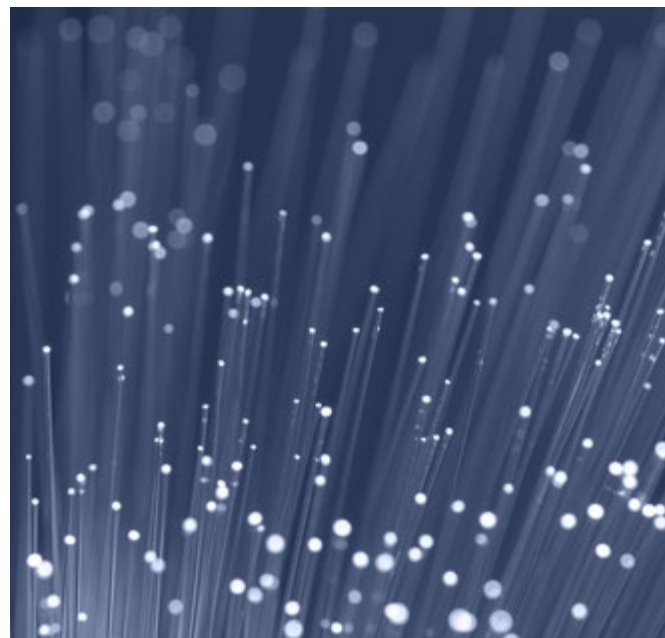
CABLE77 has been producing ducts and pipes for almost 40 years now and for the last 15 years we have been specializing in the fiber to the home (FTTH) market. We have been around the block (and underneath...) many times.



We have been pushing, dragging, blowing and floating in pretty much everything imaginable since 1990's. CABLE77 did a lot of pioneering and a lot of teaching, on how to install cable with air and water. We did the mistakes and we made the learnings.

We produced the first micro blowing machine in 2000 and our first MultiSub Duct blowing machine in 2003.

To get good blowing results CABLE77 worked with several of the leading cable producers, to change the oversheet and memory effect of the standard duct cable (1996-1998).




Since 2001 CABLE77 has been constantly developing micro cables.

In this catalogue we are summing up many years of our experiences. With us as a partners in your project you are sure to work with the best.


Ask us for any suggestions to get the job done, and if you like our ideas we would be glad to offer you the right material for the job that you want to have done.

PRODUCT OVERVIEW


Blown Fiber - ABF Unit (PE)

	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø(µm)	Cable Ø	Drum Length
ABF Unit PE - PAGE 15						
	2	1x2	G652D	245	1,3mm	4km
	4	1x4	G652D	245	1,3mm	4km
	8	1x8	G652D	245	1,7mm	4km

UNI TUBE micro cable (PE)


	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø(µm)	Cable Ø	Drum Length
Single Loose Tube HDPE - PAGES 17						
	4	1x4	G657A/G652D	245	3,5mm	4km
	8	1x8	G657A/G652D	245	3,5mm	4km
	12	1x12	G657A/G652D	245	3,5mm	4km

UNI TUBE micro cable (PA-12)


	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø(µm)	Cable Ø	Drum Length
Single Loose Tube PA-12 - PAGES 18 - 19						
	4	1x4	G657A/G652D	245	2,5mm	4km
	8	1x8	G657A/G652D	245	2,5mm	4km
	12	1x12	G657A/G652D	245	2,5mm	4km
	24	1x24	G657A/G652D	245	4,0mm	4km

PRODUCT OVERVIEW

MULTI TUBE micro cable (PE)

	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø (µm)	Cable Ø	Drum Length
Multi Loose Tube PE - PAGES 21 - 23						
	24	2x12	G657A/G652D	245	5,7mm	4km
	48	4x12	G657A/G652D	245	5,7mm	4km
	72	6x12	G657A/G652D	245	5,7mm	4km
	96	8x12	G657A/G652D	245	6,5mm	4km
	144	12x12	G657A/G652D	245	8,7mm	4km
	192	16x12	G657A/G652D	245	9,5mm	4km
	288	12x12	G657A/G652D	245	13,6mm	4km

MULTI TUBE micro cable (PA-12)

	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø (µm)	Cable Ø	Drum Length
Multi Loose Tube PA-12 - PAGES 24 - 29						
	24	2x12	G657A/G652D	245	5,7mm	4km
	48	4x12	G657A/G652D	245	5,7mm	4km
	72	6x12	G657A/G652D	245	5,7mm	4km
	96	8x12	G657A/G652D	245	6,3mm	4km
	144	12x12	G657A/G652D	245	8,5mm	4km
	144	6x24	G657A/G652D	245	8,2mm	4km
	192	8x24	G657A/G652D	245	9,7mm	4km
	288	24x12	G657A/G652D	245	10,5mm	4km

OUTER SHEATH*


 HDPE
Micro cable

PA Micro cable


* Outer sheath colour can be customized

PRODUCT OVERVIEW

MULTI TUBE micro cable 200 microns (PE)

	Fiber Number Singlemode 9µm	Fiber Type	Fiber Ø(µm)	Cable Ø	Drum Length
Multi Loose Tube 200 microns PE - PAGES 31 - 33					
	144 6x24	G657A/G652D	200	6,3mm	4km
	192 8x24	G657A/G652D	200	7,6mm	4km
	288 12x24	G657A/G652D	200	9,6mm	4km

MULTI TUBE duct cable (PE)


	Fiber Number Singlemode 9µm	Fiber Type	Fiber Ø (µm)	Cable Ø	Drum Length
Multi Loose Tube duct cable PE - PAGES 35 - 39					
	12 1x12	G652D	245	10,6mm	4km
	24 2x12	G652D	245	10,6mm	4km
	48 4x12	G652D	245	10,6mm	4km
	72 6x12	G652D	245	10,6mm	4km
	96 8x12	G652D	245	12,0mm	4km
	144 12x12	G652D	245	14,6mm	4km
	192 8x24	G652D	245	14,2mm	4km
	288 12x24	G652D	245	17,3mm	4km
	432 18x24	G652D	245	18,0mm	4km

OUTER SHEATH		OUTER SHEATH	
HDPE		LSZH	
Micro cable		Micro cable	


* Outer sheath colour can be customized

PRODUCT OVERVIEW

ARMoured MULTI TUBE micro cable (PE)


	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø (µm)	Cable Ø	Drum Length
Armoured Multi Loose Tube PE - PAGES 41						
	12	1x12	G652D	245	11,9mm	4km
	24	2x12	G652D	245	11,9mm	4km
	48	4x12	G652D	245	11,9mm	4km
	72	6x12	G652D	245	11,9mm	4km
	96	8x12	G652D	245	13,1mm	4km

MULTI TUBE micro cable (LSZH)

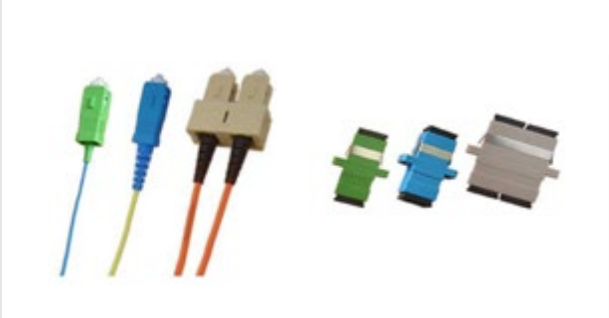
	Fiber Number Singlemode 9µm		Fiber Type	Fiber Ø (µm)	Cable Ø	Drum Length
Multi Loose Tube LSZH - PAGES 43- 46						
	24	6x4	G652D	245	7,2mm	4km
	48	6x8	G652D	245	7,2mm	4km
	72	6x12	G652D	245	7,2mm	4km
	96	8x12	G652D	245	8,2mm	4km
	120	10x12	G652D	245	10,4mm	4km
	144	12x12	G652D	245	10,4mm	4km
	168	7x24	G652D	245	11,4mm	4km
	192	8x24	G652D	245	11,4mm	4km
	216	9x24	G652D	245	14,4mm	4km
	240	10x24	G652D	245	14,4mm	4km
	264	11x24	G652D	245	14,4mm	4km
	288	12x24	G652D	245	14,4mm	4km

PRODUCT OVERVIEW

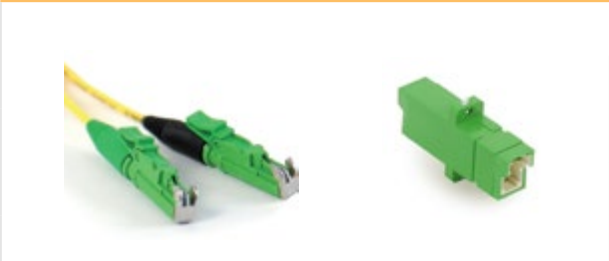
LC Connectors and Adapters

	Properties
LC Connectors & Adapters - PAGES 48 - 49	
	Comply with IEC standard 61754-20
	Simplex and duplex styles
	RoHS compliant
	Single-mode (PC/blue, APC/green) and multi-mode (grey)
	Assembled with cables of 0.9 mm, 1.4 mm, 1.7-2.1 mm, 2.4 mm, 2.8 mm and other contracted diameters

SC Connectors and Adapters


	Properties
SC Connectors & Adapters - PAGES 50 - 51	
	Comply with IEC standard 61754-20
	Simplex and duplex styles
	RoHS compliant
	Single-mode (PC/blue, APC/green) and multi-mode (grey)
	Can be assembled with cables of 0.9 mm, 1.4 mm, 1.7-2.1 mm, 2.4 mm, 2.8 mm and other contracted diameters

E2000 Connectors and Adapters


	Properties
E2000 Connectors & Adapters - PAGES 52	
	Comply with IEC standard 61754-20
	Simplex and duplex styles
	One-piece design
	Single-mode (PC/blue, APC/green) and multi-mode (grey)
	Can be assembled with cables of 0.6 mm - 3,5mm diameter

PRODUCT OVERVIEW

Pre-assembled Fan-Outs


	Properties
Pre-assembled Fan-outs - PAGES 53	
	Indoor , Outdoor Installations
	Fiber numbers: 4, 6, 8, 12, 24, 48
	RoHS compliant
	Single-mode - G.652.D, G.657.A1/A2/B3
	Multi-mode - OM1-4
Connectors: LC, SC, FC, ST etc., PC/APC	

Simplex, Duplex Cables

	Properties
LC Connectors & Adapters - PAGES 54 - 55	
	Comply with IEC standard
	Simplex and duplex styles
	RoHS compliant
	Single-mode (PC/blue, APC/green)
	Assembled with cables of 0.9 m mm, 1.7-2.1 mm, 2.4 mm

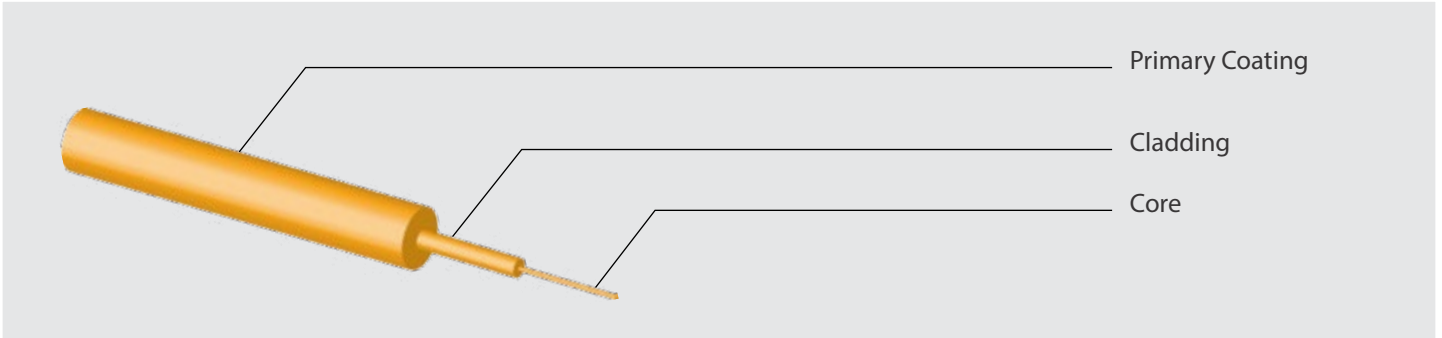
Pigtails - LC, SC, E2000

Pigtails Sets - LC, SC, E2000

	Properties
Pigtails - PAGES 56	
	Single-mode - G.652.D
	Single-mode - G.657.A1
	Multi-mode - OM1-4
	RoHS compliant
	Single-mode (PC/blue, mm, 1.7-2.1 mm, 2.

	Properties
Pigtails Sets - PAGES 57	
	12 colour Sets
	Single-mode - G.652.D, G.657.A2
	Multi-mode - OM3-4
	Colours yellow, magenta, turquoise
	2m. length

Singlemode-Fiber G.657 A & G.652D specification



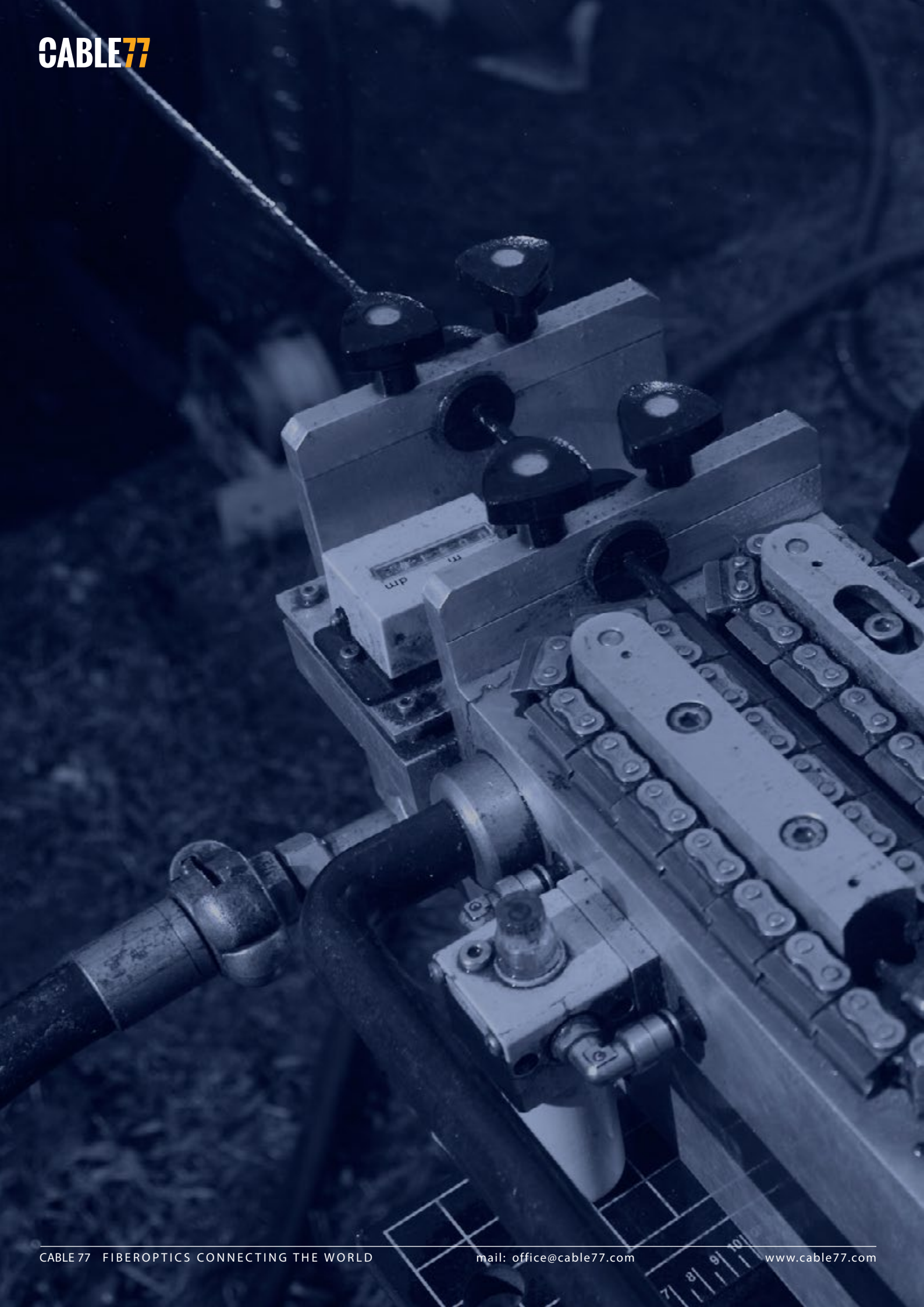
OPTICAL PROPERTIES			
Fiber type	Wave length	G.657. A 9/125 μm	G.652.D 9/125 μm
Attenuation [db/km]	1310 nm	≤ 0.36	≤ 0.34
Attenuation [db/km]	1550 nm	≤ 0.23	≤ 0.21
Attenuation [db/km]	1625 nm	≤ 0.27	≤ 0.23
Point discontinuity [db]	-	≤ 0.05	≤ 0.05
Zero dispersion wavelength	-	1302 to 1322 nm	1302 to 1322 nm
Zero dispersion slope	-	0.092 nm ² km	0.090 nm ² km
Mode field diameter range	1310 nm	9.2 ± 0.4 μm	9,2 ± 0.3 μm

GEOMETRICAL PROPERTIES		
Fiber type	G.652. D 9/125 μm	G.657.A 9/125 μm
Cladding Diameter	125 ± 0.7 μm	125 ± 0.7 μm
Primary Coating Diameter	245 ± 5 μm	245 ± 5 μm
Cladding noncircularity	≤ 0,70%	≤ 0,70%
Core/Clad concentricity error	≤ 0.5 μm	≤ 0.5 μm
Coating / Cladding Concentricity error	< 10 μm	< 10 μm

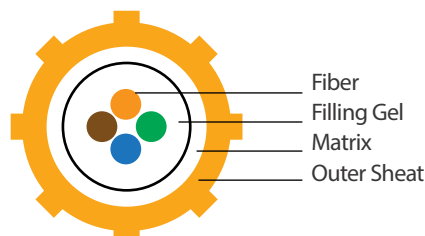
Singlemode-Fiber G.657 A & G.652D specification

MECHANICAL PROPERTIES		
Fiber type	G.657. A 9/125 μm	G.652.D 9/125 μm
Dynamic tensile strength (Unaged)	>550 kpsi	>550 kpsi
Dynamic tensile strength (Aged)	>440 kpsi	>440 kpsi
Dynamic Fatigue	>20	>20
Fiber Curl	> 4m	> 4m
Coating Strip Force	$1.3\text{N} \leq F \leq 8.9\text{N}$	$1.3\text{N} \leq F \leq 8.9\text{N}$

ENVIRONMENTAL PROPERTIES		
Fiber type	G.652. D 9/125 μm	G.657.A 9/125 μm
Change in Attenuation at 1310, 1550, 1625 nm		
Temperature cycling (-60°C to +85°C)	$\leq 0.05 \text{ db/km}$	$\leq 0.05 \text{ db/km}$
Temperature-Humidity cycling (-10°C to +85°C)	$\leq 0.05 \text{ db/km}$	$\leq 0.05 \text{ db/km}$
Temperature accelerated Aging 85°C	$\leq 0.05 \text{ db/km}$	$\leq 0.05 \text{ db/km}$
Water Immersion 23°C	$\leq 0.05 \text{ db/km}$	$\leq 0.05 \text{ db/km}$



AIR BLOWN FIBER (ABF) GEL FILLED MICRO CABLE PE (G652D) 2 - 8 fibers 1,3 mm - 1,7 mm



Properties

- Loose tube construction
- Outer Sheath PE orange
- Small Diameter & Light in Weight
- Completely non metallic cable suitable for installation near high voltage lines
- For Air blown installation inside Duct

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms:	IEC 60794-1-2-F1
Laying and Installation	-30° to +60°C
Operation	-30° to +60°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652D IEC/ITU standards

Characteristics

Cable Diameter : 1,3 (+/-0,1) mm for 2F & 4F /
1,7 (+/-0,1) mm for 8F
Cable Weight : 1,7kg/km for 2F & 4F / 2,9 kg/km for 8F
Transport : Wooden Drum
Bending radius (installed) : 10 x Cable Diameter
Outer Sheath colour: orange
Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
Production Year , Drum Number

Colourcode Fiber - colours in bundle

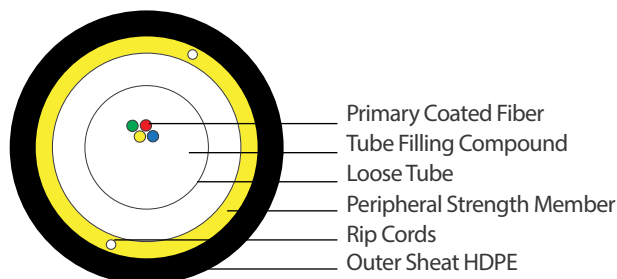
Tube colours :

1	2	3	4	5	6	7	8
blue	orange	green	brown	grey	white	red	black

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
AB FIBER 1,7mm 2x1	2	G652D	13 mm	18 mm	4 km
AB FIBER 1,9mm 4x1	4	G652D	1,3 mm	18 mm	4 km
AB FIBER 1,9mm 8x1	8	G652D	1,7 mm	18 mm	4 km



**UNI TUBE MICRO CABLE PE
(G657A/G652D) 4 -12 fibers 3,5mm**



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Rip cords to open Outer Sheath
- Suitable for Indoor use
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation

Characteristics

Cable Diameter : 3,5 mm
 Cable Weight : 9 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force : During Installation 150 N
 Installed 75 N
 Crush Resistance: 50 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

Specifications/Norms

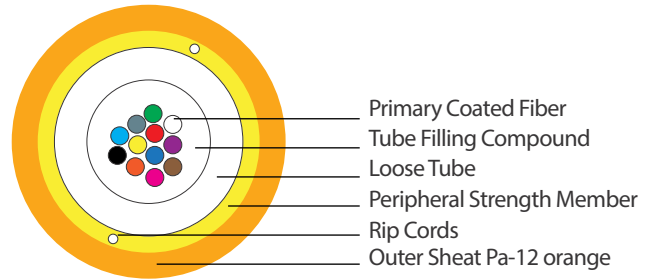
Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
SL Tube HDPE 3,5mm 1x4	4	G657A/G652D	3,5mm	6 - 10 mm	4 km
SL Tube HDPE 3,5mm 1x8	8	G657A/G652D	3,5mm	6 - 10 mm	4 km
SL Tube HDPE 3,5mm 1x12	12	G657A/G652D	3,5mm	6 - 10 mm	4 km

**UNI TUBE MICRO CABLE PA-12
(G657A/G652D) 2 - 12 fibers 2,5mm**



Properties

- Central Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Loose tube colour :	white
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Characteristics

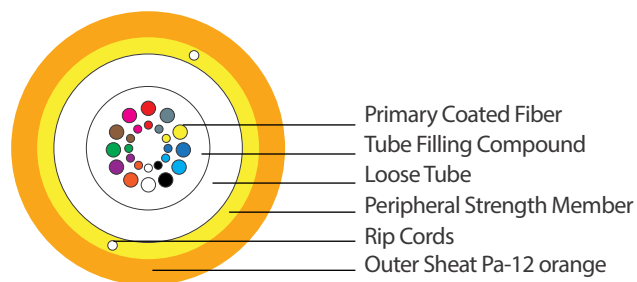
Cable Diameter : 2.5 mm
 Cable Weight : 6 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 150 N
 Installed 75 N
 Crush Resistance: 50 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
SL Tube PA 2,5mm 1x4	4	G657A/G652D	2,5mm	4 - 6 mm	4 km
SL Tube PA 2,5mm 1x8	8	G657A/G652D	2,5mm	4 - 6 mm	4 km
SL Tube PA 2,5mm 1x12	12	G657A/G652D	2,5mm	4 - 6 mm	4 km

UNI TUBE MICRO CABLE PA-12 (G657A/G652D) 24 fibers 4,0mm



Properties

- Single Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Loose tube colour :	white
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

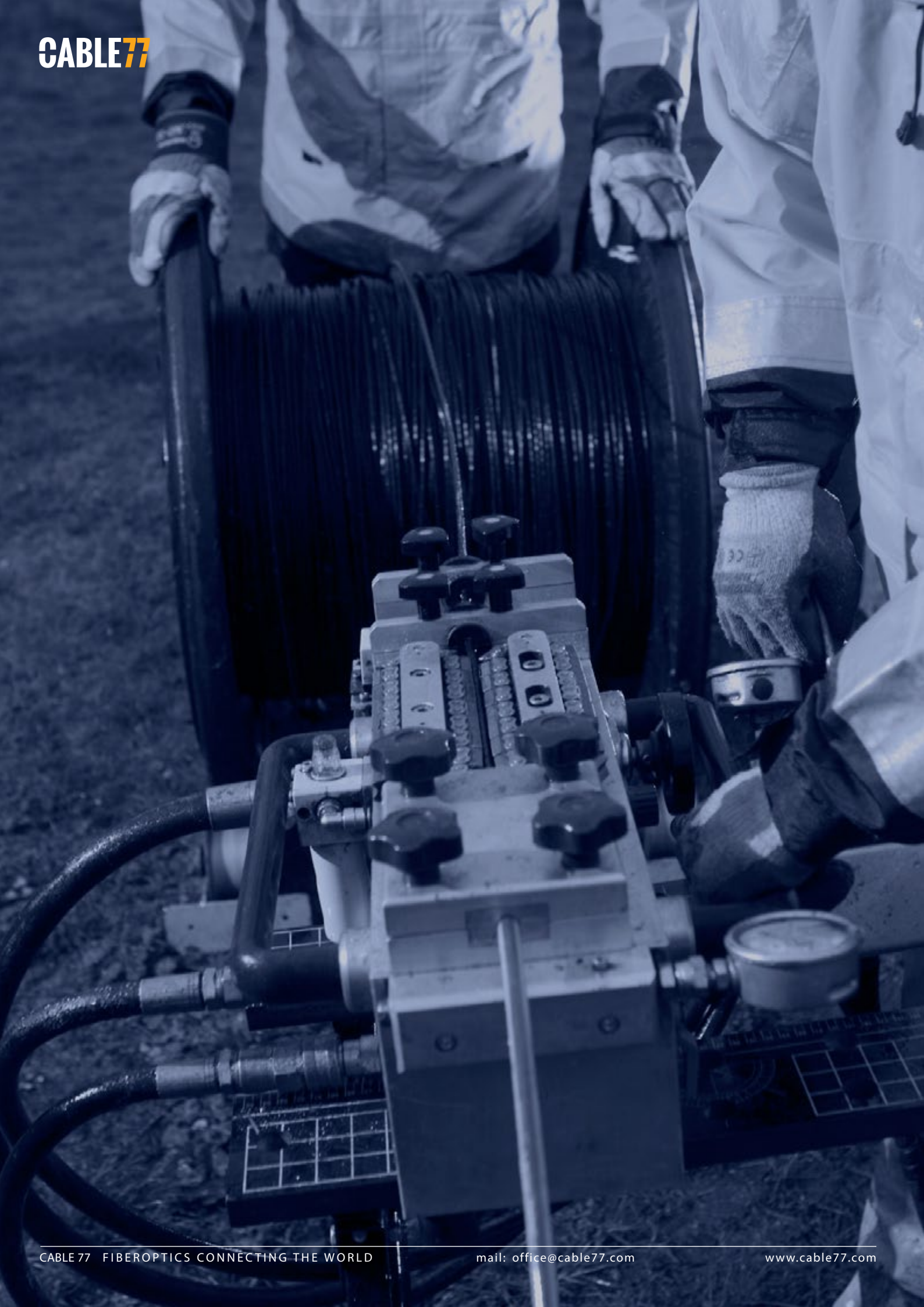
Characteristics

Cable Diameter : 4.0 mm
 Cable Weight : 12 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 200 N
 Installed 100 N
 Crush Resistance: 100 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

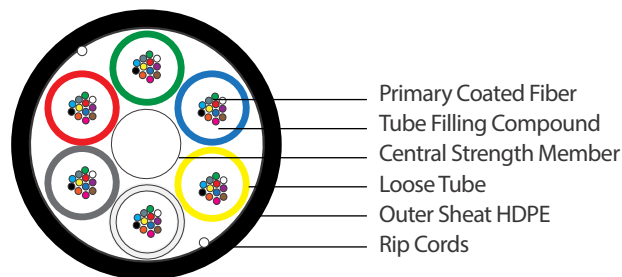
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
SL Tube PA 4,0mm 1x24	24	G657A/G652D	4,0mm	6 - 10 mm	4 km



**MULTI TUBE MICRO CABLE PE
(G657A/G652D) 24 - 72 fibers 5,7mm**



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 5.7 mm
 Cable Weight : 24 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force : During Installation 650N
 Installed 500 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G657 A or G652 D IEC/ITU standards

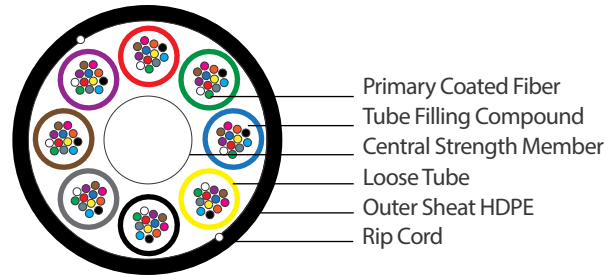
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 5,7mm 2x12	24	G657A/G652D	5,7mm	8 - 16 mm	4 km
ML Tube HDPE 5,7mm 4x12	48	G657A/G652D	5,7mm	8 - 16 mm	4 km
ML Tube HDPE 5,7mm 6x12	72	G657A/G652D	5,7mm	8 - 16 mm	4 km

MULTI TUBE MICRO CABLE PE

(G657A/G652D) 96 fibers - 6,5 mm , 144 fibers - 8,7 mm , 288 fibers - 13,6 mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 6,5 mm for 96F / 8,7 mm for 144F / 13,6 mm for 288 fibers
 Cable Weight : 37 kg/km 96F / 60 kg/km 144F / 145 kg/km 288f
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force : During Installation 1500N
 Installed 1000 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

Specifications/Norms

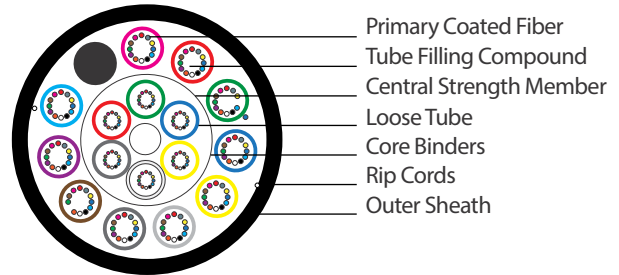
Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 6,5mm 8x12	96	G657A/G652D	6,5mm	10 - 16 mm	4 km
ML Tube HDPE 8,7mm 12x12	144	G657A/G652D	8,7mm	12 - 16 mm	4 km
ML Tube HDPE 8,7mm 12x12	288	G657A/G652D	8,7mm	12 - 16 mm	4 km

MULTI TUBE MICRO CABLE PE (G652D) 192 fibers 9,5 mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable
immune to electromagnetic interferences
- UV Resistant Outer Sheath
- Rip cords to open Outer Sheath

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652D IEC/ITU standards

Characteristics

Cable Diameter : 9,5 (+/-0,5) mm
 Cable Weight : 65 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force: During installation 1450 N
 Installed 850 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black

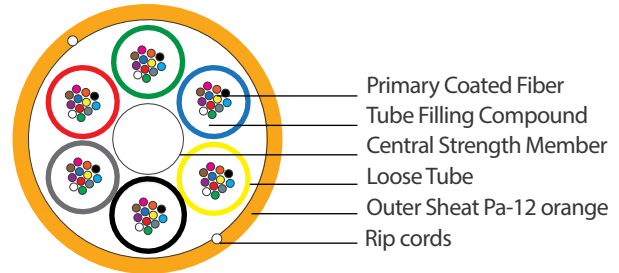
Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 9,5mm 16x12	192	G652D	9,5 mm	16 - 20 mm	4 km

**MULTI TUBE MICRO CABLE PA-12
(G657A/G652D) 24 - 72 fibers 5,7mm**



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 5,7 mm
 Cable Weight : 24 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Max. Tension: During Installation 650 N
 Installed 500 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

Specifications/Norms

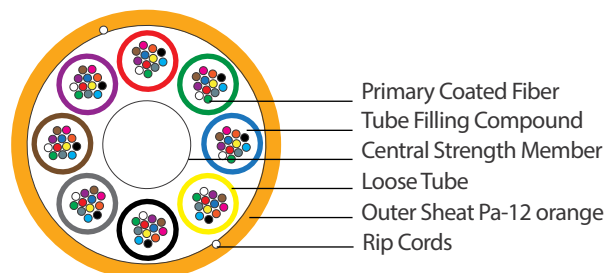
Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 5,7mm 2x12	24	G657A/G652D	5,7mm	8 - 16 mm	4 km
ML Tube PA 5,7mm 4x12	48	G657A/G652D	5,7mm	8 - 16 mm	4 km
ML Tube PA 5,7mm 6x12	72	G657A/G652D	5,7mm	8 - 16 mm	4 km

MULTI TUBE MICRO CABLE PA-12 (G657A/G652D) 96 fibers 6,3mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms:	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Characteristics

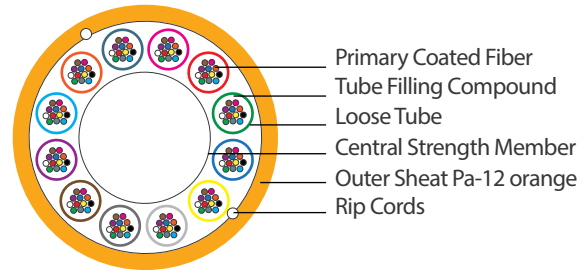
Cable Diameter : 6,3 mm
 Cable Weight : 35 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 6,3mm 8x12	96	G657A/G652D	6,3mm	10 - 16 mm	4 km

MULTI TUBE MICRO CABLE PA-12 (G657A/G652D) 144fibers 8,5mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Characteristics

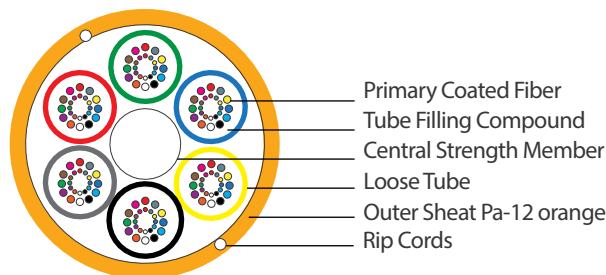
Cable Diameter : 8,5 mm
 Cable Weight : 58kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 8,5mm 12x12	144	G657A/G652D	8,5mm	12 - 16 mm	4 km

MULTI TUBE MICRO CABLE PA-12 (G657A/G652D) 144 fibers 8,2mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Indoor use
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 8,2 mm
 Cable Weight : 60 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

Specifications/Norms

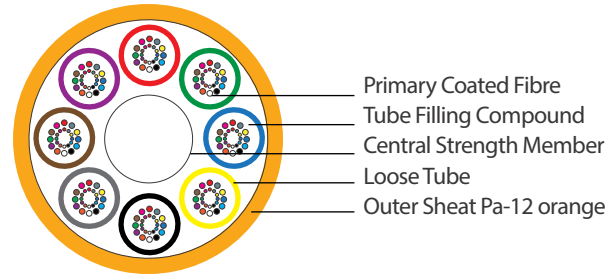
Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 8,2mm 6x24	144	G657A/G652D	8,2 mm	12 - 16 mm	4 km

MULTI TUBE MICRO CABLE PA-12 (G657A/G652D) 192 fibers 9,7mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Indoor use
- Suitable for Micro duct Installation

Characteristics

Cable Diameter : 9.7 mm
 Cable Weight : 80 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

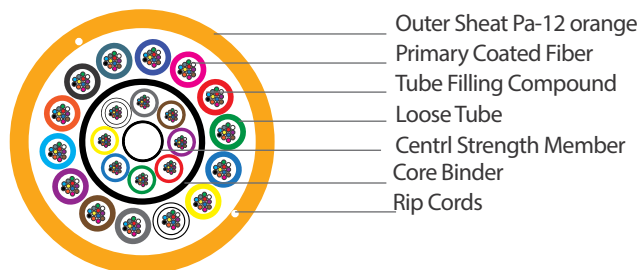
Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 9,7mm 8x24	192	G657A/G652D	9,7mm	16 mm - 20mm	4 km

**MULTI TUBE MICRO CABLE PA-12
(G657A/G652D) 288 fibers 10,5mm**



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath Nylon (PA-12) for optimal blowing length (Insect and Termite resistant)
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 10,5 mm
 Cable Weight : 80 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 700 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: orange
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

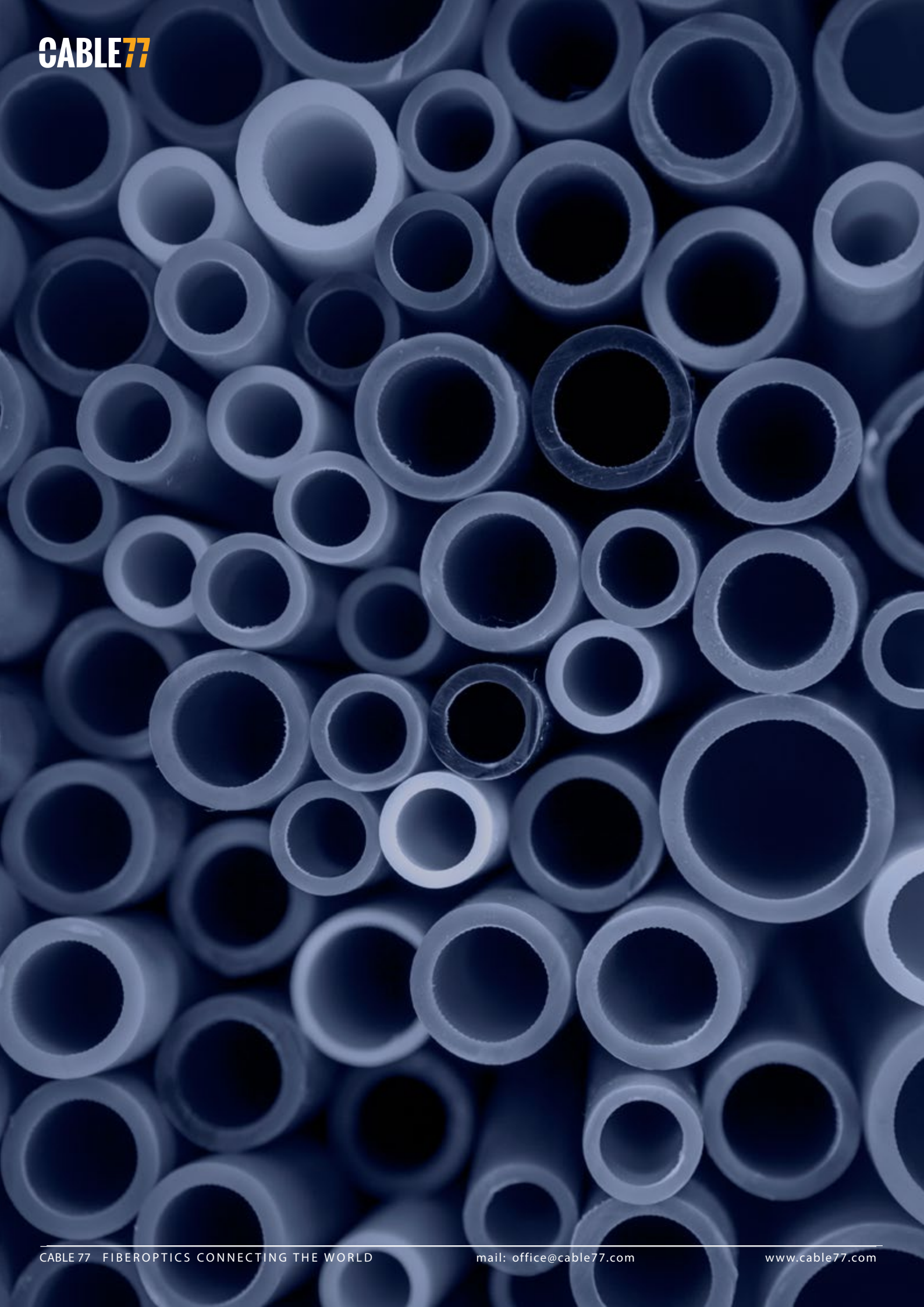
Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G657 A or G652 D IEC/ITU standards

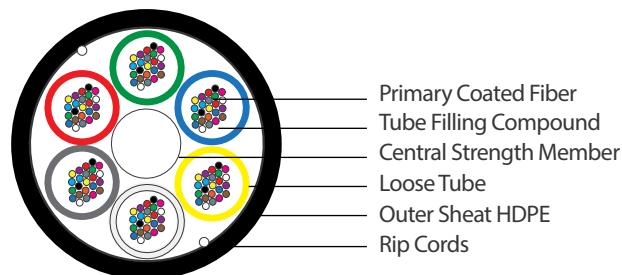
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube PA 10,5mm 24x12	288	G657A/G652D	10,5 mm	16 mm - 20mm	4 km



MULTI TUBE MICRO CABLE 200 MICRONS PE (G657A/G652D) 144 fibers 6,3mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 6,3 mm
 Cable Weight : 35 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 700 N
 Crush Resistance: 1000 N
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

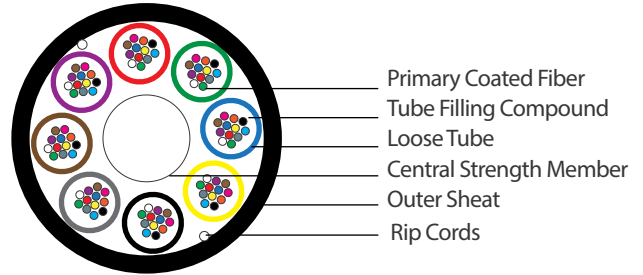
Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number / Fiber Ø in µm	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 6,3mm 6x24	144 /200µm	G657A/G652D	6,3mm	10 - 16 mm	4 km

MULTI TUBE MICRO CABLE 200 MICRONS PE (G657A/G652D) 192 fibers 7,6mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 7,6 mm
 Cable Weight : 55 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 1100 N
 Crush Resistance: 1000 N
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

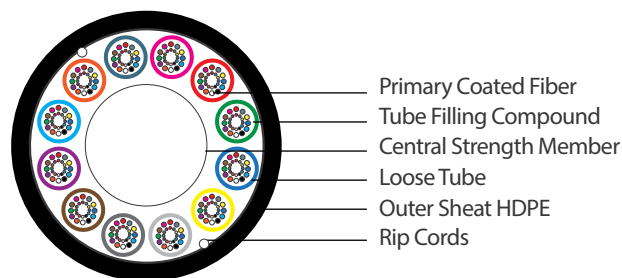
Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G657 A or G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number / Fiber Ø in µm	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 7,6mm 8x24	192 /200µm	G657A/G652D	7,6mm	10 - 16 mm	4 km

MULTI TUBE MICRO CABLE 200 MICRONS PE (G657A/G652D) 288 fibers 9,6mm



Properties

- Multi Loose Tube Unarmoured
- Outer Sheath HDPE for optimal blowing length
- Completely dielectric / non metallic cable immune to electromagnetic interferences
- Suitable for Blowing
- UV Resistant Outer Sheath
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 9,6 mm
 Cable Weight : 85 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force : 1700 N
 Crush Resistance: 1000 N
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G657 A or G652 D IEC/ITU standards

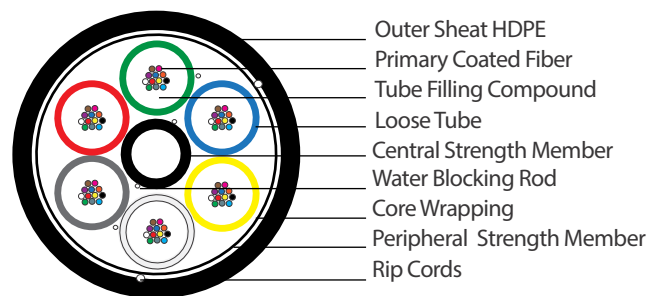
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number / Fiber Ø in µm	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 9,6mm 12x24	288 /200µm	G657A/G652D	9,6mm	16 - 20 mm	4 km



MULTI TUBE DUCT CABLE HDPE (G652D) 12 - 72 fibers 10,6mm



Properties

- Multi Loose Tube Unarmoured
- Water Swellable Elements
- Outer Sheath UV Stabilized HDPE for optimal blowing length
- Glass Yarn Elements
- Non metallic Rod
- Suitable for Blowing
- Easy Fiber routing inside closure
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 10,6 mm
 Cable Weight : 84 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 1500N
 Crush Resistance: 2000N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

Specifications/Norms

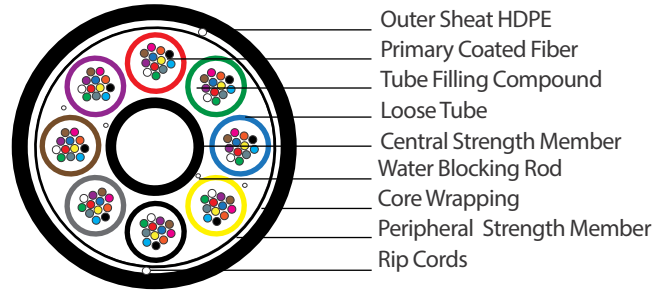
Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 10,6mm 1x12	12	G652D	10,6mm	16 mm	4 km
ML Tube HDPE 10,6mm 2x12	24	G652D	10,6mm	16 mm	4 km
ML Tube HDPE 10,6mm 4x12	48	G652D	10,6mm	16 mm	4 km
ML Tube HDPE 10,6mm 6x12	72	G652D	10,6mm	16 mm	4 km

MULTI TUBE DUCT CABLE HDPE (G652D) 96 fibers 12,0 mm



Properties

- Multi Loose Tube Unarmoured
- Water Swellable Elements
- Outer Sheath UV Stabilized HDPE for optimal blowing length
- Glass Yarn Elements
- Non metallic Rod
- Suitable for Blowing
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 12,0 mm
 Cable Weight : 113,0 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 2000N
 Crush Resistance: 2000N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

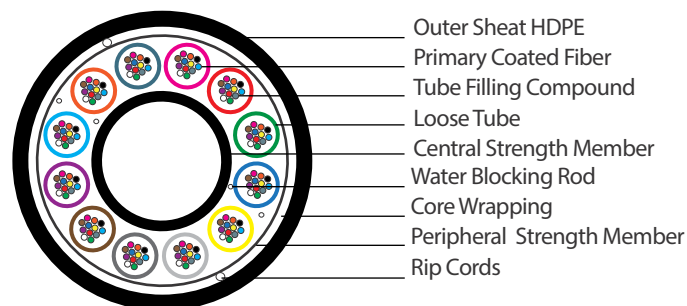
Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -30° to +70°C
 Operation -30° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 12,0mm 8x12	96	G652D	12,0mm	18 mm	4 km

MULTI TUBE DUCT CABLE HDPE (G652D) 144 fibers 14,6mm



Properties

- Multi Loose Tube Unarmoured
- Water Swellable Elements
- Outer Sheath UV Stabilized HDPE for optimal blowing length
- Glass Yarn Elements
- Non metallic Rod
- Suitable for Blowing
- Suitable for Micro duct Installation
- Rip cords to open Outer Sheath

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Characteristics

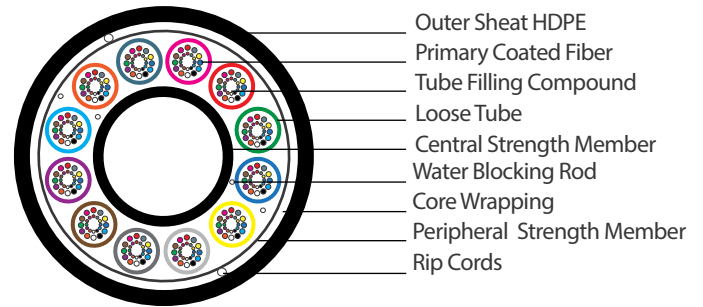
Cable Diameter : 14,6 mm
 Cable Weight : 167,0 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 2000N
 Crush Resistance: 2000N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 14,6mm 12x12	144	G652D	14,6mm	20 mm	4 km

MULTI TUBE DUCT CABLE HDPE (G652D) 192, 288 fibers 14,2 mm , 17,3 mm



Properties

- Multi Loose Tube Unarmoured
- Water Swellable Elements
- Outer Sheath UV Stabilized HDPE for optimal blowing length
- Glass Yarn Elements
- Non metallic Rod
- Suitable for Blowing
- Easy Fiber routing inside closure
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 14,2 mm for 192F / 17,3 mm for 288F
 Cable Weight : 157,0 kg/km 192F / 230,0 kg/km 288F
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 2000N
 Crush Resistance: 2000N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBER TYPE, Production Year , Drum Number

Specifications/Norms

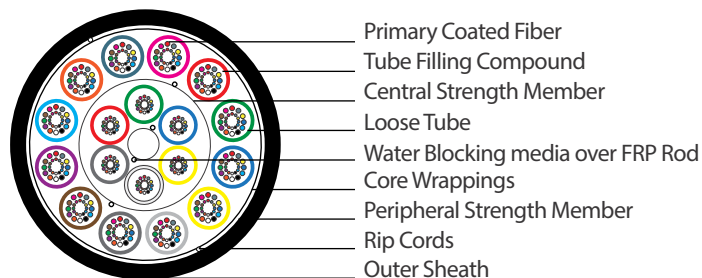
Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 14,2mm 8x24	192	G652D	14,2mm	20 mm	4 km
ML Tube HDPE 17,3mm 12x24	288	G652D	17,3mm	-	4 km

MULTI TUBE DRY CORE DUCT CABLE HDPE (G652D) 432 fibers 18,0mm



Properties

- Multi Loose Tube Unarmoured
- Enhance low water peak single mode fibers in full compliance with ITU-T-G 652D
- Double layer stranded construction
- Water swellable yarns
- Non metallic Rod
- Cable core is wrapped with Water Swellable Tape
- UV Stabilized HDPE outer sheath, black
- Rip cords to open Outer Sheath

Characteristics

Cable Diameter : 18,0 mm
 Cable Weight : 230 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 10 x Cable Diameter
 Tensile Force : 2000N
 Crush Resistance: 2000N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE, Production Year , Drum Number

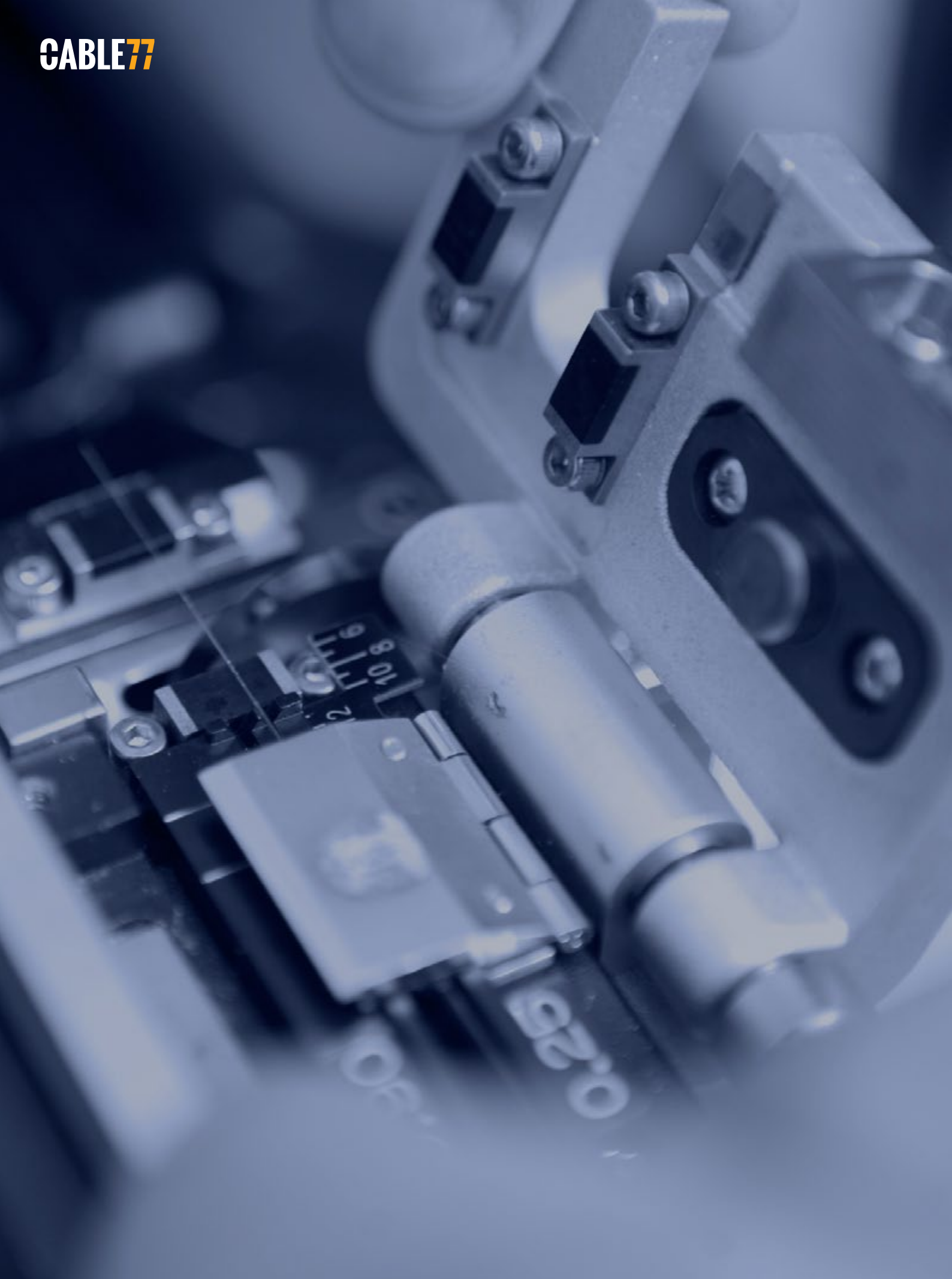
Specifications/Norms

Standard: IEC 60794
 Temperature Range Norms : IEC 60794-1-2-F1
 Laying and Installation -40° to +70°C
 Operation -40° to +70°C
 Fiber colour : acc. to DIN
 Fiber type : Singlemode G652 D
 IEC/ITU standards

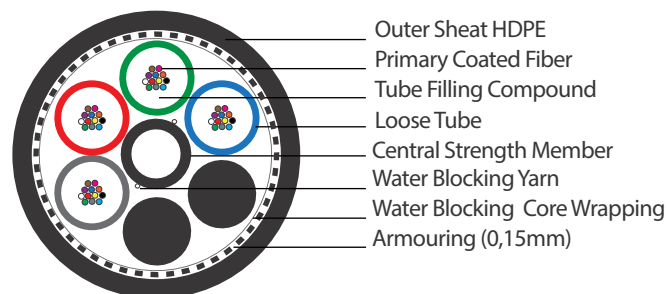
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube HDPE 18,0mm 18 x 24	432	G652D	18,0mm	-	4 km



ARMOURED MULTI TUBE MICRO CABLE PE (G652D) 12 - 96 fibers 11,9mm - 13,1mm



Properties

- Corrugated Steel Tape armouring
- Outer Sheath HDPE- Black
- Water Swellable Elements
- Loose Tube Construction
- Inside duct - pulled or blown
- Suitable for direct burrial
- PE Fillers

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

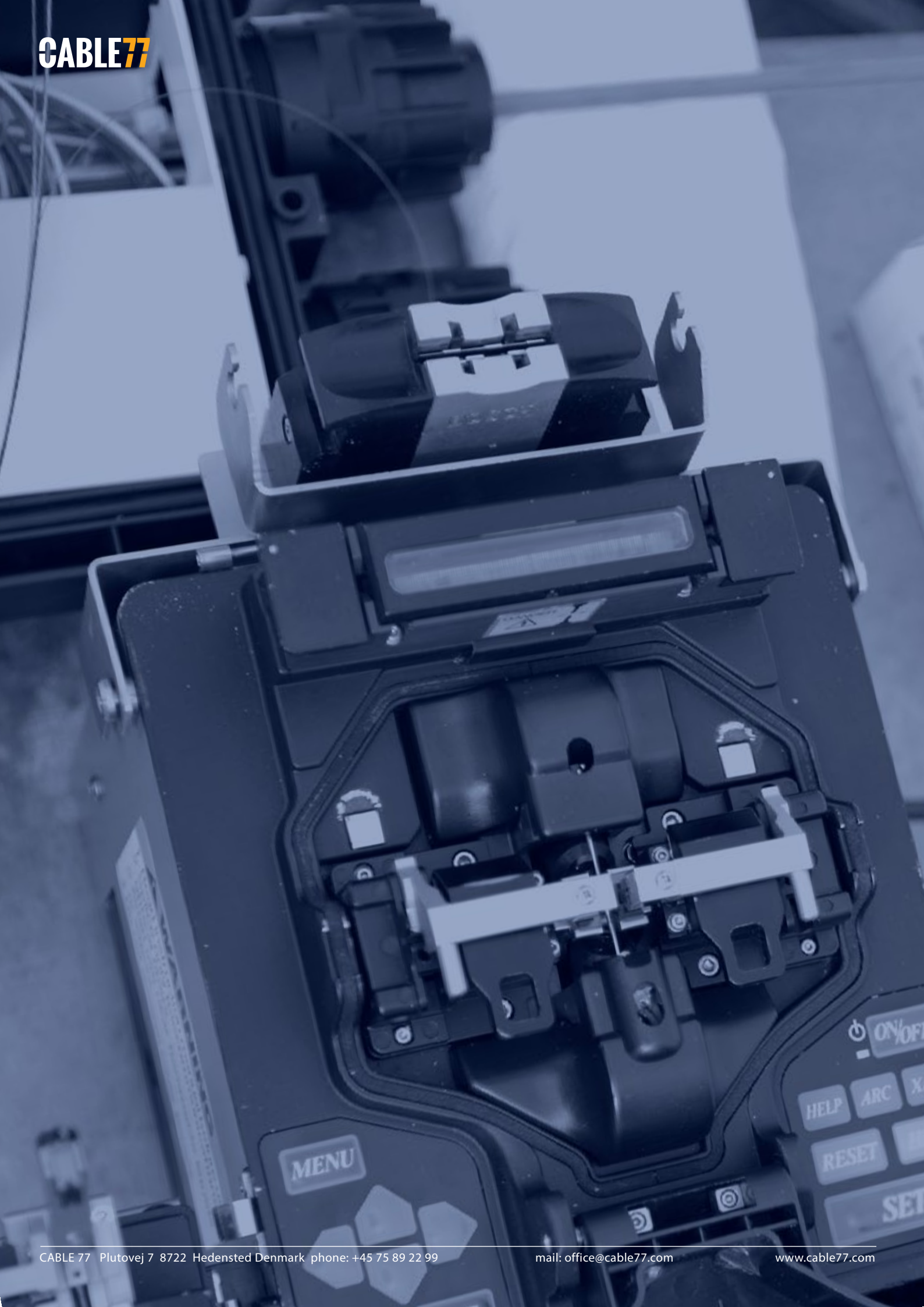
Characteristics

Cable Diameter : 11,9 mm up to 72F / 13,1 mm up to 96F
 Cable Weight : 130 kg/km up to 72F / 150 kg/km up to 96F
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: 2000 N
 Crush Resistance: 2000 N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

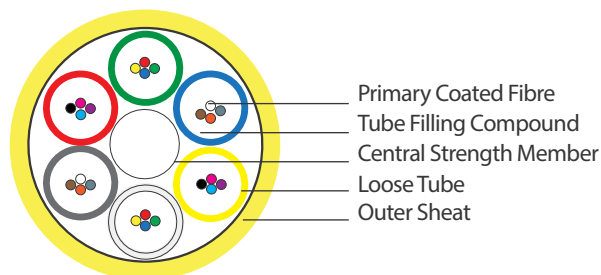
Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube AR 11,9mm 1x12	12	G652D	11,9 mm	18 mm	4 km
ML Tube AR 11,9mm 2x12	24	G652D	11,9 mm	18 mm	4 km
ML Tube AR 11,9mm 4x12	48	G652D	11,9mm	18 mm	4 km
ML Tube AR 11,9mm 6x12	72	G652D	11,9mm	18 mm	4 km
ML Tube AR 13,1mm 8x12	96	G652D	13,1mm	20 mm	4 km



**MULTI TUBE LSZH
(G652D) 24 - 72 fibers 7,2mm**



Properties

- Multi Loose Tube Unarmoured
- LSZH Low Smoke Zero Halogen Outer Sheath
- Non metallic cable
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Characteristics

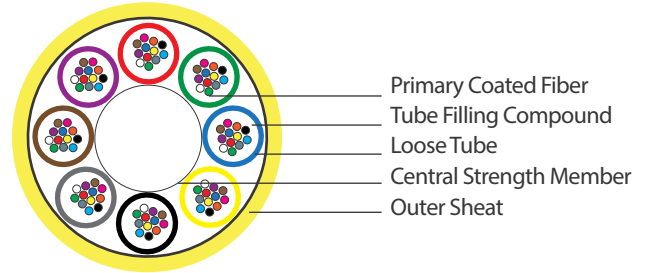
Cable Diameter :7,2 mm
 Cable Weight : 50 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 650 N
 Installed 500 N
 Crush Resistance: 500N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube LSZH 7,2mm 6x4	24	G652D	7,2mm	10 - 16 mm	4 km
ML Tube LSZH 7,2mm 6x8	48	G652D	7,2mm	10 - 16 mm	4 km
ML Tube LSZH 7,2mm 6x12	72	G652D	7,2mm	10 - 16 mm	4 km

**MULTI TUBE LSZH
(G652D) 96 fibers 8,2mm**



Properties

- Multi Loose Tube Unarmoured
- LSZH Low Smoke Zero Halogen Outer Sheath
- Non metallic cable
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Characteristics

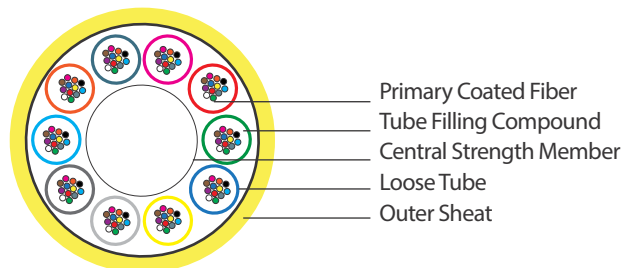
Cable Diameter : 8,2 mm
 Cable Weight : 65 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube LSZH 8,2mm 8x12	96	G652D	8,2mm	12 - 16 mm	4 km

MULTI TUBE LSZH
(G652D) 120 - 144 fibers 10,4mm



Properties

- Multi Loose Tube Unarmoured
- LSZH Low Smoke Zero Halogen Outer Sheath
- Non metallic cable
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Characteristics

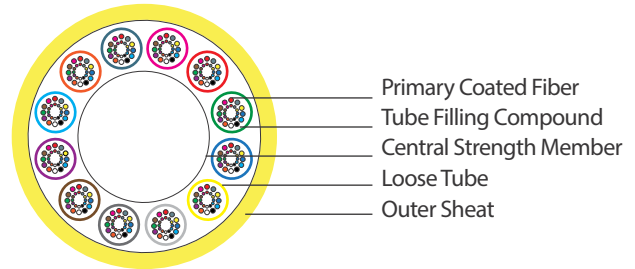
Cable Diameter : 10,4 mm
 Cable Weight : 100 kg/km
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube LSZH 10,4mm 10x12	120	G652D	10,4mm	16 mm	4 km
ML Tube LSZH 10,4mm 12x12	144	G652D	10,4mm	16 mm	4 km

MULTI TUBE LSZH
(G652D) 168 - 288 fibers 11,4mm - 14,4mm



Properties

- Multi Loose Tube Unarmoured
- LSZH Low Smoke Zero Halogen Outer Sheath
- Non metallic cable
- Suitable for Indoor use
- Suitable for Micro duct Installation

Specifications/Norms

Standard:	IEC 60794
Temperature Range Norms :	IEC 60794-1-2-F1
Laying and Installation	-30° to +70°C
Operation	-30° to +70°C
Fiber colour :	acc. to DIN
Fiber type :	Singlemode G652 D IEC/ITU standards

Characteristics

Cable Diameter : 11,4 mm up to 192F / 14,4 mm up to 288F
 Cable Weight : 115 kg/km up to 192F / 185 kg/km up to 288F
 Transport : Wooden Drum
 Bending radius (installed) : 15 x Cable Diameter
 Tensile Force: During Installation 1500 N
 Installed 1000 N
 Crush Resistance: 500N (100 x 100 mm) for 60 sec.
 Outer Sheath colour: black
 Inkjet-Print: MICRO CABLE , FIBER COUNT , FIBERTYPE,
 Production Year , Drum Number

Colourcode Fiber - colours in bundle (13 -24 with rings)
 Tube colours

1	2	3	4	5	6	7
red	green	blue	yellow	white	grey	brown
8	9	10	11	12		
violet	cyan	black	orange	rosa		

Cable type	Fiber Number	Fiber Type	Cable Ø	Recommended microduct inside Ø	Drum Length
ML Tube LSZH 11,4mm 7x24	168	G652D	11,4 mm	16 mm	4 km
ML Tube LSZH 11,4mm 8x24	192	G652D	11,4 mm	16 mm	4 km
ML Tube LSZH 14,4mm 9x24	216	G652D	14,4mm	20 mm	4 km
ML Tube LSZH 14,4mm 10x24	240	G652D	14,4mm	20 mm	4 km
ML Tube LSZH 14,4mm 11x24	264	G652D	14,4mm	20 mm	4 km
ML Tube LSZH 14,4mm 12x24	288	G652D	14,4mm	20 mm	4 km

LC - Connectors



Properties

- Comply with IEC standard 61754-20
- Simplex and duplex styles
- RoHS compliant
- Single-mode (PC/blue, APC/green) and multi-mode (grey)
- Can be assembled with cables of 0.9 mm, 1.4 mm, 1.7-2.1 mm, 2.4 mm, 2.8 mm and other contracted diameters
- One-piece design as well as multi-piece design

Specifications

Ferrule (zirconia) diameter :	D: 1.25 mm; d: 125.3-126.3 μm (SM & MM)
Concentricity :	≤ 1.0 μm (SM); ≤ 4.0 μm (MM)
Tuning :	In 45 °steps
Operating temperature °C :	-40 to +80
Flammability :	UL 94 V-0
Humidity :	95 %
Tensile load	70 N

Single-mode Assembly Specifications

Product Performance Class	High End	Premium
Insertion loss maximum (dB)	0.35	0.15
Insertion loss typical (dB)	0.12	0.06
Return loss (dB) PC	≥ 45	≥ 45
Return loss (dB) UPC	≥ 55	≥ 55
Return loss (dB) APC	≥ 85	≥ 85
Fiber Height (nm) PC	-30 to +100	-30 to +50
Fiber Height (nm) APC	-100 to +100	-50 to +50
Apex Offset (μm)	≤ 50	≤ 50
Radius (mm) PC	5 to 25	5 to 25
Radius (mm) APC	5 to 12	5 to 12
Angle (°) of APC	8 ± 0.4	8 ± 0.4
Tensile Strength (N)	> 100	> 100
Operating Temperature (°C)	-25 to +70	-25 to +70
Flammability	UL 94 V-0	UL 94 V-0
Humidity	95 %	95 %

Multi-mode Assembly Specifications

Insertion loss maximum (dB)	0.35
Insertion loss typical (dB)	0.20
Return loss (dB)	≥ 27
Fiber Height (nm)	-50 to +100
Apex Offset (μm)	≤ 70
Radius (mm)	5 to 25
Tensile Strength (N)	> 100
Operating Temperature (°C)	-25 to +70
Flammability	UL 94 V-0
Humidity	95 %

All assemblies comply with IEC 61753 and IEC 61755 standards

LC - Adapters



Properties

- Comply with IEC standard 61754-20
- RoHS compliant
- Single-mode (PC/blue, APC/green) and multi-mode (grey)
- Zirconia sleeves
- Available with SC Footprint as well
- Available in high density quad design

Specifications

Attenuation (dB) :	< 0.2
Repeatability 1000 cycles (dB) :	< 0.2
Service life :	> 1000
Operating temperature °C :	-40 to +80
Storage temperature °C :	-40 to +85
Flammability :	UL 94 V-0
Humidity :	95 %

Single-mode Assembly Specifications

Product Performance Class	High End	Premium
Insertion loss maximum (dB)	0.35	0.15
Insertion loss typical (dB)	0.12	0.06
Return loss (dB) PC	≥ 45	≥ 45
Return loss (dB) UPC	≥ 55	≥ 55
Return loss (dB) APC	≥ 85	≥ 85
Fiber Height (nm) PC	-30 to +100	-30 to +50
Fiber Height (nm) APC	-100 to +100	-50 to +50
Apex Offset (µm)	≤ 50	≤ 50
Radius (mm) PC	5 to 25	5 to 25
Radius (mm) APC	5 to 12	5 to 12
Angle (°) of APC	8 ± 0.4	8 ± 0.4
Tensile Strength (N)	> 100	> 100
Operating Temperature (°C)	-25 to +70	-25 to +70
Flammability	UL 94 V-0	UL 94 V-0
Humidity	95 %	95 %

Multi-mode Assembly Specifications

Insertion loss maximum (dB)	0.35
Insertion loss typical (dB)	0.20
Return loss (dB)	≥ 27
Fiber Height (nm)	-50 to +100
Apex Offset (µm)	≤ 70
Radius (mm)	5 to 25
Tensile Strength (N)	> 100
Operating Temperature (°C)	-25 to +70
Flammability	UL 94 V-0
Humidity	95 %

All assemblies comply with IEC 61753 and IEC 61755 standards

SC - Connectors



Properties

- Comply with IEC standard 61754-4
- Simplex and duplex styles
- RoHS compliant
- Single-mode (PC/blue, APC/green) and multi-mode (grey)
- Can be assembled with cables of 0.9 mm, 1.4 mm, 1.7-2.1 mm, 2.4 mm, 2.8 mm and other contracted diameters
- One-piece design as well as multi-piece design

Specifications

Ferrule (zirconia) diameter :	D: 2.5 mm; d: 125.3-126.3 μ m (SM & MM)
Concentricity :	$\leq 1.0 \mu$ m (SM PC); $\leq 0.8 \mu$ m (SM APC); $\leq 4.0 \mu$ m (MM)
Tuning :	In 45 $^{\circ}$ steps
Operating temperature $^{\circ}$ C :	-40 to +80
Storage temperature $^{\circ}$ C :	-40 to +85
Flammability :	UL 94 V-0
Humidity :	95 %
Tensile load	100 N

Single-mode Assembly Specifications

Product Performance Class	High End	Premium
Insertion loss maximum (dB)	0.35	0.15
Insertion loss typical (dB)	0.12	0.06
Return loss (dB) PC	≥ 45	≥ 45
Return loss (dB) UPC	≥ 50	≥ 50
Return loss (dB) APC	≥ 85	≥ 85
Fiber Height (nm) PC	-30 to +100	-30 to +50
Fiber Height (nm) APC	-100 to +100	-50 to +50
Apex Offset (μ m)	≤ 50	≤ 50
Radius (mm) PC	5 to 25	5 to 25
Radius (mm) APC	5 to 12	5 to 12
Angle ($^{\circ}$) of APC	8 ± 0.4	8 ± 0.4
Tensile Strength (N)	> 100	> 100
Operating Temperature ($^{\circ}$ C)	-25 to +70	-25 to +70
Flammability	UL 94 V-0	UL 94 V-0
Humidity	95 %	95 %

Multi-mode Assembly Specifications

Insertion loss maximum (dB)	0.35
Insertion loss typical (dB)	0.20
Return loss (dB)	≥ 27
Fiber Height (nm)	-50 to +100
Apex Offset (μ m)	≤ 70
Radius (mm)	5 to 25
Tensile Strength (N)	> 100
Operating Temperature ($^{\circ}$ C)	-25 to +70
Flammability	UL 94 V-0
Humidity	95 %

All assemblies comply with IEC 61753 and IEC 61755 standards

SC - Adapters



Properties

- Comply with IEC standard 61754-4
- Simplex and duplex styles
- RoHS compliant
- Single-mode (PC/blue, APC/green) and multi-mode (grey)
- Zirconia sleeves
- Available with and without flange

Specifications

Attenuation (dB) :	< 0.2
Repeatability 1000 cycles (dB) :	< 0.2
Service life :	> 1000
Operating temperature °C :	-40 to +80
Storage temperature °C :	-40 to +85
Flammability :	UL 94 V-0
Humidity :	95 %

Single-mode Assembly Specifications

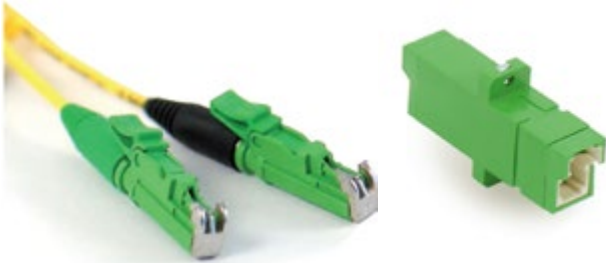
Product Performance Class	High End	Premium
Insertion loss maximum (dB)	0.35	0.15
Insertion loss typical (dB)	0.12	0.06
Return loss (dB) PC	≥ 45	≥ 45
Return loss (dB) UPC	≥ 50	≥ 50
Return loss (dB) APC	≥ 85	≥ 85
Fiber Height (nm) PC	-30 to +100	-30 to +50
Fiber Height (nm) APC	-100 to +100	-50 to +50
Apex Offset (µm)	≤ 50	≤ 50
Radius (mm) PC	5 to 25	5 to 25
Radius (mm) APC	5 to 12	5 to 12
Angle (°) of APC	8 ± 0.4	8 ± 0.4
Tensile Strength (N)	> 100	> 100
Operating Temperature (°C)	-25 to +70	-25 to +70
Flammability	UL 94 V-0	UL 94 V-0
Humidity	95 %	95 %

Multi-mode Assembly Specifications

Insertion loss maximum (dB)	0.35
Insertion loss typical (dB)	0.20
Return loss (dB)	≥ 27
Fiber Height (nm)	-50 to +100
Apex Offset (µm)	≤ 70
Radius (mm)	5 to 25
Tensile Strength (N)	> 100
Operating Temperature (°C)	-25 to +70
Flammability	UL 94 V-0
Humidity	95 %

All assemblies comply with IEC 61753 and IEC 61755 standards

E2000 - Connectors and Adapters



Properties

- Comply with IEC standard IEC 61754–15
- Simplex and duplex styles
- Single-mode (PC/blue, APC/green) and multi-mode (grey)
- Can be assembled with cables of 0,6mm - 3,5 mm diameter
- One-piece design

Specifications

Tuning :	In 60 °steps
Operating temperature °C :	-40 to +85
Flammability :	UL 94 V-0
Lifetime :	1000 connections
Tensile load	100 N

Singlemode simplex/ duplex 9/125

- LCAPC-E2000APC
- LC-E2000APC
- E2000APC-E2000APC



Single & Multi-mode Assembly Specifications

Return loss (dB) MM	≥ 35
Return loss (dB) SM PC	≥ 50
Return loss (dB) SM APC	≥ 85
Return loss (dB) SM APC HE	≥ 85
Insertion loss MM typ. ≤ / 97% ≤	0.20 / 0.50
Insertion loss SM PC typ. ≤ / 97% ≤	0.20 / 0.45
Insertion loss SM APC typ. ≤ / 97% ≤	0.20 / 0.45
Insertion loss SM APC HE typ. ≤ / 97% ≤	0.12 / 0.25

Pre-assembled FAN-OUTS



Description

Pre-assembled cable systems are actually furcation systems, furcating, for example, from a multi-fiber cable into individual single-fiber cables. Single-fiber connectors are pre-terminated on one or both ends of the individual fan-out cables, allowing for an easy and fast installation on site.

Applications

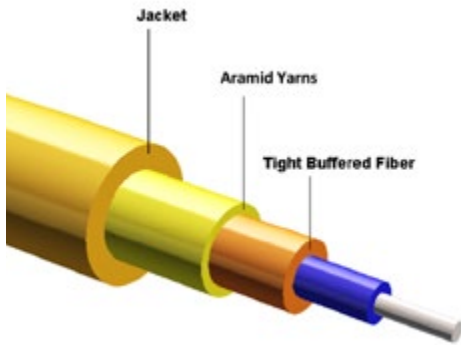
- The cable systems are suited for both indoor and outdoor installation.

Features

- Cables: ODF, indoor, Outdoor
- Fiber number: 4/6/8/12/16/24 fibers (ODF & indoor), 4/6/8/12/16/24/48 fibers (outdoor)
- Fiber type: single-mode (G.652.D, G.657.A1/A2/B3) or multi-mode (OM1-4)
- Connectors: LC, SC, FC, ST etc., PC/APC
- Individual fan-out cables: 0.9 mm or 1.7 mm in diameter, same or staggered cable length
- Connectors: LC, SC, FC, ST etc., PC/APC
- Cable length: any desired length
- Protection of the individual fan-out cables: choice between (1) tube protection and (2) tube protection + pulling aid and (3) plastic protection
- Packaging: choice between (1) carton drum + plastic bag and (2) carton drum + carton box and (3) carton box

Cable type	Fiber Type	Cable Ø	Drum Length
PRE-ASSEMBLED FAN-OUTS	G.652.D, G.657.A1/A2/B3 , OM1-4	0.9mm 1.7mm	-

Simplex Cable



Description

Tight buffered tubes with 0.6 mm or 0.9 mm diameter are often used for indoor simplex cables. The simplex cable is composed of an optical fiber (with primary coating) in a tight buffered tube, aramid yarns, and a cable outer jacket.

Applications

- Used in optical communication equipment room and optical distribution frames
- Used as connections in data processing equipment and optical telecommunication equipment
- Used as pigtailed and patch cords
- Installation in indoor area

Features

- Soft, flexible and easy to strip
- Flame retardant, self-extinguishing
- Non-toxic and halogen free
- Excellent mechanical and thermal properties
- High capacity in data transmission

Characteristics

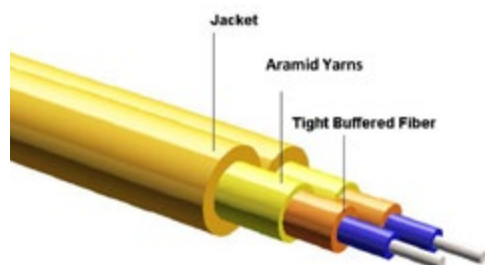
Cable Diameter :	1.4-1.9mm	2.1mm	2.4mm	2.8mm
Cable Weight :	2.1-3.2kg/km	3.8kg/km	5,3kg/km	7,85kg/km
Long Term Tensile Strength :	100N	100N	150N	200N
Short Term Tensile Strength :	100N	200N	300N	400N
Long Term Crush Resistance :	100-300 N/100mm		300 N/100mm	
Short Term Crush Resistance :	200-500 N/100mm		700 N/100mm	
Min. Bend. Radius :	dynamic 50mm / static 25mm			
Temperature Range :	-10 °C to +50 °C Installation -20 °C to +70 °C In service -25 °C to +70 °C Storage			

Options

- Optical fiber :** Single-mode (G.652.D, G.655.C, G.657.A1, G.657.A2, G.657.B) or Multi-mode (OM1-4)
- Fiber Type :** LSZH, PVC, PUR or any other contracted material
- Jacket color :** 24 different colors possible
- Cable Ø :** Standard diameters: 1.4 mm, 1.7 mm, 2.0 mm, 2.4 mm, 2.7 mm, or any other contracted diameter

Cable type	Fiber Type	Cable Ø	Drum Length
SIMPLEX CABLE	G.652.D, G.655.C, G.657.A1, G.657.A2, G.657.B	1.4-1.9mm 2.1mm 2.4mm 2.8mm	2 km

Duplex Cable



Description

A duplex cable consists of 2 simplex cables. Semi-tight buffered or tight buffered tubes with 0.9 mm or 0.6 mm diameter are often used. Each fiber is strain relieved with aramid yarns and protected by a cable outer jacket.

Applications

- Used as indoor cables
- Used in telecommunication equipment rooms and optical distribution frames
- Used as connections in data processing equipment and optical telecommunication equipment
- Used as jumper cables and pigtails

Features

- Tight bending radius (flat side)
- Easily separated into two simplex cables
- Soft, flexible and easy to strip
- Excellent mechanical and thermal properties
- High capacity in data transmission

Characteristics

Cable Diameter :	2.0x4.1 mm	2.7x5.5mm
Cable Weight :	7.9kg/km	13.6kg/km
Long Term Tensile Strength :	2x100N	2x100N
ShortTerm Tensile Strength :	400N	400N
Long Term Crush Resistance :	200 N/100mm	200 N/100mm
Short Term Crush Resistance :	500 N/100mm	1000 N/100mm
Min. Bend. Radius :	dynamic 50mm / static 25-30mm	
Temperature Range :	-10 °C to +50 °C Installation -20 °C to +70 °C In service -25 °C to +70 °C Storage	

Options

- Optical fiber :** Single-mode (G.652.D, G.655.C, G.657.A1, G.657.A2, G.657.B) or Multi-mode (OM1-4)
- Fiber Type :** LSZH, PVC, PUR or any other contracted material
- Jacket color :** 12 different colors possible
- Cable Ø :** Standard simplex cable diameters: 1.7 mm, 2.0 mm and 2.7 mm or any other contracted diameter

Cable type	Fiber Type	Cable Ø		Drum Length
DUPLEX CABLE	G.652.D, G.655.C, G.657.A1, G.657.A2, G.657.B	2.0x4.1mm	2.7x5.5mm	2 km

Pigtails - E2000, LC, SC



E2000 Pigtails

- Single-mode 9 μm G.652.D, PC (0°), 2m, yellow
- Single-mode 9 μm G.652.D, APC (8°), 2m, yellow
- Multimode 50 μm OM4, 2 m, magenta
- Multimode 50 μm OM3, 2 m, turkuse
- Multimode 50 μm OM2, 2 m, orange
- Multimode 50 μm OM1, 2 m, blue

LC Pigtails

- Single-mode 9 μm G.652.D, PC (0°), 2m, yellow
- Single-mode 9 μm G.652.D, APC (8°), 2m, yellow
- Single-mode 9 μm G.657.A1, APC (8°), 2m, yellow
- Multimode 50 μm OM4, 2 m, magenta
- Multimode 50 μm OM3, 2 m, turkuse
- Multimode 50 μm OM2, 2 m, orange
- Multimode 50 μm OM1, 2 m, blue

SC Pigtails

- Single-mode 9 μm G.652.D, PC (0°), 2m, yellow
- Single-mode 9 μm G.652.D, APC (8°), 2m, yellow
- Single-mode 9 μm G.657.A1, APC (8°), 2m, yellow
- Multimode 50 μm OM4, 2 m, magenta
- Multimode 50 μm OM3, 2 m, turkuse
- Multimode 50 μm OM2, 2 m, orange
- Multimode 50 μm OM1, 2 m, blue

Pigtails Sets - E2000, LC, SC



E2000 12 colours Sets

- Single-mode 9 µm G.652.D, APC (8°), 2m
- Multimode 50 µm OM4, 2 m
- Multimode 50 µm OM3, 2 m

LC 12 colours Sets

- Single-mode 9 µm G.652.D, PC (0°), 2m, yellow
- Single-mode 9 µm G.652.D, APC (8°) 2m, yellow
- Single-mode 9 µm G.657.A2, APC (8°) 2m, yellow
- Multimode 50 µm OM4, 2 m, magenta
- Multimode 50 µm OM3, 2 m, turkuisse

SC 12 colours Sets

- Single-mode 9 µm G.652.D, PC (0°), 2m, yellow
- Single-mode 9 µm G.652.D, APC (8°), 2m, yellow
- Single-mode 9 µm G.657.A2, APC (8°), 2m, yellow
- Multimode 50 µm OM4, 2 m, magenta
- Multimode 50 µm OM3, 2 m, turkuisse

Pigtail 2.0 mm Easy Strip

- E2000APC
9 µm G.652.D, APC (8°), 6m



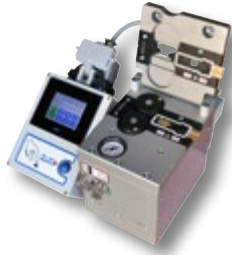
- LCAPC
9 µm G.652.D, APC (8°), 6m



- SCAPC
9 µm G.652.D, APC (8°), 6m

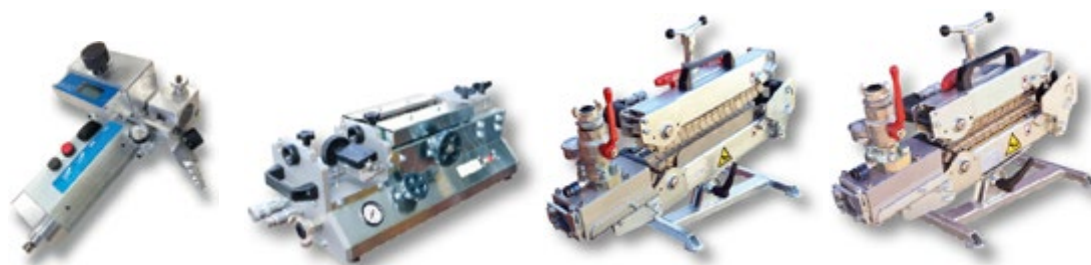


FIBER OPTIC CABLE BLOWING MACHINES PRODUCT OVERVIEW



RECOMMENDED
FIBER/CABLE
DIAMETER  2,8 mm
4,5mm

Model	Fiber MicroBlow (FMB)	Fiber HandyBlow I (FHBI)	Fiber Blow (FB)	Fiber Standard (FS)
Usage	Inside Plant	Inside Plant	Outside Plant	Outside Plant
Fiber/Cable Diameter	0,8- m	3-8 mm	5-9 mm	
Tube Size (OD)	5-16 mm	5-12,7 mm	8-16 mm	8-16 mm
Product number	FMB-10001	FHBI-10002	FB-10003	FS-10004
Install Speed to	100 m/min.	50 m/min.	100 m/min.	100 m/min.
Distance	Up to 2.5 km	Up to 1 km	-	-
Recommended Airflow Recommended Pressure	200-500 l/pr. min. 8-16 bar air	- max 14 bar	- max 15 bar	- max 15 bar
Length: Width: Height: Weight:	Machine: 25 cm 15 cm 22 cm 9,7 kg. Control Box: 25 cm 16 cm 13 cm 1,9 kg.	101,6 mm 152,4mm 203,2 mm 2,27kg.	330 mm 220 mm 280 mm 7 kg.	480 mm 220 mm 280 mm 9 kg.
Unique Features	Automatic Buckle Detection Adjustable Torque Preset Automatic Stop Adjustable Speed Control Speed, Torque & Count Display Air Pressure & Flow Regulation Easy to Operate Simple Maintenance	Floating medium - air Single handed operation Rechargeable battery powered Flexible Adaptability Adjustable Torque Distance and Speed measurement Ease of Use Simple Maintenance	Use with Air Compact Light weight Flexible Adaptability Great resistance Distance and Speed measurement Ease of Use Simple Maintenance	Use with Air Compact Light weight Flexible Adaptability Great resistance Distance and Speed measurement Ease of Use Simple Maintenance



 * MICRODUCT RELINER

Model	Fiber HandyBlow II (FHB II)	Fiber Flow (FF)	Fiber Compact (FC)	Fiber MultiPower (FMP)
Usage	Outside Plant	In/Outside Plant	Outside Plant	Outside Plant
Fiber/Cable Diameter	3,0-10,0 mm	4-12 mm	8-25 mm	8-32 mm
Tube Size (OD)	7-18 mm	7-20 mm	18-70 mm	18-70 mm
Product number	FHBII-10005	FF-10006	FC-10007	FMP-10008
Install Speed to	45 m/min.	100 m/min.	80 m/min.	80 m/min.
Distance	Up to 1.5 km	Up to 3.5 km	Up to 10 km*	Up to 10 km*
Recommended Airflow Recommended Pressure	- max 14 bar	1.000 l/pr. min. 8-16 bar air	8.000-12.000 l/pr. min. 8-12 bar air	8.000-12.000 l/pr. min. 8-12 bar air
Length: Width: Height: Weight:	152 mm 177 mm 279 mm 4,50 kg.	650 mm 225 mm 210 mm 24 kg.	650 mm 230 mm 350 mm 38 kg.	700 mm 230 mm 350 mm 40 kg.
Unique Features	Floating medium - air Single handed operation Rechargeable battery powered Flexible Adaptability Adjustable Torque Distance and Speed measurment Ease of Use Simple Maintenance	Use with Air or Water Push Force Monitor Rugged Construction Flexible Adaptability Adjustable Torque Distance and Speed measurment Ease of Use Simple Maintenance	Use with Air or Water Installs Single Cable Rugged Construction Flexible Adaptability Adjustable Torque Distance and Speed measurment Ease of Use Simple Maintenance	Use with Air or Water Jets Tubes or Cable Rugged Construction Flexible Adaptability Adjustable Torque Distance and Speed measurment Ease of Use Simple Maintenance

