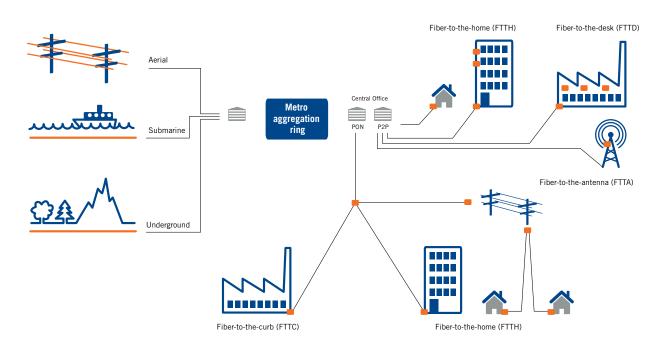


Fiber Solutions for Access and Transport Networks

#### **Fiber Transport Network**

#### **Fiber Access Network**



## **A Long Term Investment**

The passive infrastructure in any fiber optic network is a long-term investment. It needs to be built on scalable and future-proof technology that is optimized in terms of capacity, quality and operational expenditure.

This catalogue presents an overview of our Passive Fiber Infrastructure offering. All products are designed and tested to meet the highest quality and environmental standards.

#### The catalogue covers the main areas:

**Central Office Related Equipment** covers products that are common in any type of network, regardless of application. Equipment racks, Optical Distribution Frames (ODFs), patch cords and other fiber optic accessories are found here.

**Fiber Access Network** covers the air blown fiber system Ribbonet<sup>®</sup> and the Hexatronic Micronet micro cable systems used for efficient installation of access networks including Fiber-to-the-Home (FTTH) and similar architectures. This section also covers products for scalable campus and metro networks as well as components for efficient splicing and termination of access networks. **Fiber Transport Network** covers products for general network applications such as fiber optic cables for underground and aerial as well as local site cabling installation. This section also includes associated cables and components for splicing and termination of cables.

#### **Submarine Cable Systems**

The range of cables for submarine installations is based on extensive experience from several submarine-cable projects.

**Local Site Cabling and FTTA** covers installation cables for various interconnect applications as well as cables for Fiber To The Antenna (FTTA) systems. This section also includes components used for indoor and outdoor installations.

You can find all our products on www.hexatronic.com.

**ONLINE CATALOGUE** 

Contact the Hexatronic sales team to find your nearest wholesaler +46 (0) 10 - 453 02 00, order@hexatronic.com.



Please find catalogues in digital format and more information about our products and services at: www.hexatronic.com Hexatronic catalogues are also available in: issuu.hexatronicpartners.se

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## **CENTRAL OFFICE RELATED EQUIPMEN**

## **EQUIPMENT RACK SYSTEMS**

The Central Office offering features fiber management systems to efficiently and cost-effectively organize and terminate large quantities of fiber. The application in the central office environment is characterized by a minimum footprint in combination with class-leading capacity that allows well-organized and safe fiber termination to minimize operating errors.

#### **Multifiber Management System**

The Multifiber Management System is a highcapacity, telecom grade fiber termination rack for central office applications. The rack is equipped with fiber management through vertical and horizontal cable guides.

TYPE: 19" mounting frame size: 800x1800\*x400 mm CAPACITY, EQUIPMENT: 36U CAPACITY, CONNECTIONS: up to 1536 (SC) \* Overhead cable channel adds 150mm to height

E-NO.	PRODUCT NO.	PRODUCT NAME
5055426	1/BFM108213	Fiber Management System, 19" frame, patch management module and doors
	8/BYB501180	BYB 501 Rack H=1800 B=450 D=300 19"
	10/BYB501180/1	Set of Doors
	11/BYB501180	Set of End Covers
	23/BYB501180	Back Plate 400 mm
	31/BYB501180/1	Multipatch handling system
	51/BYB501	Fasteners
	SXA1135667	Vertical cable guide



#### **Compact Fiber Management System**

This rack system offers unique benefits for high density fiber optic termination applications such as FTTH.

TYPE: 14" frame size: 600x1800 / 2200x300 mm capacity, equipment: 24/36U capacity, connections: 1152/1536 (SC)

E-NO.	PRODUCT NO.	PRODUCT NAME
5001037	BAB327300/100	Compact Fiber Management System 14" frame, 1800 mm
5001038	BAB327300/200	Compact Fiber Management System 14" frame, 2200 mm
5001033	1/BAB327300	Top mechanic for fiber rack w. Patch guide and wall mount
5001034	10/BAB327300/100	Door for BAB327300/100
5001036	10/BAB327300/200	Door for BAB327300/200

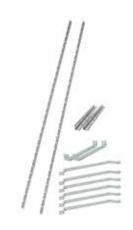


#### **Mounting Frame System**

The mounting rack system is a multi-purpose, wall mounted frame system for smaller sites. The frame is designed for 19" equipment. The depth of the frame can be adjusted with brackets.

TYPE: 19" mounting frame, wall mountedSIZE: 500x2200x240x500 mmCAPACITY, EQUIPMENT: 48 U

E-NO.	PRODUCT NO.	PRODUCT NAME
5001010	NBF11003	Mounting Frame System, Set
5001050	N-675073	Vertical Bar
5001060	N-675074	Cable Support
5001135	N-675075	Wire Guide
5001055	N-675076	Top and Bottom Iron
5001110	NBH10201	Mounting Frame
5001015	NBH10202	Mounting Set
5001120	NBH10401	Mounting Bar
5001030	NBH10402	Mounting Set
5001065	NSD60101	Fixing Iron
5001067	NSD60102	Fixing Iron
5001130	NSG20701	Wire Guide
5001165	NSV45101	Washer
5001155	NSV61101	Screw



#### **Fiber Jointing Cabinet - High Capacity**

This high capacity cabinet is intended for handling of cable splices between incoming cables entering the central office and the cables from pre-terminated ODFs. The cabinet can be wall mounted or mounted in a 19" or ETSI rack.

E-NO.	PRODUCT NO.	PRODUCT NAME
5055427	NCD5188005	Fiber Jointing Cabinet 786
5060284	NTM503023	External strain relief kit



#### **Fiber Jointing Cabinet - Small**

This extra small cabinet is useful for smaller sites. It is intended for wall mounting. The cabinet includes 2 splice trays. To increase the splice capacity, 6 additional trays can be added (optional accessories).

**TYPE:** Cable installation, wall mount **SIZE:** 350x300x130 mm **CAPACITY:** 24 to 96\* splices (single fiber) or 48 to 192\* splices (4-f ribbon) \* With additional splice trays (optional)

TYPE: Cable installation, 19", ETSI or wall mount

CAPACITY: 768 splices (single fiber) or 2600 spli-

size: 440x600x220 mm

ces (8-f ribbon)

E-NO.	PRODUCT NO.	PRODUCT NAME
5055401	NCD5181098	Cabinet for fiber splicing only, wall mount, incl. 2 splice trays and solid panel



### **OPTICAL DISTRIBUTION FRAMES**

Optical Distribution Frames (ODFs) are integrated components in any fiber management system. They are available as rack-mounted units for 14", 19" or ETSI racks, or as wall-mounted cabinets. The ODFs are available in a range of configurations depending on application:

**Pre-terminated ODFs** with stub cables are pre-installed with connectors and cable for quick and easy installation. Units with pre-terminated cables offer advantages such as faster installation, resulting in shorter time to revenue as well as guaranteed quality and performance. Several cable options are available. ODFs with stub micro cables are especially suitable for high packing density applications such as the Multifiber Management System (MMS).

**ODFs for cable installation** are intended for installation and termination of all kinds of fiber optic cables. The units are suitable for splicing pigtails or fiber ribbon fanouts as well as field-installable connectors. The ODFs are delivered empty, allowing the customer to order the pigtails/fanouts, adapters, splice protection sleeves and installation kit that best suit the specific application. The units can also be installed with pre-connectorized cable assemblies.

**ODFs for air blown fiber** are designed to handle termination of microducts for air blown fibers. They are typically used in FTTx applications when blowing fibers directly to a central office or other distribution point. The air blown technology enables incremental installation when needed.

#### **ODF** Pre-terminated, with Stub Cable, 2U

Pre-terminated ODF with a capacity from 24 to 96 SC (192 LC) connectors. Options include: halogenfree, flame-retardant, loose tube, ribbon or micro cable. Optional accessories include horizontal patch cord guides for space-saving mounting directly onto the front of the ODF. TYPE: Pre-terminated, 19" or ETSI mount, 2U SIZE: 400x249x86 mm CAPACITY: 24-96 SC, 24-192 LC CABLE OPTIONS: Halogen-free, flame-retardant loose tube, ribbon or micro cable, 10-100 m CONNECTOR OPTIONS: SC, SC/APC, LC, LC/APC



E-NO.	PRODUCT NO.	PRODUCT NAME	PRODUCT NO.*	PRODUCT NAME
5029089	NCD5138051/010D	48xSC ODF 2U, Micro Cable GNHQBDUV 10m	NCD5138053/aaaD	24xSC ODF 2U, Micro Cable GNHQBDUV
	NCD5138051/020D	48xSC ODF 2U, Micro Cable GNHQBDUV 20m	NCD5138094/aaaD	24xSC/APC ODF 2U, Micro Cable GNHQBDUV 1
	NCD5138051/050D	48xSC ODF 2U, Micro Cable GNHQBDUV 50m	NCD5138095/aaaD	48xSC/APC ODF 2U, Micro Cable GNHQBDUV 1
	NCD5138051/100D	48xSC ODF 2U, Micro Cable GNHQBDUV 100m	NCD5138059/aaaD	72XSC/APC ODF 2U, Micro Cable GNHQBDU 10
5029088	NCD5138052/010D	72xSC ODF 2U, Micro Cable GNHQBDUV 10m	NCD5138049/aaaD	24xLC ODF 2U, Micro Cable GNHQBDUV 10m
	NCD5138052/020D	72xSC ODF 2U, Micro Cable GNHQBDUV 20m	NCD5138048/aaaD	48xLC ODF 2U, Micro Cable GNHQBDUV 10m
	NCD5138052/050D	72xSC ODF 2U, Micro Cable GNHQBDUV 50m	NCD5138079/aaaD	24xSC ODF 2U, Indoor/Outdoor Sheath GRHQBI
	NCD5138052/100D	72xSC ODF 2U, Micro Cable GNHQBDUV 100m	NCD5138078/aaaD	48xSC ODF 2U, Indoor/Outdoor Sheath GRHQB
5029087	NCD5138050/010D	96xSC ODF 2U, Micro Cable GNHQBDUV 10m	NCD5138077/aaaD	96xSC ODF 2U, Indoor/Outdoor Sheath GRHQBI
5029092	NCD5138050/020D	96xSC ODF 2U, Micro Cable GNHQBDUV 20m	NCD5138033/aaaD	24 SC ODF 2U GASQBDUV 10m
5029093	NCD5138050/050D	96xSC ODF 2U, Micro Cable GNHQBDUV 50m	NCD5138034/aaaD	48 SC ODF 2U GASQBDUV 10m
	NCD5138050/100D	96xSC ODF 2U, Micro Cable GNHQBDUV 100m	NCD5134356/aaaD	96 SC ODF 2U GASQBDUV 10m
5029090	NCD5138040/010D	96xSC/APC ODF 2U, Micro Cable GNHQBDUV 10m	NCD5138091/aaaD	24 SC/APC ODF 2U GASQBDUV 10m
	NCD5138040/020D	96xSC/APC ODF 2U, Micro Cable GNHQBDUV 20m	NCD5138092/aaaD	48 SC/APC ODF 2U GASQBDUV 10m
	NCD5138040/050D	96xSC/APC ODF 2U, Micro Cable GNHQBDUV 50m	NCD5134346/aaaD	96 SC/APC ODF 2U GASQBDUV 10m
	NCD5138040/100D	96xSC/APC ODF 2U, Micro Cable GNHQBDUV 100m	NCD5138093/aaaD	24 LC ODF 2U GASQBDUV 10m
5029091	NCD5138047/010D	96xLC ODF 2U, Micro Cable GNHQBDUV 10m	NCD5138038/aaaD	48 LC ODF 2U GASQBDUV 10m
	NCD5138047/020D	96xLC ODF 2U, Micro Cable GNHQBDUV 20m	NCD5138037/aaaD	96 LC ODF 2U GASQBDUV 10m
	NCD5138047/050D	96xLC ODF 2U, Micro Cable GNHQBDUV 50m	NCD5138063/aaaD	72xLC ODF 2U, Micro Cable GAHQBDU 10m w.
	NCD5138047/100D	96xLC ODF 2U, Micro Cable GNHQBDUV 100m		Patch Guide type A for general racks

\*aaa indicates the length in m. (aaa = 010, 020, 050, 100 etc)

#### **ODF** for Cable Installation, 2U

High capacity ODF with up to 96/192 connectors. Optional accessories include horizontal patch cord guides for space-saving mounting directly onto the front of the ODF, pigtails, fanouts, adapters, splice sleeves, etc.

**TYPE:** Cable installation, 19" or ETSI mount, 2U **SIZE:** 400x249x86 mm excluding reel **CAPACITY:** 96 SC, 192 LC **CONNECTOR OPTIONS:** SC, SC/APC, LC, LC/APC, E2000, FC, ST

TYPE: Cable installation, 19" or ETSI mount, 1,5U

CONNECTOR OPTIONS: SC, SC/APC, LC, LC/APC,

size: 440x247x66 mm excluding reel

CAPACITY: 48 SC, 96 LC

E2000, FC



E-NO.	PRODUCT NO.	PRODUCT NAME
5055428	NCD5139215	ODF box with 24 SC duplex cut out
5055429	NCD5139217	ODF box with 36 SC duplex cut out
5010028	NCD5139216	ODF box with 48 SC duplex cut out
	NCD5139245	ODF box with 24 slots for E2000-duplex adapters (48-fiber)
5010026	NCD5139305	ODF box with 48 slots for FC or ST adapters (48-fiber)

#### **ODF for Cable Installation, 1.5U**

ODF with a capacity of up to 48/96 connectors. Optional accessories include horizontal patch cord guides for rack mounting directly under the ODF, pigtails, fanouts, adapters, splice sleeves etc.

E-NO.	PRODUCT NO.	PRODUCT NAME
5010025	NCD5130303	ODF box1,5U with 24 slots for FC or ST
5010022	NCD5130211	ODF box 1,5U with 12 SC duplex cut out
5055430	NCD5130212	ODF box 1,5U with 18 SC duplex cut out
5010023	NCD5130213	ODF box 1,5U with 24 SC duplex cut out
	NCD5130243	ODF box 1,5U with 24 E2000 cut out

#### **ODF** for Air Blown Fiber installation, 1U

Compact ODF with front access for simplified incremental installation of air blown fiber. The ODF has a capacity up to 48 SC (96 LC) connectors and clamps for up to 48 microducts. Optional accessories include horizontal patch cord guides, pigtails, fanouts, adapters, splice sleeves etc.

TYPE: 19" mount for air blown fiber installation, front access size: 450x280x44 mm CAPACITY: 48 SC, 96 LC CONNECTOR OPTIONS: SC, SC/APC, LC, LC/APC



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Č.	Transferrer	
6.	-	

E-NO.	PRODUCT NO.	PRODUCT NAME
5060051	NCD5200013	ODF for microduct access in the front, 24SC duplex cut-out

#### **ODF Patch Panels**

This is a multi-purpose patch panel system when no or limited access from the rear of the rack is allowed. The panel offers total front access for both incoming and outgoing cables. The light-weight panel is divided in a left and right swiveling section. It is designed for pre-connected incoming cable assemblies. **TYPE:** Pre-connected cable assemblies **SIZE:** 485x200x43 mm **CAPACITY:** 6 basic versions with 48 or 32 SC adapters



PRODUCT NO.	PRODUCT NAME
NCD5205000/1	ODF box1U with 48 SC-simplex adapters (included)
NCD5205000/2	ODF box1U with 16 SC-duplex adapters (for 32 connectors, included)
NCD5205000/3	ODF box1U with 48 SC/APC-simplex adapters (included)
1NCD5205000/4	ODF box1U with 16 SC/APC-duplex adapters (for 32 connnectors, included)
NCD5205000/10	ODF box 1U with 48 slots for SC-simplex
NCD5205000/20	ODF box 1U with 16 slots for SC-duplex
	NCD5205000/1 NCD5205000/2 NCD5205000/3 1NCD5205000/4 NCD5205000/10

#### Pre-connected ODF 14"/19"

These compact and pre-connected ODF:s are intended for 14" rack systems such as the BAB327 300. The connectors are teminated to a stub cable consisting of 8-f ribbons. Two versions are available: 1U with 48 SC or 2U with 96 SC. TYPE: Pre-terminated, 14" mount, 1U or 2U SIZE: 310x220x44/88 mm CAPACITY: 48 or 96 SC CABLE OPTIONS: Halogen-free, flame-retardant ribbon cable, 15-150 m CONNECTOR OPTIONS: SC



5026005 NCD5200072/15M 48xSC 14" 1U ODF GAQQBDU Ribbon 15 m
5026006 NCD5200072/30M 48xSC 14" 1U ODF GAQQBDU Ribbon 30 m
5026007 NCD5200072/50M 48xSC 14" 1U ODF GAQQBDU Ribbon 50 m
5026008 NCD5200072/70M 48xSC 14" 1U ODF GAQQBDU Ribbon 70 m
5026004 NCD5200072/100M 48xSC 14" 1U ODF GAQQBDU Ribbon 100 m
5026057 NCD5200075/15M 96xSC 14" 2U ODF GAQQBDU Ribbon 15 m
5026058 NCD5200075/30M 96xSC 14" 2U ODF GAQQBDU Ribbon 30 m
5026059 NCD5200075/50M 96xSC 14" 2U ODF GAQQBDU Ribbon 50 m
5026060 NCD5200075/70M 96xSC 14" 2U ODF GAQQBDU Ribbon 70 m
5026056 NCD5200075/100M 96xSC 14" 2U ODF GAQQBDU Ribbon 100 m

#### **ODF** for Cable Installation, Wall Mounted

Two-sided wall mounted ODF with a capacity of up to 48 SC or 96 LC connectors. The ODF consists of two compartments with separate locks and is therefore suitable as a demarcation cabinet between different network owners. The cabinet can also be used as a jointing box. Optional accessories include patch panels for different adapter types. TYPE: Cable installation, wall mount SIZE: 475x300x130 mm CAPACITY: 48 SC, 96 LC CONNECTOR OPTIONS: SC, SC/APC, LC, LC/APC, ST, FC



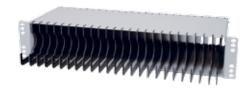
E-NO.	PRODUCT NO.	PRODUCT NAME
5055437	NCD5181200	ODF Cabinet for fiber termination, panel 24 SC-Duplex cutout, side section, 4 splice trays

#### **Patch Handling Unit Wall Mounted**

This patch handling unit stores excess lengths of patch cords connected to ODF:s. 24 slots provide storage of up to 6 m of cable in each slot.

 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 5055439
 NBL32301
 Storage unit ETSI/19" (vertical storage)



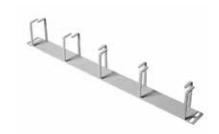
#### **Horizontal Cable Guide**

There are a number of accessories available for handling of patch cables in rack systems. This guide is mounted under ODF:s to guide patch cords to the side of the rack. **TYPE:** 19" mount patch cord guide, 1U **size:** 482x70x41 mm

TYPE: 19" mount patch cord storage unit

size: 482x234x88 mm

CAPACITY: 24 slots



E-NO.	PRODUCT NO.	PRODUCT NAME
5055408	NTM504036	Horizontal cable guide for mounting in 19"/ETSI rack, 1U

## PATCH CORDS, PIGTAILS AND CABLE ASSEMBLIES

The range of fiber optic patch cords, pigtails and cable assemblies cover all interconnect needs in any kind of environment. We provide virtually any type of fiber optic connector. Some examples are shown below.



Supported fiber types are singlemode G.657 (compatible to G.652), and multimode  $50\mu m$  OM3and OM4. The product range is divided into four main categories:

**Patch cords** that are used for quick and easy interconnect between line equipment or for cross connection between network interface equipment such as ODFs. Patch cords are available as simplex (1 fiber), duplex (2 fiber).

**Pigtails**, stub fibers with a fitted connector on one end, are normally spliced towards a cable or other type of fiber unit inside an ODF, wall outlet or other type of network equipment. The standard pigtail is made of a 0.9mm tight secondary protected fiber. Pigtails are available for all connector options.

**Fanouts**, fiber ribbons that are branched out in one end and fitted with connectors, enable ribbon-fiber splicing, minimize splice cost and increase packing density in network equipment.

**Multifiber cable assemblies**, or fiber optic patch cables, for interconnect applications are preferred when a high number of interconnections and a high packing density is required. The cable assemblies are available with 4-48 fibers and are delivered pre-terminated in one or both ends. To facilitate installation and to maximize packing density, the multifiber cable assemblies use extra-slim micro cables, typically 6-8mm in diameter.



#### Patch Cords, Pigtails and Fanouts, Blue Grade

A series of patch cords, pigtails and fanouts for demanding telecom applications with high requirements for low-loss and stability. The products are made of highly bend resistant G657A2 fibers to minimize operating errors and enable highest packing density in interconnect applications. CONNECTOR OPTIONS: SC, SC/APC, LC, LC/APC PERFORMANCE: IL\* $\leq$ 0.30, RL (PC) $\geq$ 50, RL (APC) $\geq$ 60

 $\textbf{standard length:} 1, 2, 3, 5, 7, 10 \ m$ 

\* Insertion Loss according to IEC 61300-3-4 method B



E+N0.PRODUCT NO.PRODUCT NAMEPachCords, Surplex (J-IDE)PachCords, Surplex (J-IDE)HTSR395024/1000Pachcord SM, SC - SC, G657A2, Blue, 1 mHTSR395024/2000Pachcord SM, SC - SC, G657A2, Blue, 2 mHTSR395024/2000Pachcord SM, SC - SC, G657A2, Blue, 3 mHTSR395024/1000Pachcord SM, SC - SC, G657A2, Blue, 1 mHTSR395024/1000Pachcord SM, SC - SC, G657A2, Blue, 1 mHTSR395024/1000Pachcord SM, SC/APC - SC/APC, G657A2, Blue, 1 mHTSR395024/1000Pachcord SM, SC/APC - SC/APC, G657A2, Blue, 1 mHTSR395027/1000Pachcord SM, SC/APC - SC/APC, G657A2, Blue, 1 mHTSR395027/1000Pachcord SM, SC/APC - SC/APC, G657A2, Blue, 1 mHTSR395021/1000Pachcord SM, LC + LC, G657A2, Blue, 1 mHTSR395021/1000Pachcord SM, LC + LC + CA/APC, G657A2, Blue, 1 mHTSR395021/1000Pachcord SM, LC + LC + CA/APC, G657A2, Blue, 1 mHTSR395021/1000Pachcord SM, LC + LC + CA/APC, G657A2, Blue, 1 mHTSR395021/10
HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 1 m         HTSR3952024/2000       Patchcord SM, SC - SC, G657A2, Blue, 2 m         HTSR3952024/3000       Patchcord SM, SC - SC, G657A2, Blue, 3 m         HTSR3952024/7000       Patchcord SM, SC - SC, G657A2, Blue, 5 m         HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 7 m         HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 10 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 2 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 3 m         HTSR3952012/1000       Patchcord SM, IC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, IC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/1000       Patchco
HTSR3952024/2000       Patchcord SM, SC - SC, G657A2, Blue, 2 m         HTSR3952024/3000       Patchcord SM, SC - SC, G657A2, Blue, 3 m         HTSR3952024/7000       Patchcord SM, SC - SC, G657A2, Blue, 5 m         HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 7 m         HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 10 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcor
HTSR3952024/3000       Patchcord SM, SC - SC, G657A2, Blue, 3 m         HTSR3952024/5000       Patchcord SM, SC - SC, G657A2, Blue, 5 m         HTSR3952024/7000       Patchcord SM, SC - SC, G657A2, Blue, 7 m         HTSR3952024/1000       Patchcord SM, SC - SC, G657A2, Blue, 1 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       P
HTSR3952024/5000       Patchcord SM, SC - SC, G657A2, Blue, 5 m         HTSR3952024/7000       Patchcord SM, SC - SC, G657A2, Blue, 7 m         HTSR3952024/10M       Patchcord SM, SC - SC, G657A2, Blue, 10 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 10 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/1000
HTSR3952024/7000       Patchcord SM, SC - SC, G657A2, Blue, 7 m         HTSR3952024/10M       Patchcord SM, SC - SC, G657A2, Blue, 10 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC - LC/APC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         HTSR3952034/1
HTSR3952024/10M         Patchcord SM, SC - SC, G657A2, Blue, 10 m           HTSR3952027/1000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m           HTSR3952027/2000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m           HTSR3952027/3000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m           HTSR3952027/5000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m           HTSR3952027/7000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m           HTSR3952027/10M         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 10 m           HTSR3952027/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 2 m           HTSR3952012/2000         Patchcord SM, LC - LC, G657A2, Blue, 3 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/7000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952034/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC,
HTSR3952027/1000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m           HTSR3952027/2000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m           HTSR3952027/3000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m           HTSR3952027/5000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m           HTSR3952027/7000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m           HTSR3952027/1000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m           HTSR3952012/1000         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 2 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 3 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue 1 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/1000         Patchco
HTSR3952027/2000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 2 m         HTSR3952027/3000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952034/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         Patch Cords, Single Mode,
HTSR3952027/3000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 3 m         HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 10 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC - LC/APC, G657A2, Blue, 10 m         HTSR3952034/2000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2
HTSR3952027/5000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 5 m         HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/1000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 1 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Pat
HTSR3952027/7000       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 7 m         HTSR3952027/10M       Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 10 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 1 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/10M       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         HTSR3953024/1000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         HTSR3953024/1000       Duplex-Patchcord 2xSM, 2
HTSR3952027/10M         Patchcord SM, SC/APC - SC/APC, G657A2, Blue, 10 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952012/2000         Patchcord SM, LC - LC, G657A2, Blue, 2 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 3 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 3 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952034/1000         Patchcord SM, LC - LC, G657A2, Blue, 10 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m
HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 1 m           HTSR3952012/2000         Patchcord SM, LC - LC, G657A2, Blue, 2 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 2 m           HTSR3952012/3000         Patchcord SM, LC - LC, G657A2, Blue, 3 m           HTSR3952012/5000         Patchcord SM, LC - LC, G657A2, Blue, 5 m           HTSR3952012/7000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/1000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue1 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m
HTSR3952012/2000       Patchcord SM, LC - LC, G657A2, Blue, 2 m         HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Puplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m         HTSR3953024/1000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m
HTSR3952012/3000       Patchcord SM, LC - LC, G657A2, Blue, 3 m         HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         HTSR3952034/2000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/2000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Puplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Puplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         HTSR3953024/1000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m         HTSR3953024/3000       Duplex-Patchc
HTSR3952012/5000       Patchcord SM, LC - LC, G657A2, Blue, 5 m         HTSR3952012/7000       Patchcord SM, LC - LC, G657A2, Blue, 7 m         HTSR3952012/1000       Patchcord SM, LC - LC, G657A2, Blue, 10 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         HTSR3952034/2000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m         HTSR3952034/2000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m         HTSR3952034/3000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m         HTSR3952034/1000       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m       Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patch Cords, Single Mode, Duplex (2-fiber SM)       Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m         Patch S3953024/1000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m         HTSR3953024/2000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m         HTSR3953024/3000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m         HTSR3953024/5000       Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3952012/7000         Patchcord SM, LC - LC, G657A2, Blue, 7 m           HTSR3952012/10M         Patchcord SM, LC - LC, G657A2, Blue, 10 m           HTSR3952032/1000         Patchcord SM, LC - LC, G657A2, Blue, 10 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           HTSR3952034/5000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/2000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3952012/10M         Patchcord SM, LC - LC, G657A2, Blue, 10 m           HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue1 m           HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           PatSh39024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m
HTSR3952034/1000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue1 m           HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/5000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           HTSR3952034/100M         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m
HTSR3952034/2000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 2 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 m           HTSR3952034/3000         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 m           HTSR3952034/100M         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m         Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 m           Patch Cords, Single Mode, Duplex (2-fiber SM)         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/2000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3952034/3000Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 3 mHTSR3952034/5000Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 mHTSR3952034/100MPatchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 mPatch Cords, Single Mode, Duplex (2-fiber SM)Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 mHTSR3953024/1000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 mHTSR3953024/5000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 mHTSR3953024/5000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3952034/5000Patchcord SM, LC/APC - LC/APC, G657A2, Blue, 5 mHTSR3952034/10MPatchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 mPatch Cords, Single Mode, Duplex (2-fiber SM)Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 mHTSR3953024/1000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 mHTSR3953024/3000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 mHTSR3953024/5000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m
HTSR3952034/10MPatchcord SM, LC/APC - LC/APC, G657A2, Blue, 10 mPatch Cords, Single Mode, Duplex (2-fiber SM)HTSR3953024/1000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 mHTSR3953024/2000Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m
Patch Cords, Single Mode, Duplex (2-fiber SM)           HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/2000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3953024/1000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 1 m           HTSR3953024/2000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3953024/2000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 2 m           HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3953024/3000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 3 m           HTSR3953024/5000         Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3953024/5000 Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 5 m
HTSR3953024/7000 Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 7 m
HTSR3953024/10M Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A2, Blue, 10 m
HTSR3953027/1000 Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 1 m
HTSR3953027/2000 Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 2 m
HTSR3953027/3000 Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 3 m
HTSR3953027/5000 Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 5 m
HTSR3953027/7000 Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 7 m
HTSR3953027/10M Duplex-Patchcord 2xSM, SC/APC - SC/APC, Blue, 10 m
HTSR3953012/1000 Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 1 m
HTSR3953012/2000 Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 2 m
HTSR3953012/3000 Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 3 m
HTSR3953012/5000 Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 5 m
HTSR3953012/7000 Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 7 m
HTSR3953012/10M Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A2, Blue, 10 m
TSR3950234/1000 Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 1 r
TSR3950234/2000 Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 2 r
TSR3950234/3000 Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 3 r
TSR3950234/5000 Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 5 r
TSR3950234/10M Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 10 m

E-NO.	PRODUCT NO.	PRODUCT NAME
	HTSR3953015/1000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 1 m
	HTSR3953015/2000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 2 m
	HTSR3953015/3000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 3 m
	HTSR3953015/5000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 5 m
	HTSR3953015/7000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 7 m
	HTSR3953015/10M	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A2, Blue, 10 m
Patch Cords,	, Single Mode, Duplex (2-fibe	r SM)
	HTSR3953044/1000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 1 m
	HTSR3953044/2000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 2 m
	HTSR3953044/3000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 3 m
	HTSR3953044/5000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 5 m
	HTSR3953044/7000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 7 m
	HTSR3953044/10M	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC/APC, G657A2, Blue, 10 m
Pigtails, Sing	gle Mode	
	HTSR3950423/2000	Pigtail SM (0.9 mm), SC - open end, G657A2, 2 m
	HTSR3950426/2000	Pigtail SM (0.9 mm), SC/APC - open end, G657A2, 2 m
	HTSR3950414/2000	Pigtail SM (0.9 mm), LC - open end, G657A2, 2 m
	HTSR3950433/2000	Pigtail SM (0.9 mm), LC/APC - open end, G657A2, 2 m
Fanouts, Sin	gle Mode	
	HTSR3950623/2800	Fanout tail SM, 4 SC , G657A2, 2.8 m
	HTSR3950626/2800	Fanout tail SM, 4 SC/APC, G657A2, 2.8 m
	HTSR3950614/2800	Fanout tail SM, 4 LC, G657A2, 2.8 m

HTSR3950633/2800 Fanout tail SM, 4 LC/APC, G657A2, 2,8 m

#### Patch Cords, Pigtails and Fanouts, Standard Grade

A series of patch cords, pigtails and fanouts that offers best price/performance ratio for access networks as well as general data communication applications. The products are made of bend resistant G657A fibers to minimize operating errors and enable high packing density in interconnect applications. connector options: SC, SC/APC, LC, LC/APC performance: IL\* $\leq$ 0.35, RL (PC) $\geq$ 50, RL (APC) $\geq$ 60

**standard length:** 1, 2, 3, 5, 10 m

 $^{\star}$  Insertion Loss according to IEC 61300-3-4 method B.



E-NO.	PRODUCT NO.	PRODUCT NAME
atch Cords,	Single Mode, Simplex (1-fib	er SM)
035100	TSR3950124/1000	Patchcord SM, SC - SC, G657A, Yellow, 1 m
035101	TSR3950124/2000	Patchcord SM, SC - SC, G657A, Yellow, 2 m
035102	TSR3950124/3000	Patchcord SM, SC - SC, G657A, Yellow, 3 m
5035103	TSR3950124/5000	Patchcord SM, SC - SC, G657A, Yellow, 5 m
5035104	TSR3950124/10M	Patchcord SM, SC - SC, G657A, Yellow, 10 m
5035110	TSR3950127/1000	Patchcord SM, SC/APC - SC/APC, G657A, Yellow, 1 m
5035111	TSR3950127/2000	Patchcord SM, SC/APC - SC/APC, G657A, Yellow, 2 m
5035112	TSR3950127/3000	Patchcord SM, SC/APC - SC/APC, G657A, Yellow, 3 m
5035113	TSR3950127/5000	Patchcord SM, SC/APC - SC/APC, G657A, Yellow, 5 m
5035114	TSR3950127/10M	Patchcord SM, SC/APC - SC/APC, G657A, Yellow, 10 m
5035105	TSR3950112/1000	Patchcord SM, LC - LC, G657A, Yellow, 1 m
5035106	TSR3950112/2000	Patchcord SM, LC - LC, G657A, Yellow, 2 m
5035107	TSR3950112/3000	Patchcord SM, LC - LC, G657A, Yellow, 3 m
5035108	TSR3950112/5000	Patchcord SM, LC - LC, G657A, Yellow, 5 m
5035109	TSR3950112/10M	Patchcord SM, LC - LC, G657A, Yellow, 10 m
5035135	TSR3950134/1000	Patchcord SM, LC/APC - LC/APC, G657A, Yellow1 m
5035136	TSR3950134/2000	Patchcord SM, LC/APC - LC/APC, G657A, Yellow, 2 m
5035137	TSR3950134/3000	Patchcord SM, LC/APC - LC/APC, G657A, Yellow, 3 m
5035139	TSR3950134/5000	Patchcord SM, LC/APC - LC/APC, G657A, Yellow, 5 m
5035140	TSR3950134/10M	Patchcord SM, LC/APC - LC/APC, G657A, Yellow, 10 m
Patch Cords	Single Mode, Duplex (2-fibe	er SM)
5035115	TSR3950224/1000	Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A, Yellow, 1 m
5035116	TSR3950224/2000	Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A, Yellow, 2 m
5035117	TSR3950224/3000	Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A, Yellow, 3 m
5035118	TSR3950224/5000	Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A, Yellow, 5 m
5035119	TSR3950224/10M	Duplex-Patchcord 2xSM, 2 SC - 2 SC, G657A, Yellow, 10 m
5035130	TSR3950227/1000	Duplex-Patchcord 2xSM, SC/APC - SC/APC, Yellow, 1 m
5035131	TSR3950227/2000	Duplex-Patchcord 2xSM, SC/APC - SC/APC, Yellow, 2 m
5035132	TSR3950227/3000	Duplex-Patchcord 2xSM, SC/APC - SC/APC, Yellow, 3 m
5035133	TSR3950227/5000	Duplex-Patchcord 2xSM, SC/APC - SC/APC, Yellow, 5 m
5035134	TSR3950227/10M	Duplex-Patchcord 2xSM, SC/APC - SC/APC, Yellow, 10 m
5035125	TSR3950212/1000	Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A, Yellow, 1 m
035126	TSR3950212/2000	Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A, Yellow, 2 m
5035127	TSR3950212/3000	Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A, Yellow, 3 m
5035128	TSR3950212/5000	Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A, Yellow, 5 m
		Duplex-Patchcord 2xSM, 2 LC - 2 LC, G657A, Yellow, 10 m
5035129	TSR3950212/10M	
5035129		Duplay Patchcord 2vSM 1C/ADC 1C/ADC C657A Vallow 1 m
5068805	TSR3950234/1000	Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 1 m
5068805 5068807	TSR3950234/1000 TSR3950234/2000	Duplex-Patchcord 2xSM, LC/APC-LC/APC, G657A, Yellow, 2 m
5068805	TSR3950234/1000	

E-NO.	PRODUCT NO.	PRODUCT NAME	
5035120	TSR3950215/1000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A, Yellow, 1 m	
5035121	TSR3950215/2000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A, Yellow, 2 m	
5035122	TSR3950215/3000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A, Yellow, 3 m	
5035123	TSR3950215/5000	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A, Yellow, 5 m	
5035124	TSR3950215/10M	Duplex-Patchcord 2xSM, 2 LC - 2 SC, G657A, Yellow, 10 m	
5035170	TSR3950237/1000	Duplex-Patchcord 2xSM, 2 SC - 2 SC/APC, G657A, Yellow, 1 m	
5035171	TSR3950237/2000	Duplex-Patchcord 2xSM, 2 SC - 2 SC/APC, G657A, Yellow, 2 m	
5035172	TSR3950237/3000	Duplex-Patchcord 2xSM, 2 SC - 2 SC/APC, G657A, Yellow, 3 m	
5035173	TSR3950237/5000	Duplex-Patchcord 2xSM, 2 SC - 2SC/APC, G657A, Yellow, 5 m	
5035144	TSR3950237/10M	Duplex-Patchcord 2xSM, 2 SC - 2SC/APC, G657A, Yellow, 10 m	
Patch Cords, Sing	gle Mode, Duplex (2-fiber	SM)	
5035175	TSR3950243/1000	Duplex-Patchcord 2xSM, 2 SC - 2 LC/APC, G657A, Yellow, 1 m	
5035176	TSR3950243/2000	Duplex-Patchcord 2xSM, 2 SC - 2 LC/APC, G657A, Yellow, 2 m	
5035177	TSR3950243/3000	Duplex-Patchcord 2xSM, 2 SC - 2 LC/APC, G657A, Yellow, 3 m	
5035178	TSR3950124/5000	Duplex-Patchcord 2xSM, 2 SC - 2 LC/APC, G657A, Yellow, 5 m	
5035179	TSR3950243/10M	Duplex-Patchcord 2xSM, 2 SC - 2 LC/APC, G657A, Yellow, 10 m	
5035180	TSR3950240/1000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC, G657A, Yellow, 1 m	
5035181	TSR3950240/2000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC, G657A, Yellow, 2 m	
5035182	TSR3950240/3000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC, G657A, Yellow, 3 m	
5035183	TSR3950240/5000	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC, G657A, Yellow, 5 m	
5035184	TSR3950240/10M	Duplex-Patchcord 2xSM, 2 SC/APC - 2 LC, G657A, Yellow, 10 m	
Pigtails, Single Mode			
5035148	TSR3950423/2000	Pigtail SM (0.9 mm), SC - open end, G657A, 2 m	
5075685	TSR3950426/2000	Pigtail SM (0.9 mm), SC/APC - open end, G657A, 2 m	
5035149	TSR3950414/2000	Pigtail SM (0.9 mm), LC - open end, G657A, 2 m	
5075686	TSR3950433/2000	Pigtail SM (0.9 mm), LC/APC - open end, G657A, 2 m	
Fanouts, Single N	Node		
5035145	TSR3950623/2800	Fanout tail SM, 4 SC, G657A, 2.8 m	
5075687	TSR3950626/2800	Fanout tail SM, 4 SC/APC, G657A, 2.8 m	
5035146	TSR3950614/2800	Fanout tail SM, 4 LC, G657A, 2.8 m	
5075688	TSR3950633/2800	Fanout tail SM, 4 LC/APC, G657A, 2.8 m	

#### Patch Cords, Pigtails and Fanouts

Multimode patch cords, pigtails and fanouts for various applications such as telecommunication equipment, and data communication networks.

TYPES: Multimode 50 $\mu$ m OM3 or OM4 CONNECTOR OPTIONS: SC, LC PERFORMANCE: IL Max\* $\leq$  0.3, RL  $\geq$  30 \* Insertion Lossaccording to IEC 61300-3-4 method B.



E-NO.	PRODUCT NO.	PRODUCT NAME
Patch Cords,	Multimode, Simplex (1-fiber	r MM)
5069739	TSR3941106/020	Optical Fiber Patchcord 50µm OM2, SC - SC, 2 m
5069740	TSR3941107/2000	Optical Fiber Patchcord 50µm OM2, SC - ST, 2 m
5069743	TSR3941206/020	Optical Fiber Patchcord 62.5µm OM2, SC - SC, 2 m
5069745	TSR3941203/020	Optical Fiber Patchcord 62.5µm OM2, FC - SC, 2 m
5069747	TSR3940309/2000	Optical Fiber Patchcord 62.5µm OM2, (0.9mm), ST - ST, 2 m
Patch Cords,	Multimode, Duplex (2-fiber	MM)
5069748	TSR3942122/2000	Optical Fiber Duplex-Patchcord 2x50µm OM2, 2 LC - 2 LC, 2m
5069749	TSR3942135/900	Optical Fiber Duplex-Patchcord 2x50µm OM2, 2 LC - LCD (angled), 0.9 m
5069750	TSR3942135/1300	Optical Fiber Duplex-Patchcord 2x50µm OM2, 2 LC - LCD (angled), 1.3 m
5069751	TSR3942135/1700	Optical Fiber Duplex-Patchcord 2x50µm OM2, 2 LC - LCD (angled), 1.7 m
5069752	TSR3942419/020	Optical Fiber Duplex-Patchcord 2x50µm OM2, MT-RJ - 2 SC, 2 m (Fig 8 - 1.8 mm)
5069753	TSR3942420/020	Optical Fiber Duplex-Patchcord 2x50µm OM2, MT-RJ - MT-RJ, 2 m (Fig 8 - 1.8 mm)
5069754	TSR3942107/2000	Optical Fiber Duplex-Patchcord 2x50µm OM2, 2 SC - 2 ST , 2 m
5069755	TSR3942106/020	Optical Fiber Duplex-Patchcord 2x50µm OM2, SCD - SCD, 2 m
5069757	TSR3942223/2000	Optical Fiber Duplex-Patchcord 2x62.5µm OM2, LCD - LCD, 2 m
5069758	TSR3942215/2000	Optical Fiber Duplex-Patchcord 2x62.5µm OM2, 2 LC - SCD, 2 m
5069759	TSR3942209/2000	Optical Fiber Duplex-Patchcord 2x62.5µm OM2, 2 ST - 2 ST, 2 m
Pigtails, Multi	mode	
5074220	TSR3940205/020	Optical Fiber Pigtail 50µm OM2 Gigabit (0.9 mm OM2), SC - open end, 2 m
5074222	TSR3946321/0600	Optical Fiber Duplex-Pigtail 50µm OM2 OM2, MT-RJ (no pin), 0.6 m
5074224	TSR3940305/2000	Optical Fiber Pigtail 62.5µm OM2 (0.9 mm OM2), SC - open end, 2 m
5074225	TSR3940308/020	Optical Fiber Pigtail 62.5µm OM2 (0.9 mm OM2), ST - open end, 2 m
5074228	TSR3941201/3000	Optical Fiber Pigtail 62.5µm OM2, FC - open end, (2 mm) OM2, 3 m
5074229	TSR3941208/2000	Optical Fiber Pigtail 62.5µm OM2, ST - open end, (2 mm) OM2, 2 m
Fanouts, Mult	imode	
5075350	TSR3945305/028	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 4 SC, 2.8 m
5075351	TSR3945324/2800	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 4 LC, 2.8 m
5075352	TSR3945308/2800	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 4 ST, 2.8 m
5075353	TSR3945205/2800	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 2 SC, 2.8 m
5075354	TSR3945224/2800	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 2 LC, 2.8 m
5075355	TSR3945208/2800	Optical Fiber Fanout tail (0.9 mm OM2) 50µm OM2, 2 ST, 2.8 m
5077470	TSR3945605/2800	Optical Fiber Fanout tail (0.9 mm OM2) 62.5µm OM2, 4 SC, 2.8 m
5077471	TSR3945608/2800	Optical Fiber Fanout tail (0.9 mm OM2) 62.5µm OM2, 4 ST, 2.8 m
5075356	TSR3945105/2800	Optical Fiber Fanout tail (0.9 mm OM2) 62.5µm OM2, 2 SC, 2.8 m
5075357	TSR3945108/2800	OOptical Fiber Fanout (0.9 mm OM2) 62.5µm OM2, 2 ST, 2.8 m

#### **Multifiber Cable Assemblies**

Patch cables with 4 to 48 fibers, for high density interconnect applications. All cable assemblies are manufactured from ultra slim micro cables.

connector options: SC, SC/APC, LC, LC/APC, FC, E2000

PERFORMANCE: IL\*≤0.30, RL (PC)≥50, RL (APC)≥60 \* Insertion Loss according to IEC 61300-3-4 method B



E-NO.	PRODUCT NO.	PRODUCT NAME					
Cable Assemblies, Slim and flexible, Singlemode 4F							
5069761	RPM2533138/10M	Optical Multifiber cable (slim) SM, 4 LC - 4 SC , 10 m					
5069762	RPM2531038/10M	Optical Multifiber cable (slim) SM, 4 LC - 4 FC, 10 m					
5069763	RPM2531238/10M	Optical Multifiber cable (slim) SM, 4 LC - 4 E2000, 10 m					
5069764	RPM2530938/010	Optical Multifiber cable (slim) SM, 4 SC - 4 E2000, 10 m					
5069765	RPM2531538/10M	Optical Multifiber cable (slim) SM, 4 SC - 4 E2000/APC, 10 m					
5069766	RPM2530838/010	Optical Multifiber cable (slim) SM, 4 SC - 4 FC, 10 m					
5069767	RPM2530738/010	Optical Multifiber cable (slim) SM, 4 SC - 4 SC, 10 m					
Cable Assemb	olies, Slim and flexible, G65.	2D					
	RPM2533085/4000	Optical Cable Assembly 2xG652D LC-LC 4 m for MMS					
	RPM2533085/6000	Optical Cable Assembly 2xG652D LC-LC 6 m for MMS					
5069770	RPM2530769/10M	Multifiber Patch Cable (C) 24F SC-SC SM 10 m (1500/700) for MMS					
5069771	RPM2530769/15M	Multifiber Patch Cable (C) 24F SC-SC SM 15 m (1500/700) for MMS					
5069772	RPM2530769/20M	Multifiber Patch Cable (C) 24F SC-SC SM 20 m (1500/700) for MMS					
	RPM2530769/30M	Multifiber Patch Cable (C) 24F SC-SC SM 30 m (1500/700) for MMS					
5068769	RPM2533069/10M	Multifiber Patch Cable (C) 24F LC-LC SM 10 m (1500/700) for MMS					
5068770	RPM2533069/15M	Multifiber Patch Cable (C) 24F LC-LC SM 15 m (1500/700) for MMS					
5068771	RPM2533069/20M	Multifiber Patch Cable (C) 24F LC-LC SM 20 m (1500/700) for MMS					
5068772	RPM2533069/30M	Multifiber Patch Cable (C) 24F LC-LC SM 30 m (1500/700) for MMS					
5068773	RPM253509/10M	Multifiber Patch Cable (C) 48F SC-SC SM 10 m (1500/700) for MMS					
5068774	RPM253509/15M	Multifiber Patch Cable (C) 48F SC-SC SM 15 m (1500/700) for MMS					
5068775	RPM253509/20M	Multifiber Patch Cable (C) 48F SC-SC SM 20 m (1500/700) for MMS					
5068776	RPM253509/30M	Multifiber Patch Cable (C) 48F SC-SC SM 30 m (1500/700) for MMS					
5068777	RPM253519/10M	Multifiber Patch Cable (C) 48F LC-LC SM 10 m (1500/700) for MMS					
5068778	RPM253519/15M	Multifiber Patch Cable (C) 48F LC-LC SM 15 m (1500/700) for MMS					
5068779	RPM253519/20M	Multifiber Patch Cable (C) 48F LC-LC SM 20 m (1500/700) for MMS					
5068780	RPM253519/30M	Multifiber Patch Cable (C) 48F LC-LC SM 30 m (1500/700) for MMS					

## **SPLITTERS AND OTHER PASSIVE OPTICAL DEVICES**

Fiber optic splitters or couplers provide division of optical power from one or two input ports into several output ports. Symmetric optical power splitters are used for fiber optic communication systems such as PON FTTx networks. Asymmetric power splitters are used for monitoring of transmission signals in fiber networks.

#### **Fiber Optic Splitter Shelf**

Splitter shelf for 19" rack mounting with pre-installed fiber optic splitters. The shelves are available in different configurations with split ratios of 1x2 to 1x64. The standard connector option is SC/APC. Available in both standard and high grade.

TYPE: Splitter Shelf, 19", 1U CONNECTOR OPTIONS: SC/APC, SC SIZE: 410x195x44 mm SPLIT RATIO: 1x2 to 1x64

E-NO.	PRODUCT NO.	PRODUCT NAME
5079271	NCD5200022/10	Splitter shelf 19" 1x16 SC/APC standard grade
5079272	NCD5200023/10	Splitter shelf 19" 1x32 SC/APC standard grade
5079273	NCD5200024/10	Splitter shelf 19" 8x(1x4 ) SC/APC standard grade
5079274	NCD5200025/10	Splitter shelf 19" 4x( 1x4 ) SC/APC standard grade
5079275	NCD5200026/10	Splitter shelf 19" 16x(1x2) SC/APC standard grade
5079276	NCD5200027/10	Splitter shelf 19" 8x(1x2) SC/APC standard grade
5079277	NCD5200028/10	Splitter shelf 19" 4x(1x8) SC/APC standard grade
5079278	NCD5200029/10	Splitter shelf 19" 1x64 SC/APC standard grade
	NCD5200042/10	Splitter shelf 19" 2x16 SC/APC standard grade
	NCD5200043/10	Splitter shelf 19" 2x32 SC/APC standard grade
	NCD5200044/10	Splitter shelf 19" 8x(2x4 ) SC/APC standard grade
	NCD5200045/10	Splitter shelf 19" 4x(2x4 ) SC/APC standard grade
	NCD5200046/10	Splitter shelf 19" 16x(2x2) SC/APC standard grade
	NCD5200047/10	Splitter shelf 19" 8x(2x2) SC/APC standard grade
	NCD5200048/10	Splitter shelf 19" 4x(2x8) SC/APC standard grade
	NCD5200049/10	Splitter shelf 19" 1x(2x64) SC/APC standard grade
	1/NCD5200022/10	Splitter shelf 19" 1x16 SC/APC high grade
	1/NCD5200023/10	Splitter shelf 19" 1x32 SC/APC high grade
	1/NCD5200024/10	Splitter shelf 19" 8x(1x4 ) SC/APC high grade
	1/NCD5200025/10	Splitter shelf 19" 4x( 1x4 ) SC/APC high grade
	1/NCD5200026/10	Splitter shelf 19" 16x(1x2) SC/APC high grade
	1/NCD5200027/10	Splitter shelf 19" 8x(1x2) SC/APC high grade
	1/NCD5200028/10	Splitter shelf 19" 4x(1x8) SC/APC high grade
	1/NCD5200029/10	Splitter shelf 19" 1x64 SC/APC high grade
	1/NCD5200022/11	Splitter shelf 19" 1x16 SC high grade
	1/NCD5200023/11	Splitter shelf 19" 1x32 SC high grade
	1/NCD5200024/11	Splitter shelf 19" 8x(1x4 ) SC high grade
	1/NCD5200025/11	Splitter shelf 19" 4x( 1x4 ) SC high grade
	1/NCD5200026/11	Splitter shelf 19" 16x(1x2) SC high grade
	1/NCD5200027/11	Splitter shelf 19" 8x(1x2) SC high grade
	1/NCD5200028/11	Splitter shelf 19" 4x(1x8) SC high grade
	1/NCD5200029/11	Splitter shelf 19" 1x64 SC high grade



#### **Splitter Frames**

The splitter frames are designed for compact mounting of splitter modules in 19" racks. The most common use is for central office applications or larger distributed PON sites. There are two frame heights available.

PRODUCT NAME

Splitter Frame 1U (9 positions)

Splitter Frame 4U (35 positions)

PRODUCT NO.

NBA30104

NBA30105

**TYPE:** (04) Splitter frame 1U for up to 9 splitter modules (05) Splitter frame 4U for up to 35 splitter modules **MOUNTING:** 19" or ETS



#### **Splitter Modules**

Splitters to be used for splitter frames. The splitters are pre-terminated with protected fanouts and with fitted connectors. The splitters can also be installed in ODFs or other compartments. Available in both high grade and standard grade and with different connector options. SPLIT RATIO: 1x4 to 1x64, 2x4 to 2x64 INPUT/OUTPUT: 2 mm patch, G657A1 TYPE: Optical splitters, PLC SPLIT RATIO: 1x2 to 1x64, 2x2 to 2x64 INPUT/OUTPUT: 2 mm patch, G657A1 CONNECTOR OPTIONS: SC/APC, SC, LC, LC/APC



PRODUCT NO.	PRODUCT NAME	PRODUCT NO.	PRODUCT NAME
RDJ901200/85	SPLM 1:2, SC/APC, 900/1500	RDJ901200/53	2:8 splitter, SC/APC
RDJ901200/86	1:2 splitter, SC	RDJ901200/54	2:8 splitter, SC
RDJ901200/87	1:2 splitter, LC/APC	RDJ901200/55	2:8 splitter, LC/APC
RDJ901200/88	1:2 splitter, LC/AP	RDJ901200/56	2:8 splitter, LC
RDJ901200/1	1:4 splitter, SC/APC*	RDJ901200/61	2:16 splitter, SC/APC
RDJ901200/2	1:4 splitter, SC*	RDJ901200/62	2:16 splitter, SC
RDJ901200/3	1:4 splitter, LC/APC*	RDJ901200/63	2:16 splitter, LC/APC
RDJ901200/4	1:4 splitter, LC*	RDJ901200/64	2:16 splitter, LC
RDJ901200/9	1:8 splitter, SC/APC*	RDJ901200/69	2:32 splitter, SC/APC
RDJ901200/10	1:8 splitter, SC*	RDJ901200/70	2:32 splitter, SC
RDJ901200/11	1:8 splitter, LC/APC*	RDJ901200/71	2:32 splitter, LC/APC
RDJ901200/12	1:8 splitter, LC*	RDJ901200/72	2:32 splitter, LC
RDJ901200/17	1:16 splitter, SC/APC	RDJ901200/77	2:64 splitter, SC/APC
RDJ901200/18	1:16 splitter, SC	RDJ901200/78	2:64 splitter, SC
RDJ901200/19	1:16 splitter, LC/APC	RDJ901200/79	2:64 splitter, LC/APC
RDJ901200/20	1:16 splitter, LC	RDJ901200/80	2:64 splitter, LC
RDJ901200/25	1:24 splitter, SC/APC		
RDJ901200/26	1:24 splitter, SC		
RDJ901200/27	1:24 splitter, LC/APC		
RDJ901200/28	1:24 splitter, LC		
RDJ901200/33	1:32 splitter, SC/APC		
RDJ901200/34	1:32 splitter, SC		
RDJ901200/35	1:32 splitter, LC/APC		
RDJ901200/36	1:32 splitter, LC		
RDJ901200/41	1:64 splitter, SC/APC		
RDJ901200/42	1:64 splitter, SC		
RDJ901200/43	1:64 splitter, LC/APC		
RDJ901200/44	1:64 splitter, LC		
RDJ901200/93	2:2 splitter, SC/APC		
RDJ901200/94	2:2 splitter, SC		
RDJ901200/95	2:2 splitter, LC/APC		
RDJ901200/96	2:2 splitter, LC		
RDJ901200/45	2:4 splitter, SC/APC		
RDJ901200/46	2:4 splitter, SC		
RDJ901200/47	2:4 splitter, LC/APC		
RDJ901200/48	2:4 splitter, LC		

#### **Asymmetric Fiber Optic Splitter Shelf**

The asymmetric division of the signal power is in a proportion of 10:90 split ratio which gives the ability to monitor or measure the transmission signal. The optical power splitter is mounted in a standard 2U ODF chassis and fits both 19" and ETSI rack systems. It is designed for both the 1550nm and 1310 nm wavelength band. The unit has 24 channels and is equipped with SC/APC connectors for minimum back reflections. TYPE: Monitor splitter size: 440x249x86 mm split ratio: 10:90 connector options: SC/APC



 PRODUCT NO.
 PRODUCT NAME

 NBA1020001/023
 Monitor Splitter 3

Monitor Splitter Shelf, 2U 24x10/90

## **FIBER OPTIC ACCESSORIES**

Typical accessories for fiber optic interconnect and splicing applications include various essential and optional products such as fiber optic adapters for Optical Distribution Frames (ODFs), splice sleeves and connector cleaners.

#### **Adapters**

Fiber optic adapters for ODFs and termination units, all of premium grade to fit any kind of application. Simplex, duplex and quadruplex connector options.

**CONNECTOR OPTIONS:** SC, SC/APC, SC/MM (simplex, duplex), LC, LC/APC (simplex, duplex, quad) E2000, E2000/APC (simplex, duplex) FC



E-NO.	PRODUCT NO.	PRODUCT NAME
5064014	RNT99210/12	Adapter SC, ceramic, snap-in and flange mount, Blue
5040286	RNT99211/12	Adapter SC duplex, ceramic, snap-in and flange mount, Blue
5063104	RNT99211/13	Adapter SC duplex, ceramic, without flange, Blue
5063105	RNT99211/23	Adapter SC duplex, ceramic, without flange, Green
5064015	RNT99210/22	Adapter SC/APC, ceramic, snap-in and flange mount, Green
5040287	RNT99211/22	Adapter SC/APC duplex, ceramic, snap-in and flange mount, Green
5040288	RNT99215/11	Adapter SC duplex, MM, metallic, snap-in and flange mount, beige
5064024	RNT99210/13	Adapter SC, no flange
5064025	RNT99210/23	Adapter SC/APC, no flange
5064026	RNT99210/14	Adapter SC with shutter, no flange
5064027	RNT99210/24	Adapter SC/APC with shutter, no flange
5064019	RNT99222/13	Adapter LC/APC, duplex, Green, no flange (SC cut-out)
5063106	RNT99222/15	Adapter LC quad (LP), Blue, no Flange
5063107	RNT99222/16	Adapter LC quad (LP), Green, no Flange
5064011	RNT99222/2	Adapter LC, duplex, low profile, no flange Blue (SC cut-out)
5075692	RNT99222/4	Adapter LC, duplex, low profile, snap-in, Blue, (SC cut-out)
5064013	RNT99222/5	Adapter LC, quadruplex, low profile, flange and snap-in, Blue, (SC-Duplex cut-out)
5064021	RNT99222/9	Adapter LC/APC, quadruplex, low profile, flange and snap-in, Green (SC-Duplex cut-out)
5064022	RNT99222/14	Adapter LC duplex (SC cut-out) with shutter, no flange (SC cut-out)
5064023	RNT99222/12	Adapter LC/APC duplex (SC cut-out) with shutter, no flange (SC cut-out)
5064060	RNT99220/2	Adapter MU, duplex, snap-in and flange mount, brown, (SC cut-out)
	RNT99294/4	Adapter E2000, duplex, Blue
	RNT99295/4	Adapter E2000/APC, duplex, Blue
5064065	RNT99290/1	Adapter St
5040039	12/RNT99281/3	Adapter MT-RJ duplex, snap-in, Black, (SCD cut-out) (12 pcs/pack)
5064063	RNT99201/1	Adapter FC (D-shape cut-out)
5064064	RNT99201/2	Adapter FC/APC, D-shape, Ceramic

#### **End Plugs**

Plugs to cover unused slots in ODF panels.

| slot options: SC, SC-duplex, FC, ST cut-out

E-NO.	PRODUCT NO.	PRODUCT NAME
5084188	NDM501901	6 x plugs for SC slots
5084187	NDM501902	6 x plugs for SCD slots
5084189	NDM501903	$6\ensuremath{\mathrm{x}}$ plugs for FC, ST slots



#### **Splice Protection Sleeves**

Sleeves for protection of fiber optic fusion splices, available as single fiber sleeves or as fiber ribbon sleeves.

**SLEEVE TYPES:** Single fiber 40 mm Single fiber 40 mm or 60 mm Ribbon 2-12 fiber

E-NO.	PRODUCT NO.	PRODUCT NAME
5084197	NTA16212/22	100xSplice Sleeve 1f, I=60 mm
5084198	NTA16212/41	50xSplice Sleeve 2-8f, I=40 mm
5084199	NTA16212/72	100xSplice Sleeve 1f, I=40 mm
5084200	NTA16212/82	100xSplice Sleeve 2f ABF



#### **Cleaning Sticks**

Dust-free, high-grade cleaning sticks specially developed to minimize the risk of cotton nap getting onto connectors during cleaning. The sticks are suitable for 2.5 mm respectively 1.25 mm adapter types.

**APPLICATION:** SC, FC, ST, E2000 (101) or LC, MU (102) connector and adapter cleaning **TYPE:** High-grade, dust-free

E-NO.	PRODUCT NO.	PRODUCT NAME
1649696	LFS150101	200xCleaning stick 2,5 mm for SC, FC or ST connectors
5062076	LFS150102	200xCleaning stick 1,25 mm for LC, E200 or MU connectors



#### **Connector Cleaner**

This handy tool contains a dust-removing tape for quick and easy cleaning of connector tips. For each cleaning cycle, a new section of tape is dispensed. Refill tapes are available. **APPLICATION:** Connector top cleaning **TYPE:** High-grade, dust-free

E-NO.	PRODUCT NO.	PRODUCT NAME
1649693	LTT179001	Connector cleaner
1649694	1/LTT179001	6 x Clean refill for LTT179001



# **FIBER ACCESS NETWORK**

Hexatronic's solutions for Access Networks consist of the air blown microduct systems Micronet and Ribbonet<sup>®</sup> as well as traditional fiber optic cables. The products are specially developed for access networks with the highest requirements for scalability, performance and reliability.

tions to individual homes. FTTH networks are deployed either as a passive optical network (PON) with a partially shared fiber infrastructure, or as a point-to-point network (P2P) with dedicated fibers to each end user. Regardless of network type, the chosen technology must be able to support a variety of changes in the future as capacity and services evolve.

Fiber-to-the-Home (FTTH) refers to fiber optic broadband connec-

## **TO BUILD FOR THE FUTURE**

#### **Scalability**

The access networks built today must be scalable, not just regarding capacity, but also regarding topology. Typical examples of scalable technologies are the Ribbonet® and Micronet air-blown fiber and micro cable systems, where incremental installation of fiber, easy repair and upgrade are key elements. The system scalability minimizes the total cost of ownership.

#### Versatility

It is not possible to predict all technological changes in the future. Therefore, network components are designed for any topology or combination of topologies, for example PON and P2P. They will also support a full transformation from PON to P2P (or vice versa) without the need for additional civil works. All of our major network components can handle any cabling type, for example air-blown fiber, micro cable, drop cables or traditional cable (a mix of the above).

#### **Sustainability**

All products are designed to minimize the environmental impact, from the manufacturing phase and through the whole lifecycle of the products. Total RoHS compliance and halogen-free materials are features of the entire product range. Packing materials are minimized or fully recyclable.



# MICRONET MICRO CABLE SYSTEM

#### **Feeder Network and Distribution Network**

The Feeder and Distribution Network is the foundation of any fiber access network. The feeder network connects any central office to Fiber Distribution Hubs (FDHs). Passive fiber optic devices such as fiber optic splitters and/or cross connection facilities are located in the FDH. The distribution network distributes fiber from the FDH to the drop network. Air blown micro cable technology offers great benefits when deploying the feeder and distribution network. A microduct system enables quick, easy installation and minimizes the number of fiber splice joints in the network compared to traditional solutions. The network capacity can quickly be increased by inserting new cables in the spare microducts. As an alternative, traditional loose tube and ribbon cables can be used for the feeder and distribution networks, see section Fiber Transport Network Solutions.

## **MICRONET MICRO CABLE**

#### **Micro Cable**

Micro cable based on a slim loose tube design with up to eight tubes per cable. The design facilitates fiber preparation and mid-span access. The cable is suitable for long-distance, air blown installation in microducts, with an inner diameter of as little as 8 mm. The cable has excellent bend performance and extremely wide operational temperature range. DESIGN: Loose tube TYPE: Dielectric, slim DIMENSIONS: Ø5.7 - 8.1 mm CAPACITY: 12 - 192 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME	E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Cold	or Code		S12 Color Code		
4979600	TOL4019017/12A	Micro Cable 12f GNHLDV G652D		TOL4019028/12AH	Micro Cable 12f GNHLDV G652D S12
4979610	TOL4019017/24A	Micro Cable 24f GNHLDV G652D		T0L4019028/24AH	Micro Cable 24f GNHLDV G652D S12
	TOL4019017/36A	Micro Cable 36f GNHLDV G652D		TOL4019028/48AH	Micro Cable 48f GNHLDV G652D S12
4979620	TOL4019017/48A	Micro Cable 48f GNHLDV G652D		TOL4019028/72AH	Micro Cable 72f GNHLDV G652D S12
4979630	TOL4019017/72A	Micro Cable 72f GNHLDV G652D		TOL4019028/96AH	Micro Cable 96f GNHLDV G652D S12
4979640	TOL4019017/96A	Micro Cable 96f GNHLDV G652D		TOL4019028/144AH	Micro Cable 144f GNHLDV G652D S12
4980030	TOL4019017/144A	Micro Cable 144f GNHLDV G652D		TOL4019030/192AH	Micro Cable 192f GNHLDV G652D S12

#### Micro Cable, Indoor

E-NO.

4981070

4981080

4981090

4981100

Standard Color Code 4981060 TO

Micro cable based on a slim loose tube design with up to eight tubes per cable. The design facilitates fiber preparation and mid-span access. The cable is designed for indoor installation and has excellent bend performance.

PRODUCT NAME

Micro cable 12f for indoor applications G652D

Micro cable 24f for indoor applications G652D

Micro cable 48f for indoor applications G652D

Micro cable 72f for indoor applications G652D

Micro cable 96f for indoor applications G652D

PRODUCT NO.

TOI 4059011/12A

TOI 4059011/24A

TOI 4059011/48A

TOL4059011/72A

TOL4059011/96A

**DESIGN:** Loose tube **TYPE:** Halogen-free, flame-retardant **DIMENSIONS:** Ø 8.3 - 8.6 mm **CAPACITY:** 12 - 96 fibers



Micro	Cable,	Aerial	Applications

Micro cable based on a slim loose tube design with up to eight tubes per cable. The design is optimized for the maximum strength required for air blown aerial applications. The cable is specially designed for long-distance, air blown installation in microducts with an inner diameter of as little as 8 mm.

DESIGN: Loose tube TYPE: Dielectric, extra slim for aerial applications DIMENSIONS: Ø 5.7 - 6.7 mm CAPACITY: 12 - 96 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME		E-NO.	PRODUCT NO.	PRODUCT NAME		
Standard Color Code				S12 Color Code				
4988170	TOL4019024/12A	Micro cable 12f for aerial applications G652D			TOL4019029/12AH	Micro cable 12f for aerial applications G652D		
4988180	TOL4019024/24A	Micro cable 24f for aerial applications G652D			TOL4019029/29AH	Micro cable 24f for aerial applications G652D		
4988190	TOL4019024/48A	Micro cable 48f for aerial applications G652D			TOL4019029/48AH	Micro cable 48f for aerial applications G652D		
4988200	TOL4019024/72A	Micro cable 72f for aerial applications G652D			TOL4019029/72AH	Micro cable 72f for aerial applications G652D		
4988210	TOL4019024/96A	Micro cable 96f for aerial applications G652D			TOL4019029/96AH	Micro cable 96f for aerial applications G652D		

## **MICRODUCTS AND MULTIDUCTS FOR MICRO CABLES**

Microducts and microduct assemblies are available for several installation environments such as direct buried installation, into existing pipes or indoor installation. Ducts for aerial applications are presented in the section Ribbonet<sup>®</sup> Air Blown Fiber System.

#### **Protected Microducts for Direct Buried Installation**

Ducts composed of 10/8 mm or 12/10 mm microducts with a heavy-duty HDPE sheath that enables direct installation in the ground. The microducts have a solid, low-friction inner surface coating for best installation performance. **TYPE:** Direct buried installation **DIMENSIONS, MICRODUCTS:** Ø 10/8 mm or 12/10 mm **CAPACITY:** 1, 4, 7-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Colo		
5040330	MPB30270/1	Microduct 10/8 mm for installation direct in the ground, Orange
	NMPB30270/2	Multiduct 10/8 mm consist of 2 microducts for installation direct in the ground, Orange
5040334	MPB30270/4	Multiduct 10/8 mm consist of 4 microducts for installation direct in the ground, Orange
5040337	MPB30270/7	Multiduct 10/8 mm consist of 7 microducts for installation direct in the ground, Orange
5040437	MPB30272/1	Microduct 12/10 mm for installation direct in the ground, Orange
	MPB30272/2	Multiduct 12/10 mm consist of 2 microducts for installation direct in the ground, Orange
5040438	MPB30272/4	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, Orange
5040439	MPB30272/7	SMultiduct 12/10 mm consist of 7 microducts for installation direct in the ground, Orange
S12 Color Cod	de	
5041159	MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , Orange
5041061	MPB30272/4M	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12 , Orange
5041062	MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Orange
5041106	1/MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , Green
5041107	1/MPB30272/4M	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12 , Green
5041108	1/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Green
5041120	2/MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , Red
5041120	2/MPB30272/4M	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12 , Red
5041122	2/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Red
5041133	3/MPB30272/1M 3/MPB30272/4M	Microduct 12/10 mm for installation direct in the ground, S12, Blue
5041134 5041135		Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12, Blue
0041150	3/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Blue
	4/MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , Yellow
	4/MPB30272/4M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12, Yellow
	4/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Yellow
	5/MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , White
	5/MPB30272/4M	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12 , White
	5/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , White
	6/MPB30272/1M	Microduct 12/10 mm for installation direct in the ground, S12 , Violet
	6/MPB30272/4M	Multiduct 12/10 mm consist of 4 microducts for installation direct in the ground, S12 , Violet
	6/MPB30272/7M	Multiduct 12/10 mm consist of 7 microducts for installation direct in the ground, S12 , Violet
Skanova Shea	ath Marking	
	MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Orange
	MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Orange
	MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Orange
	1/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Green
	1/MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Green
	1/MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Green
	2/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Red
	2/MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Red
	2/MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Red
	3/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Blue
	3/MPB30272/15	Multiduct 12/10/mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Blue
	3/MPB30272/7S	Multiduct 12/10/mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Blue
	4/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Yellow
	4/MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Yellow
	4/MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Yellow

	PRODUCT NO.	PRODUCT NAME
Skanova Sheath	Marking	
	5/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , White
	5/MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , White
	5/MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , White
	6/MPB30272/1S	Microduct 12/10mm for installation direct in the ground, S12, Skanova , Violet
	6/MPB30272/4S	Multiduct 12/10mm consist of 4 microducts for installation direct in the ground, S12, Skanova , Violet
	6/MPB30272/7S	Multiduct 12/10mm consist of 7 microducts for installation direct in the ground, S12, Skanova , Violet

#### **Microducts for Duct Installation**

Ducts composed of 10/8 mm or 12/10 mm microducts. The ducts are designed for installation in existing pipes or cable shafts. The microducts have a solid, low-friction inner surface coating for best installation performance. TYPE: Installation in existing pipes DIMENSIONS, MICRODUCTS: Ø 10/8 mm or 12/10 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
5040300	MPB30260/BU1	Microduct 10/8 mm outdoor installation in existing ducts, Blue
5041053	MPB30260/BK1	Microduct 10/8 mm outdoor installation in existing ducts, Black
5040301	MPB30260/0G1	Microduct 10/8 mm outdoor installation in existing ducts, Orange
5040302	MPB30260/GN1	Microduct 10/8 mm outdoor installation in existing ducts, Green
5040303	MPB30260/BN1	Microduct 10/8 mm outdoor installation in existing ducts, Brown
5040304	MPB30260/GY1	Microduct 10/8 mm outdoor installation in existing ducts, Grey
5040305	MPB30260/WH1	Microduct 10/8 mm outdoor installation in existing ducts, White
5041054	MPB30260/PK1	Microduct 10/8 mm outdoor installation in existing ducts, Pink
5041055	MPB30260/TQ1	Microduct 10/8 mm outdoor installation in existing ducts, Turquoise
5040306	MPB30260/RD1	Microduct 10/8 mm outdoor installation in existing ducts, Red
5040669	MPB30260/YE1	Microduct 10/8 mm outdoor installation in existing ducts, Yellow
5041056	MPB30260/VT1	Microduct 10/8 mm outdoor installation in existing ducts, White
5040440	MPB30262/BU1	Microduct 12/10 mm outdoor installation in existing ducts, Blue
5041057	MPB30262/BK1	Microduct 12/10 mm outdoor installation in existing ducts, Black
5040441	MPB30262/0G1	Microduct 12/10 mm outdoor installation in existing ducts, Orange
5040442	MPB30262/GN1	Microduct 12/10 mm outdoor installation in existing ducts, Green
5040443	MPB30262/BN1	Microduct 12/10 mm outdoor installation in existing ducts, Brown
5040444	MPB30262/GY1	Microduct 12/10 mm outdoor installation in existing ducts, Grey
5040445	MPB30262/WH1	Microduct 12/10 mm outdoor installation in existing ducts, White
5041058	MPB30262/PK1	Microduct 12/10 mm outdoor installation in existing ducts, Pink
5041059	MPB30262/TQ1	Microduct 12/10 mm outdoor installation in existing ducts, Turquoise
5040446	MPB30262/RD1	Microduct 12/10 mm outdoor installation in existing ducts, Red
5040668	MPB30262/YE1	Microduct 12/10 mm outdoor installation in existing ducts, Yellow
5041060	MPB30262/VT1	Microduct 12/10 mm outdoor installation in existing ducts, White

#### **Protected Microducts for Duct Installation**

Ducts based on 10/8 mm or 12/10 mm microducts with a single HDPE sheath for easy installation of microduct bundles into existing pipes or cable shafts. The microducts have a solid low friction inner surface coating for best installation performance.

**DESIGN:** Installation in existing pipes **DIMENSIONS, MICRODUCTS:** Ø 10/8 mm or 12/10 mm **CAPACITY:** 4, 7-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Cold	or Code	
5040365	MPB30290/4	Multiduct 10/8 mm consist of 4 microducts for installation in existing ducts, Black
5040366	MPB30290/7	Multiduct 10/8 mm consist of 7 microducts for installation in existing ducts, Black
5041087	MPB30292/2	Multiduct 12/10 mm consist of 2 microducts for installation in existing ducts, Black
5041088	MPB30292/4	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts, Black
5041090	MPB30292/7	Multiduct 12/10 mm consist of 7 microducts for installation in existing ducts, Black
S12 Color Co	de	
5041089	MPB30292/4M	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts S12, Black
5041091	MPB30292/7M	Multiduct 12/10 mm consist of 7 microducts for installation in existing ducts S12, Black
	2/MPB30292/4M	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts S12, Red
	2/MPB30292/7M	
	4/MPB30292/4M	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts S12, Yellow
	4/MPB30292/7M	Multiduct 12/10 mm consist of 7 microducts for installation in existing ducts S12, Yellow
	5/MPB30292/4M	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts S12, White
	5/MPB30292/7M	Multiduct 12/10 mm consist of 7 microducts for installation in existing ducts S12, White
	7/MPB30292/4M	Multiduct 12/10 mm consist of 4 microducts for installation in existing ducts S12, Orange
	7/MPB30292/7M	Multiduct 12/10 mm consist of 7 microducts for installation in existing ducts S12, Orange
Skanova Shea	ath Marking	
	MPB30292/4S	Multiduct 12/10mm consist of 4 microducts for installation in existing ducts S12, Skanova, Black
	MPB30292/7S	Multiduct 12/10mm consist of 7 microducts for installation in existing ducts S12, Skanova, Black
	2/MPB30292/4S	Multiduct 12/10mm consist of 4 microducts for installation in existing ducts S12, Skanova, Red
	2/MPB30292/7S	Multiduct 12/10mm consist of 7 microducts for installation in existing ducts S12, Skanova, Red
	4/MPB30292/4S	Multiduct 12/10mm consist of 4 microducts for installation in existing ducts S12, Skanova, Yellow
	4/MPB30292/7S	Multiduct 12/10mm consist of 7 microducts for installation in existing ducts S12, Skanova, Yellow
	5/MPB30292/4S	Multiduct 12/10mm consist of 4 microducts for installation in existing ducts S12, Skanova, White
	5/MPB30292/7S	Multiduct 12/10mm consist of 7 microducts for installation in existing ducts S12, Skanova, White
	7/MPB30292/4S	Multiduct 12/10mm consist of 4 microducts for installation in existing ducts S12, Skanova, Orange
	7/MPB30292/7S	Multiduct 12/10mm consist of 7 microducts for installation in existing ducts S12, Skanova, Orange

#### **Thick Walled Microduct Assemblies**

These thick walled ducts are made of 14/10 mm microducts. Compared to conventional tight protected duct assemblies, thick walled microducts offer lower splicing and branching cost.

**TYPE:** Direct buried installation or installation in existing pipes **DIMENSIONS, MICRODUCTS:** Ø 14/10 mm **CAPACITY:** 2, 4, 7-way



E-NO.	PRODUCT NO.	PRODUCT NAME	E-NO.		PRODUCT NO.
040501	MPB30281/2M	TWD 2x14/10mm S12, Orange	Special Appl	i	ications (Available on Rec
0516	MPB30277/4M	TWD 4x14/10mm Micronet S12, Orange	5040515		MPB30277/1
0517	MPB30277/7M	TWD 7x14/10mm Micronet S12, Orange	5040502		MPB30281/7
1190	1/MPB30281/2M	TWD 2x14/10mm S12, Green	5040503		MPB30282/13
1193	1/MPB30277/4M	TWD 4x14/10mm Micronet S12, Green	5040504		MPB30282/14
41194	1/MPB30277/7M	TWD 7x14/10mm Micronet S12, Green	5040505		MPB30279/14
)41195	2/MPB30281/2M	TWD 2x14/10mm S12, Red	5040506		MPB30279/25
41123	2/MPB30277/4M	TWD 4x14/10mm Micronet S12, Red	5040507		MPB30279/26
41125	2/MPB30277/7M	TWD 7x14/10mm Micronet S12, Red		Ν	MPB30283/1
				1/M	PB30281/2
041196	3/MPB30281/2M	TWD 2x14/10mm S12, Blue		MPB3	0283/4
041197	3/MPB30277/4M	TWD 4x14/10mm Micronet S12, Blue		MPB3028	83/7
5041198	3/MPB30277/7M	TWD 7x14/10mm Micronet S12, Blue		1/MPB30281	1/7
041144	4/MPB30281/2M	TWD 2x14/10mm S12, Yellow		MPB30287/14	
041139	4/MPB30277/4M	TWD 4x14/10mm Micronet S12, Yellow		MPB30287/25	
041140	4/MPB30277/7M	TWD 7x14/10mm Micronet S12, Yellow		MPB30287/26	
5041199	5/MPB30281/2M	TWD 2x14/10mm S12, White		MPB30288/12	
041148	5/MPB30277/4M	TWD 4x14/10mm Micronet S12, White		MPB30289/13	
5041200	5/MPB30277/7M	TWD 7x14/10mm Micronet S12, White		MPB30289/14	
	MPB30279/14M	TWD 2x14/10mm+12x7/3,5mm Hybrid, Orange			
Skanova She	ath Marking				
	MPB30281/2S	TWD 2x14/10mm Skanova, Orange			
	MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Orange			
	MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Orange			
	1/MPB30281/2S	TWD 2x14/10mm Skanova, Green			
	1/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Green			
	1/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Green			
	2/MPB30281/2S	TWD 2x14/10mm Skanova, Red			
	2/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Red			
	2/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Red			
	3/MPB30281/2S	TWD 2x14/10mm Skanova, Blue			
	3/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Blue			
	3/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Blue			
	4/MPB30281/2S	TWD 2x14/10mm Skanova, Yellow			
	4/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Yellow			
	4/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Yellow			
		, ,			
	5/MPB30281/2S	TWD 2x14/10mm Skanova, White			
	5/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, White			
	5/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, White			
	6/MPB30281/2S	TWD 2x14/10mm Skanova, Violet			
	6/MPB30277/4S	TWD 4x14/10mm Micronet Skanova, Violet			
	6/MPB30277/7S	TWD 7x14/10mm Micronet Skanova, Violet			

#### **Thick Walled Microducts**

Thick walled microducts, 14/10 mm to be used in combination with thick walled microduct assemblies.

TYPE: Direct buried installation or installation in existing pipes DIMENSIONS, MICRODUCTS: Ø 14/10 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Color Code		
5041080	MPB30285/0G	TWD 1x14/10 mm Singel tube, Orange
5041086	MPB30285/YE	TWD 1x14/10 mm Singel tube, Yellow
5041084	MPB30285/WH	TWD 1x14/10 mm Singel tube, White
5041082	MPB30285/RD	TWD 1x14/10 mm Singel tube, Red
5041077	MPB30285/BU	TWD 1x14/10 mm Singel tube, Blue
5041078	MPB30285/GN	TWD 1x14/10 mm Singel tube, Green
5041085	MPB30285/VT	TWD 1x14/10 mm Singel tube, Violet
5041076	MPB30285/BN	TWD 1x14/10 mm Singel tube, Brown
5041083	MPB30285/TQ	TWD 1x14/10 mm Singel tube, Turquoise
5041079	MPB30285/GY	TWD 1x14/10 mm Singel tube, Grey
5041081	MPB30285/PK	TWD 1x14/10 mm Singel tube, Pink
5041075	MPB30285/BK	TWD 1x14/10 mm Singel tube, Black

#### **Protected Microducts for Indoor Use**

Microduct with a sheath made of halogen-free, flame-retardant material that enables installation of outdoor rated micro cables in indoor environments. Fiber splicing between indoor and outdoor environments can therefore be eliminated. TYPE: Indoor Installations dimensions, microducts: Ø 10/8 mm or 12/10 mm capacity: 1, 4, 7-way



5040447MPB30271/1Microduct, single, indoor use with extra protection. 10/8 mm5040448MPB30271/4Multiduct 10/8 mm consist of 4 microducts for indoor installation5040449MPB30271/7Multiduct 10/8 mm consist of 7 microducts for indoor installation5040450MPB30273/1Microduct, single, indoor use with extra protection. 12/10 mm5040451MPB30273/4Multiduct 12/10 mm consist of 4 microducts for indoor installation5040452MPB30273/7Multiduct 12/10 mm consist of 7 microducts for indoor installation	E-NO.	PRODUCT NO.	PRODUCT NAME
5040449MPB30271/7Multiduct 10/8 mm consist of 7 microducts for indoor installation5040450MPB30273/1Microduct, single, indoor use with extra protection. 12/10 mm5040451MPB30273/4Multiduct 12/10 mm consist of 4 microducts for indoor installation	5040447	MPB30271/1	Microduct, single, indoor use with extra protection. 10/8 mm
S040450         MPB30273/1         Microduct, single, indoor use with extra protection. 12/10 mm           5040451         MPB30273/4         Multiduct 12/10 mm consist of 4 microducts for indoor installation	5040448	MPB30271/4	Multiduct 10/8 mm consist of 4 microducts for indoor installation
5040451         MPB30273/4         Multiduct 12/10 mm consist of 4 microducts for indoor installation	5040449	MPB30271/7	Multiduct 10/8 mm consist of 7 microducts for indoor installation
	5040450	MPB30273/1	Microduct, single, indoor use with extra protection. 12/10 mm
5040452 MPB30273/7 Multiduct 12/10 mm consist of 7 microducts for indoor installation	5040451	MPB30273/4	Multiduct 12/10 mm consist of 4 microducts for indoor installation
	5040452	MPB30273/7	Multiduct 12/10 mm consist of 7 microducts for indoor installation

## DUCT JOINTS AND OTHER DUCT EQUIPMENT

#### MPB 306 01/142 and /152 Straight Connector

Microduct snap-in connectors for quick and easy splicing of microducts. The body is transparent for easy fault location during installation. The connector is available for 12/10 mm and 10/8 mm ducts.

**TYPE:** Straight connector, Easy Connect **DIMENSIONS, MICRODUCTS:** Ø10/8mm or 12/10 mm



	PRODUCT NO.	PRODUCT NAME
5040888	MPB30601/142	100xConnector,10/8 mm Easy Connect
5040889	MPB30601/152	100xConnector,12/10 mm Easy Connect

PRODUCT NAME

#### MPB 306 05/142 Straight Connector

Microduct snap-in connectors for quick and easy splicing of microducts. The connector is available for 14/10 mm ducts and can be direct buried. It is equipped with safety locks for unaccidental opening during installation. TYPE: Straight connector DIMENSIONS, MICRODUCTS: Ø14/10 mm



5040519 MPB30605/142 100xConnector,14/10 mm DI	3
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#### MPB 306 07+ Gas Block Connector

PRODUCT NO.

E-NO.

Gas block microduct snap-in connectors are used to seal around cables at the end of the duct. After cable installation, the connector can be gas sealed by pushing the connector ends together. TYPE: Gas block straight connector DIMENSIONS, MICRODUCTS:  $\emptyset$ 10/8 mm, 12/10 mm or 14/10 mm

E-NO.	PRODUCT NO.	PRODUCT NAME
5040906	MPB30607/10A2	100xGas Block Connector 10/8 mm 5.5 - 6.6 mm
5040907	MPB30607/10B2	100xGas Block Connector 10/8 mm 6.5 - 7.2 mm
5040908	MPB30607/12A2	100xGas Block Connector 12/10 mm 5.5 - 6.6 mm
5040909	MPB30607/12B2	100xGas Block Connector 12/10 mm 6.5 - 7.2 mm
5040910	MPB30607/12C2	100xGas Block Connector 12/10 mm 7.2 - 8.2 mm
5040911	MPB30607/14A2	100xGas Block Connector 14/10 mm 6.5 - 7.2 mm
5040912	MPB30607/14B2	100xGas Block Connector 14/10 mm 7.6 - 8.2 mm



#### SXA 113 9137/142 and /152 End Stop Connector

Microduct snap-in, end-stop connectors for permanent or temporarily sealing of unused microducts to prevent water and dust getting into the duct.

TYPE: End stop DIMENSIONS, MICRODUCTS: Ø10/8 mm, or 12/10 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
5040994	SXA1139137/142	100xEndstop Connector, 10 mm Easy Conenct
5041164	SXA1139137/152	100xEndstop Connector, 12 mm Easy Connect

#### **End Stop Connector**

Microduct snap-in, end-stop connectors for permanent or temporarily sealing of unused microducts to prevent water and dust getting into the duct. This type is intended for thick walled ducts. TYPE: End stop for TWD dimensions, microducts: Ø 14/10 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
5040904	MPB30606/142	100xEndstop Connector, 14 mm DB

#### **Divisible Seals**

The divisible seals for microducts provide a gas and watertight seal for open duct ends installed with micro cables. The seals are designed to be installed after the fiber or cable has been blown in to the microduct. **TYPE:** Divisible seal for micro cables **DIMENSIONS, MICRODUCTS:** Ø 10/8, 12/10 or 14/10 mm, cables Ø2.5 - 3.9 mm, 5.0 - 6.5 mm, or 6.5 - 8 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
5040716	MPB30608/10A1	25x10mm Divisible Seal 2.5-3.9 mm
5040717	MPB30608/10B1	25x10mm Divisible Seal 5.0-6.5 mm
5040718	MPB30608/10C1	25x10mm Divisible Seal 6.5-8.0 mm
5040719	MPB30608/12A1	25x12mm Divisible Seal 2.5-3.9 mm
5040720	MPB30608/12B1	25x12mm Divisible Seal 5.0-6.5 mm
5040721	MPB30608/12C1	25x12mm Divisible Seal 6.5-8.0 mm
5040722	MPB30608/12D1	25x12mm Divisible Seal 7.0-8.5 mm
5040723	MPB30608/14A1	25x14mm Divisible Seal 5.8-6.5 mm
5040724	MPB30608/14B1	25x14mm Divisible Seal 8.0-10.0 mm

#### **Duct Joint Closure**

A series of straight duct closures for maximum protection of duct joints for direct buried applications. Heat shrink technology is used for maximum protection. The closure is available in three different sizes and includes microduct snap-in connectors for 1, 4 or 7 microducts. Connectors for 10/8 mm ducts are included.

**TYPE:** Heath shrink, straight joint **SEALING:** IP class 68 **CAPACITY:** 1, 4, or 7



E-NO.	PRODUCT NO.	PRODUCT NAME
5040372	NDE45115/4	Straight jointing kit for micronet ducts ( 1 duct )
5040373	NDE45115/5	Straight jointing kit for micronet ducts ( 4 duct )
5040374	NDE45115/6	Straight jointing kit for micronet ducts ( 7 duct )

#### **Duct Joint Closure**

A series of straight duct closures for quick and easy installation without the need for heat. The closure is available in several sizes. Microduct snap-in connectors are not included. **TYPE:** Cold seal, re-enterable straight joint **SEALING:** IP class 68 **CAPACITY:** 1, 4, or 7



E-NO.	PRODUCT NO.	PRODUCT NAME
5084249	NDE45125/111	10xStraight Joint 8-12.5 mm
5040914	NDE45125/131	10xStraight Joint 14.9-18 mm
5084256	NDE45125/141	10xStraight Joint 19-24 mm
5084257	NDE45125/151	10xStraight Joint 26.5-29 mm
5084263	NDE45125/161	10xStraight Joint 31-33 mm
5084266	NDE45125/171	10xStraight Joint 36.7-40 mm
5084269	NDE45125/181	10xStraight Joint 44-46 mm
5040915	NDE45125/191	10xStraight Joint 40-41 mm

#### **Duct Joint and Branch Closures**

E-NO.

Closure suitable for branching as well as jointing ducts. The closure provides mechanical protection of the duct joints.

PRODUCT NO.

NDE45126/101

NDE45126/102

NDE45126/103

NDE45126/104

NDE45126/105

NDE45126/108 NDE45126/109

NDE45126/115

NDE45126/116

NDE45126/119

**TYPE:** Cold seal, re-enterable branch joint **sEALING:** Mechanical protection only

PRODUCT NAME

8xClosure Straight 25-25

8xClosure Straight 32-32

8xClosure Straight 50-50

8xClosure Straight 25-32

8xClosure Straight 32-50 8xClosure Branch-Off 50-50-25

4xClosure Fork 50-32-25

4xClosure Fork 50-32-32

4xClosure Fork 50-50-50

PRODUCT NAME

8xClosure Branch-Off 32-32-25



<b>Duct Joint</b>	and	<b>Branch</b>	Kit
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Flexible kit including materials and tools for jointing, branching and mid-span of microducts/multiducts. A vulcanizing cloth is used for sealing, and strong and flexible PVC tape provides mechanical protection. Refill kits are available. Microduct snap-in connectors are not included. NDE 451 40/2 is a kit without tools.

PRODUCT NO.

TYPE: Cold seal, branch joint SEALING: IP class 68 CAPACITY: approx. 10 joints/kit



5040029	NDE45140/1	Joint kit for ducts with tool kit and material for 10 pcs of joints
5040030	NDE45140/2	Joint kit for 10 pcs of joints (without tools)

#### **End Caps**

E-NO.

Rubber covers used for temporary sealing of unused multiducts to prevent water and dust from getting into the ducts. The caps are available in several versions for different types of ducts. TYPE: Rubber duct end caps

PRODUCT NO. PRODUCT NAME E-NO. 5040177 SRS10617/01 100xEnd Sleeve for 10-16 mm 5040178 SRS10617/02 100xEnd Sleeve for 15-21 mm 5040179 SRS10617/03 50xEnd sleeve for 21-29 mm 5040180 SRS10617/04 20xEnd Sleeve for 29-38 mm 5040992 SRS10617/05 10xEnd Sleeve for 38-45 mm



## FIBER DISTRIBUTION HUBS

The Fiber Distribution Hub (FDH) is the location of passive fiber optic devices such as fiber optic splitters and/or cross connection facilities. In this section, FDHs for cable and microduct systems are presented with associated accessories.

For a complete list of all products for fiber distribution, see also section Drop and Premises Networks/Fiber Access Terminals.

#### Fiber Distribution Hub, Outdoor

This FDH combines unique features in a compact cabinet. The FDH handles in-cabinet splicing of cable as well as incremental installation of air blown micro cable or air blown fiber. The FDH is designed for both PON and P2P FTTx connections and is designed for the RDJ 901 + splitter modules. **TYPE:** Outdoor pad or pole mount **CAPACITY:** up to 288 end users **SIZE:** 830 (1080\*)x700x426 mm

\* Height including pad

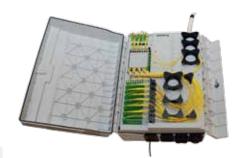
E-NO.	PRODUCT NO.	PRODUCT NAME
5060052	2/NBD116200/1	FDH Street cabinet, basic empty
5060053	2/NBD116200/2	FDH Streeet cabinet pre-connected 288 SC/APC, 20 m stub cable
	2/NBD116200/100	FDH OD 288 TWD



#### Fiber Distribution Hub, Indoor

The indoor FDH, for up to 64 end-users, is designed to handle fiber optic terminations and passive optical splitters in PON FTTx networks but can also be used for Point to Point (P2P) applications or combinations of the both. The FDH can handle airblown fiber in microducts, micro cables as well as drop cables and other fiber optic cables. It can also be used as a medium sized fiber optic splice box for various applications.

#### TYPE: Indoor closure, wall mount. size: 500x 76x182mm sealing: IP class 54 capacity: 64 end users (SC)



E-NO.	PRODUCT NO.	PRODUCT NAME
5055441	1/NBD116200/1	FDH cabinet basic, empty
5055442	1/NBD116200/2	FDH cabinet prepared 64 + 8 SC/APC
5055443	1/NBD116200/3	FDH cabinet prepared 64 + 8 SC
5055444	1/NBD116200/4	FDH cabinet prepared 64 + 8 LC/APC
5055445	1/NBD116200/5	FDH cabinet prepared 64 + 8 LC

#### **Fiber Distribution Hub/Access Terminal**

The main application for this closure is fiber distribution in PON networks with optical splitters, but it can also be used in a P2P system as a cross connection distribution point. The closure is designed for outdoor, underground installation in manholes, above ground installation on poles or installations inside pedestals. The closure can handle air-blown fibers in microducts, micro cables and traditional cables. The closure is equipped with a holder for up to three RDJ 901+ splitter modules.

PRODUCT NO.

NCD507500

TYPE: Outdoor, underground use CAPACITY: 96 end-users DIMENSIONS: 520x280 mm



#### PRODUCT NAME FAT/FDH for underground use

#### **Splitter Modules**

Splitters to be used in the FDH. The splitters are pre-terminated with protected fanouts and with fitted connectors. Available in both high grade and standard grade and with different connectors. These splitter modules also fits in splitter frames. TYPE: Optical splitters, PLC SPLIT RATIO: 1x2 to 1x64, 2x2 to 2x64 INPUT/OUTPUT: 2 mm patch, G657A1 CONNECTOR OPTIONS: SC/APC, SC, LC, LC/APC



PRODUCT NO.	PRODUCT NAME
RDJ901200/81	1:2 splitter, SC/APC
RDJ901200/82	1:2 splitter, SC
RDJ901200/83	1:2 splitter, LC/APC
RDJ901200/84	1:2 splitter, LC
RDJ901200/5	1:8 splitter, SC/APC
RDJ901200/6	1:8 splitter, SC
RDJ901200/7	1:8 splitter, LC/APC
RDJ901200/8	1:8 splitter, LC
RDJ901200/13	1:8 splitter, LC
RDJ901200/14	1:16 splitter, SC/APC
RDJ901200/15	1:16 splitter, SC
RDJ901200/16	1:16 splitter, LC/APC
RDJ901200/21	1:24 splitter, SC/APC
RDJ901200/22	1:24 splitter, SC
RDJ901200/23	1:24 splitter, LC/APC
RDJ901200/24	1:24 splitter, LC
RDJ901200/29	1:32 splitter, SC/APC
RDJ901200/30	1:32 splitter, SC
RDJ901200/31	1:32 splitter, LC/APC
RDJ901200/32	1:32 splitter, LC
RDJ901200/37	1:64 splitter, SC/APC
RDJ901200/38	1:64 splitter, SC
RDJ901200/39	1:64 splitter, LC/APC
RDJ901200/40	1:64 splitter, LC
RDJ901200/89	2:2 splitter, SC/APC
RDJ901200/90	2:2 splitter, SC
RDJ901200/91	2:2 splitter, LC/APC
RDJ901200/92	2:2 splitter, LC
RDJ901200/49	2:8 splitter, SC/APC
RDJ901200/50	2:8 splitter, SC
RDJ901200/51	2:8 splitter, LC/APC
RDJ901200/52	2:8 splitter, LC
RDJ901200/57	2:16 splitter, SC/APC
RDJ901200/58	2:16 splitter, SC
RDJ901200/59	2:16 splitter, LC/APC
RDJ901200/60	2:16 splitter, LC
RDJ901200/65	2:32 splitter, SC/APC
RDJ901200/66	2:32 splitter, SC
RDJ901200/67	2:32 splitter, LC/APC
RDJ901200/68	2:32 splitter, LC
RDJ901200/73	2:64 splitter, SC/APC
RDJ901200/74	2:64 splitter, SC
RDJ901200/75	2:64 splitter, LC/APC
RDJ901200/76	2:64 splitter, LC

# **RIBBONET® AIR BLOWN FIBER SYSTEM**

#### **Drop and Premises Network**

The Drop Network connects end users to splicing and branching points, or Fiber Access Terminals (FATs) where the ducts or cables are connected to the feeder and distribution network. The Ribbonet<sup>®</sup> Air Blown Fiber (ABF) system or the Hexatronic offering of drop cables are two options for connecting fibers from end users to the FAT.

The Premises Network refers to the network within a customer's premises such as a home or office environment. Typical products within the premises network are Fiber Access Terminals (FATs) and Fiber Termination Units Boxes (FTBs).

The Ribbonet<sup>®</sup> system, consisting of ducts forming the infrastructure into which the fiber units are blown, can be used outdoors, indoors and underground, as well as in aerial applications. The Ribbonet<sup>®</sup> system covers both the Drop Network and the Premises Network. The system consists of air blown fibers, ducts, duct joints

and accessories and Hexatronic's patented lightweight air blowing tool. The Ribbonet installation comes with a 20 year system warranty.



## **RIBBONET® AIR BLOWN FIBER**

#### **Pre-connected Air Blown Fiber**

DDODUCT NO

E-N0

Pre-connected air blown fiber (ABF), consisting of fibers encapsulated in a round multi-layer, highperformance coating. The connected ABF is delivered on lightweight reels, optimized for use with the Ribbonet<sup>®</sup> fiber blowing tool. The ABF is made of bend-resistant G657A2 fiber. The pre-connected ABF is available with 2 or 4 fibers.

	E-NO.	PRODUCT NO.	PRODUCT NAME
	5040947	RPM258020/30M	ABF 1SC 2G657A2 REEL
	5040951	RPM258020/50M	ABF 1SC 2G657A2 REEL
	5040954	RPM258020/70M	ABF 1SC 2G657A2 REEL
	5040942	RPM258020/100M	ABF 1SC 2G657A2 REEL
	5040943	RPM258020/150M	ABF 1SC 2G657A2 REEL
	5040944	RPM258020/200M	ABF 1SC 2G657A2 REEL
	5040945	RPM258020/250M	ABF 1SC 2G657A2 REEL
	5040946	RPM258020/300M	ABF 1SC 2G657A2 REEL
	5040948	RPM258020/350M	ABF 1SC 2G657A2 REEL
	5040949	RPM258020/400M	ABF 1SC 2G657A2 REEL
	5040950	RPM258020/500M	ABF 1SC 2G657A2 REEL
	5040952	RPM258020/600M	ABF 1SC 2G657A2 REEL
	5040953	RPM258020/700M	ABF 1SC 2G657A2 REEL
	5040955	RPM258020/800M	ABF 1SC 2G657A2 REEL
	5040956	RPM258020/900M	ABF 1SC 2G657A2 REEL
	5040941	RPM258020/1000M	ABF 1SC 2G657A2 REEL
l	5040644	RPM258005/30M	ABF 2SC 2G657A2 REEL
	5040696	RPM258005/50M	ABF 2SC 2G657A2 REEL
	5040697	RPM258005/70M	ABF 2SC 2G657A2 REEL
	5040698	RPM258005/100M	ABF 2SC 2G657A2 REEL
	5040699	RPM258005/150M	ABF 2SC 2G657A2 REEL
	5040917	RPM258005/200M	ABF 2SC 2G657A2 REEL
	5040918	RPM258005/250M	ABF 2SC 2G657A2 REEL
	5040919	RPM258005/300M	ABF 2SC 2G657A2 REEL
	5040920	RPM258005/350M	ABF 2SC 2G657A2 REEL
	5040921	RPM258005/400M	ABF 2SC 2G657A2 REEL
	5040922	RPM258005/500M	ABF 2SC 2G657A2 REEL
	5040923	RPM258005/600M	ABF 2SC 2G657A2 REEL
	5040924	RPM258005/700M	ABF 2SC 2G657A2 REEL
	5040925	RPM258005/800M	ABF 2SC 2G657A2 REEL
	5040926	RPM258005/900M	ABF 2SC 2G657A2 REEL
		DD11050005/100011	
	5040916	RPM258005/1000M	ABF 2SC 2G657A2 REEL

**TYPE:** 2 or 4 fibers, G657A2 **CONNECTOR OPTIONS:** SC, SC/APC, LC, LC/APC **STANDARD LENGTHS:** 30, 50, 70, 100, 150, 200, 250, 300, 350, 400, 500...1000 m



E-NO.	PRODUCT NO.	PRODUCT NAME
5040645	RPM258006/30M	ABF 2LC 2G657A2 REEL
5040700	RPM258006/50M	ABF 2LC 2G657A2 REEL
5040701	RPM258006/70M	ABF 2LC 2G657A2 REEL
5040702	RPM258006/100M	ABF 2LC 2G657A2 REEL
5040703	RPM258006/150M	ABF 2LC 2G657A2 REEL
5040928	RPM258006/200M	ABF 2LC 2G657A2 REEL
5040929	RPM258006/250M	ABF 2LC 2G657A2 REEL
5040930	RPM258006/300M	ABF 2LC 2G657A2 REEL
5040931	RPM258006/350M	ABF 2LC 2G657A2 REEL
5040932	RPM258006/400M	ABF 2LC 2G657A2 REEL
5040933	RPM258006/500M	ABF 2LC 2G657A2 REEL
5040934	RPM258006/600M	ABF 2LC 2G657A2 REEL
5040935	RPM258006/700M	ABF 2LC 2G657A2 REEL
5040936	RPM258006/800M	ABF 2LC 2G657A2 REEL
5040937	RPM258006/900M	ABF 2LC 2G657A2 REEL
5040927	RPM258006/1000M	ABF 2LC 2G657A2 REEL
5040646	RPM258007/30M	ABF 2SC/APC 2G657A2 REEL
5040704	RPM258007/50M	ABF 2SC/APC 2G657A2 REEL
5040705	RPM258007/70M	ABF 2SC/APC 2G657A2 REEL
5040706	RPM258007/100M	ABF 2SC/APC 2G657A2 REEL
5040707	RPM258007/150M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/200M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/250M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/300M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/350M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/400M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/500M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/600M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/700M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/800M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/900M	ABF 2SC/APC 2G657A2 REEL
	RPM258007/1000M	ABF 2SC/APC 2G657A2 REEL

0.	PRODUCT NO.	PRODUCT NAME	PRODUCT NO.	PRODUCT NAME
40647	RPM258008/30M	ABF 2LC/APC 2G657A2 REEL	RPM258029/30M	ABF1SC/APC 2G657A2 TIA-598 REEL
040708	RPM258008/50M	ABF 2LC/APC 2G657A2 REEL	RPM258029/50M	ABF1SC/APC 2G657A2 TIA-598 REEL
040709	RPM258008/70M	ABF 2LC/APC 2G657A2 REEL	RPM258029/70M	ABF1SC/APC 2G657A2 TIA-598 REEL
040710	RPM258008/100M	ABF 2LC/APC 2G657A2 REEL	RPM258029/100M	ABF1SC/APC 2G657A2 TIA-598 REEL
040711	RPM258008/150M	ABF 2LC/APC 2G657A2 REEL	RPM258029/150M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/200M	ABF 2LC/APC 2G657A2 REEL	RPM258029/200M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/250M	ABF 2LC/APC 2G657A2 REEL	RPM258029/250M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/300M	ABF 2LC/APC 2G657A2 REEL	RPM258029/300M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/350M	ABF 2LC/APC 2G657A2 REEL	RPM258029/350M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/400M	ABF 2LC/APC 2G657A2 REEL	RPM258029/400M	ABF1SC/APC 2G657A2 TIA-598 REEL
				ABF1SC/APC 2G657A2 TIA-598 REEL ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/500M	ABF 2LC/APC 2G657A2 REEL	RPM258029/500M	
	RPM258008/600M	ABF 2LC/APC 2G657A2 REEL	RPM258029/600M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/700M	ABF 2LC/APC 2G657A2 REEL	RPM258029/700M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/800M	ABF 2LC/APC 2G657A2 REEL	RPM258029/800M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/900M	ABF 2LC/APC 2G657A2 REEL	RPM258029/900M	ABF1SC/APC 2G657A2 TIA-598 REEL
	RPM258008/1000M	ABF 2LC/APC 2G657A2 REEL	RPM258029/1000M	ABF1SC/APC 2G657A2 TIA-598 REEL
40972	RPM258028/30M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/30M	ABF 2SC/APC 2G657A2 TIA-598 REEL
40976	RPM258028/50M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/50M	ABF 2SC/APC 2G657A2 TIA-598 REEL
40979	RPM258028/70M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/70M	ABF 2SC/APC 2G657A2 TIA-598 REEL
)40967	RPM258028/100M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/100M	ABF 2SC/APC 2G657A2 TIA-598 REEL
	RPM258028/150M	ABF 1SC 1SC/AFC 2G657A2 REEL	RPM258026/150M	ABF 2SC/APC 2G657A2 TIA-598 REEL ABF 2SC/APC 2G657A2 TIA-598 REEL
040968				
040969	RPM258028/200M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/200M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040970	RPM258028/250M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/250M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040971	RPM258028/300M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/300M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040973	RPM258028/350M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/350M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040974	RPM258028/400M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/400M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040975	RPM258028/500M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/500M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040977	RPM258028/600M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/600M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040978	RPM258028/700M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/700M	ABF 2SC/APC 2G657A2 TIA-598 REEL
40980	RPM258028/800M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/800M	ABF 2SC/APC 2G657A2 TIA-598 REEL
)40981	RPM258028/900M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/900M	ABF 2SC/APC 2G657A2 TIA-598 REEL
040966	RPM258028/1000M	ABF 1SC 1SC/APC 2G657A2 REEL	RPM258026/1000M	ABF 2SC/APC 2G657A2 TIA-598 REEL
.0300				
	RPM258018/30M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/30M	ABF 4SC/APC 4G657A2 TIA598 REEL
	RPM258018/50M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/50M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/70M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/70M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/100M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/100M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/150M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/150M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/200M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/200M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/250M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/250M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/300M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/300M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/350M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/350M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/400M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/400M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/500M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/500M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/600M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/600M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/700M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/700M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/800M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/800M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/900M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/900M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258018/1000M	ABF 2LC/APC 2G657A2 TIA598 REEL	RPM258027/1000M	ABF4SC/APC 4G657A2 TIA-598 REEL
	RPM258021/30M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/50M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/70M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/100M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/150M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/200M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/250M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/300M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/350M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/400M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/500M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/600M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/700M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/800M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/900M	ABF 2LC/APC 4G657A2 TIA598 REEL		
	RPM258021/1000M	ABF 2LC/APC 4G657A2 TIA598 REEL		

#### Air Blown Fiber, in Pan

Air blown fiber (ABF), consisting of fibers encapsulated in a round multi-layer, high-performance coating. The ABF is delivered in pans in lengths from 1000 to 6000 m and is available in configurations from 2 to 12 fibers, in bend resistant G657A2 fiber or multimode 50  $\mu$ m OM3 or OM4 fiber. **TYPE:** 2, 4, 8 or 12 fibers, G657A2 or 50  $\mu m$  OM3, OM4 **STANDARD LENGTHS:** 1000, 2000, 4000, 6000 m



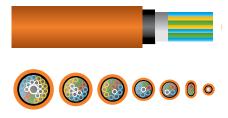
E-NO.	PRODUCT NO.	PRODUCT NAME
5040648	RPM258013/2000M	ABF 2G657A2 PAN
5040649	RPM258013/4000M	ABF 2G657A2 PAN
5040650	RPM258013/6000M	ABF 2G657A2 PAN
	RPM258019/2000M	ABF 2G657A2 TIA598 PAN
	RPM258019/4000M	ABF 2G657A2 TIA598 PAN
	RPM258019/6000M	ABF 2G657A2 TIA598 PAN
5040729	RPM258014/2000M	ABF 4G657A2 PAN
5040730	RPM258014/4000M	ABF 4G657A2 PAN
5040731	RPM258014/6000M	ABF 4G657A2 PAN
	RPM258022/2000M	ABF 4G657A2 TIA598 PAN
	RPM258022/4000M	ABF 4G657A2 TIA598 PAN
	RPM258022/6000M	ABF 4G657A2 TIA598 PAN
5041262	RPM258016/1000M	ABF 8G657A2 PAN
5041263	RPM258016/2000M	ABF 8G657A2 PAN
5041264	RPM258016/4000M	ABF 8G657A2 PAN
5040938	RPM258017/1000M	ABF 12G657A2 PAN
5040939	RPM258017/2000M	ABF 12G657A2 PAN
5040940	RPM258017/4000M	ABF 12G657A2 PAN
5040963	RPM258025/2000M	ABF 20M3 50µm PAN
5040964	RPM258025/4000M	ABF 20M3 50µm PAN
5040965	RPM258025/6000M	ABF 20M3 50µm PAN
5040960	RPM258024/2000M	ABF 40M3 50µm PAN
5040961	RPM258024/4000M	ABF 40M3 50µm PAN
5040962	RPM258024/6000M	ABF 40M3 50µm PAN
5040957	RPM258023/1000M	ABF 120M3 50µm PAN
5040958	RPM258023/2000M	ABF 120M3 50µm PAN
5040959	RPM258023/4000M	ABF 120M3 50µm PAN

## **MICRODUCTS AND MULTIDUCTS FOR AIR BLOWN FIBER**

#### **Protected Microducts, Direct Buried**

Ducts composed of 5/3.5 mm microducts with a heavy-duty HDPE sheath that enables direct buried installation. The ducts are available dielectric or with a moisture barrier of aluminum foil to prevent water diffusion when permanently submersed. The microducts have a solid, low-friction inner surface coating for best installation performance.

TYPE: Direct buried installation, dielectric or metallic moisture barrier DIMENSIONS, MICRODUCTS: Ø 5/3.5 mm CAPACITY: 1, 2, 4, 7, 12, 19, 24, 26-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Color (	Code	
5040378	MPB30244/1	Microduct, single for direct buried installation, dielectric, Orange
5040431	MPB30244/2	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, Orange
5040432	MPB30244/4	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, Orange
5040433	MPB30244/7	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, Orange
5040434	MPB30244/12	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, Orange
5040435	MPB30244/19	Multiducts, consisting of 19 microducts for direct buried installation, dielectric, Orange
5040436	MPB30244/24	Multiducts, consisting of 24 microducts for direct buried installation, dielectric, Orange
S12 Color Code		
5040378	MPB30244/1	Microduct, single for direct buried installation, dielectric, Orange
5041038	MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Orange
5041039	MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Orange
5041040	MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Orange
5041035	MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Orange
5041101	1/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Green
5041103	1/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Green
5041104	1/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Green
5041105	1/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Green
5041111	2/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Red
5041112	2/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Red
5041113	2/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Red
5041114	2/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Red
5041129	3/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, \$12, Blue
5041130	3/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Blue
5041131	3/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Blue
5041132	3/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Blue
	4/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Yellow
	4/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Yellow
	4/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Yellow
	4/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Yellow
	5/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, White
	5/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, White
	5/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, White
	5/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, White
	6/MPB30244/2M	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Violet
	6/MPB30244/4M	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Violet
	6/MPB30244/7M	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Violet
	6/MPB30244/12M	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Violet

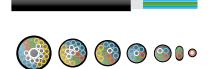
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E-NO.	PRODUCT NO.	PRODUCT NAME
Skanova Sheatl	n Marking	
	MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Orange
	MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Orange
	MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Orange
	MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Orange
	1/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Green
	1/MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Green
	1/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Green
	1/MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Green
	2/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Red
	2/MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Red
	2/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Red
	2/MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Red
	3/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Blue
	3/MPB30244/25	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Blue Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Blue
	3/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, 512, Skanova, Blue
	3/MPB30244/12S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Blue Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Blue
	4/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Yellow
	4/MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Yellow
	4/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Yellow
	4/MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Yellow
	5/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, White
	5/MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, White
	5/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, White
	5/MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, White
	6/MPB30244/2S	Multiducts, consisting of 2 microducts for direct buried installation, dielectric, S12, Skanova, Violet
	6/MPB30244/4S	Multiducts, consisting of 4 microducts for direct buried installation, dielectric, S12, Skanova, Violet
	6/MPB30244/7S	Multiducts, consisting of 7 microducts for direct buried installation, dielectric, S12, Skanova, Violet
	6/MPB30244/12S	Multiducts, consisting of 12 microducts for direct buried installation, dielectric, S12, Skanova, Violet
Standard Color	Code	
5040019	MPB30230/1	Microduct, single for direct buried installation, Orange
5040020	MPB30231/2	Multiducts, consisting of 2 microducts for direct buried installation, Orange
5040021	MPB30232/4	Multiducts, consisting of 4 microducts for direct buried installation, Orange
5040022	MPB30233/7	Multiducts, consisting of 7 microducts for direct buried installation, Orange
5040023	MPB30234/12	Multiducts, consisting of 12 microducts for direct buried installation, Orange
5040024	MPB30235/19	Multiducts, consisting of 19 microducts for direct buried installation, Orange
5040025	MPB30236/24	Multiducts, consisting of 24 microducts for direct buried installation, Orange
S12 Color Code		
	MPB30230/1M	Microduct, single for direct buried installation, S12, Orange
	MPB30231/2M	Multiducts, consisting of 2 microducts for direct buried installation, S12, Orange
	MPB30232/4M	Multiducts, consisting of 4 microducts for direct buried installation, S12 , Orange
	MPB30233/7M	Multiducts, consisting of 7 microducts for direct buried installation, S12 , Orange
	MPB30234/12M	Multiducts, consisting of 12 microducts for direct buried installation, S12, Orange
	MPB30235/19M	Multiducts, consisting of 19 microducts for direct buried installation, \$12, Orange
	MPB30236/24M	Multiducts, consisting of 24 microducts for direct buried installation, S12 , Orange

#### **Microduct for Installation in Existing Pipes**

Ducts composed of 5/3.5 mm microducts. The ducts are designed for installation in existing pipes or cable shafts. The ducts are available dielectric or with a moisture barrier of aluminum foil to prevent water diffusion when permanently submersed. The microducts have a solid, low-friction inner surface coating for best installation performance.

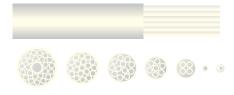
**TYPE:** Installation in existing pipes, metallic moisture barrier **DIMENSIONS, MICRODUCTS:** Ø 5/3.5 mm **CAPACITY:** 1, 2, 4, 7, 12, 19, 24, 26-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Color (	Code	
5040012	MPB30210/1	Ribbonet 1x5/3.5 mm DI, Black
5040013	MPB30211/2	Ribbonet 2x5/3.5 mm DI, Black
5040014	MPB30212/4	Ribbonet 4x5/3.5 mm DI, Black
5040015	MPB30213/7	Ribbonet 7x5/3.5 mm DI, Black
5040016	MPB30214/12	Ribbonet 12x5/3.5 mm DI, Black
5040017	MPB30215/19	Ribbonet 19x5/3.5 mm DI, Black
5040018	MPB30216/24	Ribbonet 24x5/3.5 mm DI, Black
5041026	MPB30216/26	Ribbonet 26x5/3.5 mm DI, Black
Microducts for E	Duct Installation - Dielectric	
Standard Color (	Code	
5041041	MPB30245/1	Ribbonet 1x5/3.5 mm DI Dielectric, Black
5041046	MPB30245/2	Ribbonet 2x5/3.5 mm DI Dielectric, Black
5041049	MPB30245/4	Ribbonet 4x5/3.5 mm DI Dielectric, Black
5041051	MPB30245/7	Ribbonet 7x5/3.5 mm DI Dielectric, Black
5041042	MPB30245/12	Ribbonet 12x5/3.5 mm DI Dielectric, Black
5041044	MPB30245/19	Ribbonet 19x5/3.5 mm DI Dielectric, Black
5040328	MPB30245/24	Ribbonet 24x5/3.5 mm DI Dielectric, Black
S12 Color Code	111 2002 10/21	
5041041	MPB30245/1M	Ribbonet 1x5/3.5 mm DI Dielectric S12 Color, Black
5041048	MPB30245/2M	Ribbonet 2x5/3.5 mm DI Dielectric S12 Color, Black
5041050	MPB30245/4M	Ribbonet 4x5/3.5 mm DI Dielectric S12 Color, Black
5041052	MPB30245/7M	Ribbonet 7x5/3.5 mm DI Dielectric S12 Color, Black
5041043	MPB30245/12M	Ribbonet 12x5/3.5 mm DI Dielectric S12 Color, Black
5041045		
	2/MPB30245/1M	Ribbonet 1x5/3.5 mm DI Dielectric S12 , Red
	2/MPB30245/2M	Ribbonet 2x5/3.5 mm DI Dielectric S12 , Red
	2/MPB30245/4M	Ribbonet 4x5/3.5 mm DI Dielectric S12 , Red
	2/MPB30245/7M	Ribbonet 7x5/3.5 mm DI Dielectric S12 , Red
	2/MPB30245/12M	Ribbonet 12x5/3.5 mm DI Dielectric S12 Color, Red
	4/MPB30245/1M	Ribbonet 1x5/3.5 mm DI Dielectric S12 , Yellow
	4/MPB30245/2M	Ribbonet 2x5/3.5 mm DI Dielectric S12 , Yellow
	4/MPB30245/4M	Ribbonet 4x5/3.5 mm DI Dielectric S12 , Yellow
	4/MPB30245/7M	Ribbonet 7x5/3.5 mm DI Dielectric S12 , Yellow
	4/MPB30245/12M	Ribbonet 12x5/3.5 mm DI Dielectric S12 , Yellow
	5/MPB30245/1M	Ribbonet 1x5/3.5mm DI Dielectric S12 , White
	5/MPB30245/2M	Ribbonet 2x5/3.5mm DI Dielectric S12, White
	5/MPB30245/4M	Ribbonet 4x5/3.5mm DI Dielectric S12 , White
	5/MPB30245/7M	Ribbonet 7x5/3.5mm DI Dielectric S12 , White
	5/MPB30245/12M	Ribbonet 12x5/3.5mm DI Dielectric S12, White
	7/MPB30247/1M	,
		Ribbonet 1x5/3.5mm DI Dielectric S12 , Orange
		Dibbonat 2x5/2 5mm DI Dialastria \$12 Orango
	7/MPB30247/2M	Ribbonet 2x5/3.5mm DI Dielectric S12, Orange
		Ribbonet 2x5/3.5mm DI Dielectric S12 , Orange Ribbonet 4x5/3.5mm DI Dielectric S12 , Orange Ribbonet 7x5/3.5mm DI Dielectric S12 , Orange

#### Microducts, Indoor, High Grade or UL Riser

Microducts with a sheath made of halogen-free, flame-retardant material. The ducts are also available in a UL Riser rated series. The microducts have a solid, low-friction inner surface coating for best installation performance. There is also a single microduct available with an extra protection sheath for mounting directly onto walls with cable clamps. **TYPE:** Indoor Installation, High Grade, IEC 60332-3-24 or UL 1666 OFNR **DIMENSIONS, MICRODUCTS:** Ø 5/3.5 mm **CAPACITY:** 1, 2, 4, 7, 12, 19, 24-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Microducts for Inc	loor Installation - High Grad	le IEC 60332-3-24
5040298	MPB30201/1	Microduct, single indoors with extra protection. Outer diameter 6mm. Halogen-free
5040007	MPB30202/1	Microduct, consisting of 1-microduct, single indoors. Halogen-free
5040008	MPB30203/4	Multiducts, consisting of 4 microducts, Indoors. Halogen-free
5040009	MPB30204/7	Multiducts, consisting of 7 microducts, Indoors. Halogen-free
5040010	MPB30205/12	Multiducts, consisting of 12 microducts, Indoors. Halogen-free
5040011	MPB30206/19	Multiducts, consisting of 19 microducts, Indoors. Halogen-free
5040004	MPB30207/24	Multiducts, consisting of 24 microducts, Indoors. Halogen-fre
Microducts for Inc	loor Installation, UL-1666 R	iser Rated
	MPB30208/1U	Microduct, single indoors. Halogen-free, UL Riser
	MPB30208/2U	Multiducts, consisting of 2 microducts, Indoors. Halogen-free, UL Riser
	MPB30208/4U	Multiducts, consisting of 4 microducts, Indoors. Halogen-free, UL Riser
	MPB30208/7U	Multiducts, consisting of 7 microducts, Indoors. Halogen-free, UL Riser
	MPB30208/12U	Multiducts, consisting of 12 microducts, Indoors. Halogen-free, UL Riser

#### **Microducts for Indoor Installation, Standard Grade**

Microducts with a sheath made of halogen-free, flame-retardant material with Standard Grade classification for installations with normal fire requirements.

E-NO. PRODUCT NO. PRODUCT NAME

TYPE: Indoor installation, Standard Grade, IEC 60332-1 DIMENSIONS, MICRODUCTS: 5/3.5 mm CAPACITY: 1, 2, 4, 7, 12, 19, 24-way



5041025	MPB30209/2	Multiducts, consisting of 2 microducts, Indoors. Halogen-free
5040484	MPB30209/4	Multiducts, consisting of 4 microducts, Indoors. Halogen-free
5040485	MPB30209/7	Multiducts, consisting of 7 microducts, Indoors. Halogen-free
5040486	MPB30209/12	Multiducts, consisting of 12 microducts, Indoors. Halogen-free
5040487	MPB30209/19	Multiducts, consisting of 19 microducts, Indoors. Halogen-free
5040488	MPB30209/24	Multiducts, consisting of 24 microducts, Indoors. Halogen-free

#### Nano-ducts Microducts for Indoor Installation, Standard Grade

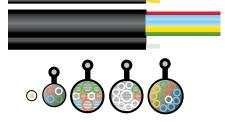
Microducts with a sheath made of halogen-free, flame-retardant material with Standard Grade classification for installations with normal fire requirements. These ducts are made of ultra-slim 3 mm microducts that enable easier installation in narrow shafts and is the preferred option for most multi dwelling units. TYPE: 3 mm, Indoor installation, Standard Grade, IEC 60332-1 DIMENSIONS, MICRODUCTS: 3/2 mm CAPACITY: 1, 7, 12-way



E-NO.	PRODUCT NO.	PRODUCT NAME
5040550	MPB30243/01	Ribbonet 1x3.0/2.1 mm Outdoor,unsheathed
5040551	MPB30243/1	Ribbonet 1x3/2.1 mm Indoor std Grade
5040552	MPB30243/7	Ribbonet 7x3/2.1 mm Indoor std Grade
5040553	MPB30243/12	Ribbonet 12x3/2.1 mm Indoor std Grade

#### **Protected Microducts, Aerial**

Microducts for aerial installation on poles that are self-supporting, non-metallic and lightweight to ensure quick and easy installation. The tubes include a stabilized sheath to resist the aging effects of UV radiation. The ducts are part of the Hexatronic's Aerial Air Blown Fiber System and include both 5 mm and 10 mm ducts. TYPE: Aerial Installation DIMENSIONS, MICRODUCTS: 5/3.5 mm and 10/8 mm CAPACITY: 1, 4, 12, 8+2, 19, 9+1-way



E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Color Code	)	
5040400	MPB30222/1	Microduct for aerial installation self supporting, single tube
5041028	MPB30222/4	Multiduct, square profile, self supporting, of 4 microducts aerial
5040401	MPB30224/4	Multiduct of figure-8 type self supporting, of 4 microducts aerial
5040402	MPB30224/12	Multiduct of figure-8 type self supporting, of 12 microducts aerial
5040403	MPB30225/8	Multiduct of figure-8 type self supporting, of 2x10/8 mm and 8x5/3,5 mm aerial
5040404	MPB30225/9	Multiduct of figure-8 type self supporting, of 1x10/8 mm and 9x5/3,5 mm aerial
S12 Color Code		
5041027	MPB30222/1M	Microduct for aerial installation self supporting, single tube S12
5041029	MPB30222/4M	Multiduct, square profile, self supporting, of 4 microducts aerial S12
5041031	MPB30224/4M	Multiduct of figure-8 type self supporting, of 4 microducts aerial S12
5041030	MPB30224/12M	Multiduct of figure-8 type self supporting, of 12 microducts aerial S12
5041032	MPB30225/8M	Multiduct of figure-8 type self supporting, of 2x10/8 mm and 8x5/3,5 mm aerial S12
5041033	MPB30225/9M	Multiduct of figure-8 type self supporting, of 1x10/8 mm and 9x5/3,5 mm aerial S12

#### **Thick Walled Microduct Assemblies**

These thick walled ducts are made of 7/3.5 mm microducts. Compared to conventional tight protected duct assemblies, thick walled microducts offer lower splicing and branching cost.

**TYPE:** Direct buried installation or installation in existing pipes

**DIMENSIONS, MICRODUCTS:** Ø 7/3.5 mm **CAPACITY:** 1, 2, 4, 7, 12, 19, 24-way



E-NO.	PRODUCT NO.	PRODUCT NAME
S12 Color Code		
5040510	MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12 , Orange
5040511	MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12 , Orange
5040512	MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12 , Orange
5041171	1/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12 , Green
5041109	1/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, Green
5041172	1/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12 , Green
5041125	2/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12, Red
5041126	2/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, Red
5041127	2/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12 , Red
5041173	3/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12, Blue
5041175	3/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, Blue
5041179	3/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12 , Blue
5041141	4/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12, Yellow
5041142	4/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, Yellow
5041143	4/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12, Yellow
5041149	5/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12, White
5041150	5/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, White
5041151	5/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12, White
5041182	6/MPB30278/4M	TWD 4x7/3,5mm Ribbonet S12, Violet
5041152	6/MPB30278/7M	TWD 7x7/3,5mm Ribbonet S12, Violet
5041183	6/MPB30278/12M	TWD 12x7/3,5mm Ribbonet S12, Violet
5041196	3/MPB30281/2M	
5041190	3/MPB30277/4M	TWD 2x14/10mm S12, Blue TWD 4x14/10mm Micronet S12, Blue
5041198	3/MPB30277/7M	TWD 7x14/10mm Micronet S12, Blue
3041130		· · · · · ·
	MPB30279/14M	TWD 2x14/10mm+12x7/3,5mm Hybrid, Orange
Skanova Sheath Mar		
	MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova , Orange
	MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova , Orange
	MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova , Orange
	1/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova , Green
	1/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, Green
	1/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova , Green
	2/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova, Red
	2/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, Red
	2/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova , Red
	3/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova, Blue
	3/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, Blue
	3/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova , Blue
	4/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova, Yellow
	4/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, Yellow
	4/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova, Yellow
	5/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova, White
	5/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, White
	5/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova, White
	6/MPB30278/4S	TWD 4x7/3,5mm Ribbonet Skanova, Violet
	6/MPB30278/7S	TWD 7x7/3,5mm Ribbonet Skanova, Violet
	6/MPB30278/12S	TWD 12x7/3,5mm Ribbonet Skanova, Violet

E-NO.	PRODUCT NO.	PRODUCT NAME
Special Application	ons (Available on Request)	
5040508	MPB30278/1	TWD 1x7/3,5mm Sheathed, Orange
5040509	MPB30278/2	TWD 2x7/3,5mm, Orange
5040513	MPB30278/19	TWD 19x7/3,5mm, Orange
5040514	MPB30278/24	TWD 24x7/3,5mm, Orange
5040500	MPB30280/12	TWD 12x7/3,5mm, Orange
5040503	MPB30282/13	TWD 1x14/10mm+12x7/3,5mm Microtrench, Orange
5040504	MPB30282/14	TWD 2x14/10mm+12x7/3,5mm Microtrench, Orange
5040505	MPB30279/14	TWD 2x14/10mm+12x7/3,5mm Hybrid, Orange
5040506	MPB30279/25	TWD 1x14/10mm+24x7/3,5mm Hybrid, Orange
5040507	MPB30279/26	TWD 2x14/10mm+24x7/3,5mm Hybrid, Orange
-	MPB30286/1	TWD 1x7/3,5mm Tracer, Orange
-	MPB30286/2	TWD 2x7/3,5mm Tracer, Orange
-	MPB30286/4	TWD 4x7/3,5mm Tracer, Orange
-	MPB30286/7	TWD 7x7/3,5mm Tracer, Orange
-	MPB30286/12	TWD 12x7/3,5mm Tracer, Orange
-	MPB30286/19	TWD 19x7/3,5mm Tracer, Orange
-	MPB30286/24	TWD 24x7/3,5mm Tracer, Orange
-	MPB30287/14	TWD2x14/10mm+12x7/3,5mm Tracer, Orange
-	MPB30287/25	TWD1x14/10mm+24x7/3,5mm Tracer, Orange
-	MPB30287/26	TWD2x14/10mm+24x7/3,5mm Tracer, Orange
-	MPB30288/12	TWD 12x7/3,5mm M-trench Tracer, Orange
-	MPB30289/13	TWD1x14/10mm+12x7/3,5mm Tracer, Orange
-	MPB30289/14	TWD2x14/10mm+12x7/3,5mm Tracer, Orange

#### **Thick Walled Microducts**

Thick walled microducts,7/3.5 mm to be used in combination with thick walled microduct assemblies.

**TYPE:** Direct buried installation or installation in existing pipes **DIMENSIONS, MICRODUCTS:** Ø 7/3.5 mm

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E-NO.	PRODUCT NO.	PRODUCT NAME	
Microducts			
5041068	MPB30284/0G	TWD 1x7/3,5mm Singeltube, Orange	
5041074	MPB30284/YE	TWD 1x7/3,5mm Singeltube, Yellow	
5041072	MPB30284/WH	TWD 1x7/3,5mm Singeltube, White	
5041070	MPB30284/RD	TWD 1x7/3,5mm Singeltube, Red	
5041065	MPB30284/BU	TWD 1x7/3,5mm Singeltube, Blue	
5041066	MPB30284/GN	TWD 1x7/3,5mm Singeltube, Green	
5041073	MPB30284/VT	TWD 1x7/3,5mm Singeltube, Violet	
5041064	MPB30284/BN	TWD 1x7/3,5mm Singeltube, Brown	
5041071	MPB30284/TQ	TWD 1x7/3,5mm Singeltube, Turquoise	
5041067	MPB30284/GY	TWD 1x7/3,5mm Singeltube, Grey	
5041069	MPB30284/PK	TWD 1x7/3,5mm Singeltube, Pink	
5041063	MPB30284/BK	TWD 1x7/3,5mm Singeltube, Black	

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### **DUCT JOINTS AND OTHER DUCT EQUIPMENT**

#### **Straight Connector**

Microduct snap-in connectors for quick and easy splicing of microducts. The body is transparent for easy fault location during installation. The connector is available for 5/3.5 mm and 3/2 mm ducts.

TYPE: Straight connector, Slim DIMENSIONS, MICRODUCTS: Ø 5/3.5 mm or 3/2 mm



 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 5040580
 MPB30601/32
 100xConnector, 3/2 mm Slim

 5040887
 MPB30601/132
 100xConnector, 5/3.5 mm Slim

#### **Straight Connector for Thick Walled Ducts**

Microduct snap-in connectors for quick and easy splicing of microducts. The connector is available for 7/3.5 mm ducts and can be direct buried. It is equipped with safety locks for unaccidental opening during installation.

**TYPE:** Straight connector **DIMENSIONS, MICRODUCTS:** Ø 7/3.5 mm

TYPE: Gas block straight connector

DIMENSIONS, MICRODUCTS: 5/3.5 mm

**E-NO. PRODUCT NO.** 5040518 MPB30605/72

100xConnector,7/3.5 mm DB

PRODUCT NAME

#### **Gas Block Connector 5 mm**

The gas block microduct snap-in connector is normally used between indoor and outdoor environments to prevent air flow that may result in condensed water getting into in ducts. After cable installation, the connector can be gas sealed by turning a ring on the body.

E-NO.	PRODUCT NO.	PRODUCT NAME
5040353	MPB30602/1	100xGas Block Connector 5/3.5 mm 1.0 - 1.6 mm



#### **Gas Block Connector 7 mm**

The gas block microduct snap-in connector is normally used between indoor and outdoor environments to prevent air flow that may result in condensed water getting into in ducts. After cable installation, the connector can be gas sealed by Pushing the connector ends together. This version is intended for 7 mm thick walled ducts.

E-NO.	PRODUCT NO.	PRODUCT NAME
5040913	MPB30607/72	100xGas Block Connector 7/3.5 mm 1.0 - 1.6 mm

**TYPE:** Gas block straight connector **DIMENSIONS, MICRODUCTS:** 7/3.5 mm



#### **End stop Connector**

Microduct snap-in end stop connectors for permanent or temporarily sealing of unused microducts to prevent water and dust from getting into the duct. TYPE: End stop DIMENSIONS, MICRODUCTS: Ø 5/3.5 mm



 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 5040993
 SXA1139137/132
 100xMicroduct End Stop, 5 mm Easy Connect

#### **End Stop Connector for Thick Walled Ducts**

Microduct snap-in, end-stop connectors for permanent or temporarily sealing of unused microducts to prevent water and dust getting into the duct. This type is intended for thick walled ducts. TYPE: End stop for TWD DIMENSIONS, MICRODUCTS: Ø 7/3.5 mm

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 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 5040905
 MPB30606/72
 100xEndstop Connector, 7 mm DB

#### **Divisible Seals**

E-NO.

5040725

5040726

The divisible seals for microducts provide a gas and watertight seal for open duct ends installed with air blown fiber. The seals are designed to be installed after the fiber or cable has been blown in to the microduct.

PRODUCT NO.

MPB30608/5A1

MPB30608/5B1

**TYPE:** Divisible seal for micro cables **DIMENSIONS, MICRODUCTS:** Ø 5/3.5 or 7/3.5 mm



5040727	MPB30608/7A1	500x7 mm Miniduct Seal 1.0-1.40 mm
5040728	MPB30608/7B1	500x7 mm Miniduct Seal 2.1-2.5 mm

PRODUCT NAME

500x5 mm Miniduct Seal 1.0-1.40 mm

500x5 mm Miniduct Seal 2.1-2.5 mm

#### **Microduct End Caps**

End caps for microducts to prevent dirt and moisture entering the tubes. The end cap also locks the installed fiber to prevent it from moving in the tube. End caps should be used for all open ends in 5 mm microduct installations. The end cap is made of rubber and has a slit that allows the fiber unit to pass through.

DIMENSIONS, MICRODUCTS: Ø 5/3.5 mm

TYPE: End cap with strain relief



 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 5040876
 NDK12103
 100xMicroduct End Caps, Strain Relief, 5 mm

#### **Duct Joint Closure**

A series of straight duct closures for maximum protection of duct joints for direct buried applications. Heat shrink technology is used for maximum protection. The closure is available in five different sizes and includes microduct snap-in connectors for 1 to 24 microducts. TYPE: Heat shrink, straight joint SEALING: IP class 68 CAPACITY: 1 to 24 microducts

E-NO.	PRODUCT NO.	PRODUCT NAME
5040372	NDE45115/4	Straight jointing kit for micronet ducts (1 duct)
5040373	NDE45115/5	Straight jointing kit for micronet ducts (4 duct)
5040374	NDE45115/6	Straight jointing kit for micronet ducts (7 duct)



#### **Duct Joint Closure**

E-NO.

5084249

5040914

5084256

5084257

5084263

5084266

5084269

5040915

E-NO. 5040029

5040030

A series of straight duct closures for quick and easy installation without the need for heat. The closure is available in several sizes. Microduct snap-in connectors are not included.

PRODUCT NAME

10xStraight Joint 8-12.5 mm

10xStraight Joint 14.9-18 mm

10xStraight Joint 26.5-29 mm

10xStraight Joint 19-24 mm

10xStraight Joint 31-33 mm

10xStraight Joint 36.7-40 mm

10xStraight Joint 44-46 mm

10xStraight Joint 40-41 mm

PRODUCT NAME

PRODUCT NO.

NDE45125/111

NDE45125/131

NDE45125/141

NDE45125/151

NDE45125/161

NDE45125/171

NDE45125/181

NDE45125/191

**TYPE:** Cold seal, re-enterable straight joint **SEALING:** IP class 68 **CAPACITY:** 1 to 26 microducts



<b>Duct Joint and Branch Kit</b>
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Flexible kit including materials and tools for jointing, branching and mid-span of microducts/multiducts. A vulcanizing cloth is used for sealing, and strong and flexible PVC tape provides mechanical protection. Microduct snap-in connectors are not included. NDE 451 40/2 is a kit without tools. **TYPE:** Cold seal, branch joint **SEALING:** IP class 68 **CAPACITY:** Approx. 10 joints/kit

Joint kit for ducts with tool kit and material for 10 pcs of joints

Joint kit for 10 pcs of joints (without tools)

Pulkdak	

#### **Duct Branch Closure - Compact**

PRODUCT NO.

NDE45140/1

NDE45140/2

The closure is intended for fast and easy branching of direct buried microduct assemblies for air-blown fiber. The typical application is to branch out 1 to 4 drop ducts to connect single family units from a main duct assembly. The closure is intended for mounting directly into the ground or in manholes, but can also be installed above ground.

E-NO.	PRODUCT NO.	PRODUCT NAME
5040497	3/NDE451200	Duct branch off closure, small

#### **Duct Branch Closure - High Capacity**

Branch joint closure suitable for multiducts in direct buried applications. It can be used for a large number of duct branches. The box has alternative entrances, allowing a large number of possible joint combinations, as well as mid-span access.

PRODUCT NO.

**TYPE:** Cold seal, re-enterable branch closure **SEALING:** IP class 68 **CAPACITY:** 1-24 way ducts, up to 4x1-way branch off



TYPE: Cold seal, re-enterable branch joint SEALING: IP class 68 CAPACITY: 1-24 way ducts, up to 12x1-way branch off



 5040351
 NDE451100
 Duct branch off closure, Universal configuration

 5040352
 NDE451100/1
 Duct branch off closure, Modular 12 configuration

PRODUCT NAME

#### **Duct Branch Closure, Gel**

E-NO.

Easy-to-use fast to install closure, intended for Hexatronic's Aerial Air Blown Fiber System, and for underground branching of ducts. The closure uses "gel-seal" technology for quick and safe installation.

PRODUCT NO.	PRODUCT NAME
NDE45122/3	12xDuct Joint 350 mm

TYPE: Cold seal, re-enterable branch joint for<br/>aerial or underground applicationsSEALING: IP class 67CAPACITY: Up to 4x1-way branch off



#### **End Caps**

Rubber covers used for temporarily sealing of unused multiducts to avoid water and dust from getting into the ducts. The caps are available in several versions for different types of ducts. TYPE: Rubber end caps

E-NO.	PRODUCT NO.	PRODUCT NAME
5040177	SRS10617/01	100xEnd Sleeve for 10-16 mm
5040178	SRS10617/02	100xEnd Sleeve for 15-21 mm
5040179	SRS10617/03	50xEnd sleeve for 21-29 mm
5040180	SRS10617/04	20xEnd Sleeve for 29-38 mm
5040992	SRS10617/05	10xEnd Sleeve for 38-45 mm



#### **Anchoring Clamp**

Designed for ducts with a Fiber Reinforced Plastic (FRP) messenger figure-8 shaped duct assembly. The 701 can also be mounted directly on aerial drop ducts.

**TYPE:** Anchoring Clamp **CAPACITY:** (601) 8-10 mm FRP or (701) 6-8 mm FRP or reinforced duct

E-NO.	PRODUCT NO.	PRODUCT NAME
5060042	NSF151601	Anchoring Clamp For FRP messenger figure-8 fiber
5060044	NSF151701	Anchoring Clamp For FRP messenger figure-8 or self supporting single duct

PRODUCT NAME

Suspension Clamp for figure-8 cable

#### **Suspension Clamp**

Designed for ducts with a Fiber Reinforced Plastic (FRP) messenger figure-8 shaped duct assembly.

 E-NO.
 PRODUCT NO.

 5040893
 NSF151502

I

TYPE: Suspension Clamp

CAPACITY: 7-11 mm FRP



#### **Hook for Suspension Clamp**

This hook is designed for the NSF 151 502 suspension clamp and enables a secure fastening of the clamp when mounted on wooden poles..

**TYPE:** Hook for suspension clamp, pole mounted

E-NO.	PRODUCT NO.	PRODUCT NAME
5040892	NSF151100	Hook for suspension clamp

#### **Universal Pole Bracket**

Designed for securing cable or ducts on wooden, concrete or metallic poles.

E-NO.	PRODUCT NO.	PRODUCT NAME
5060041	NSF151611	Univesal Pole Bracket, for all types of poles







#### FIBER ACCESS TERMINALS AND FIBER TERMINATION BOXES

Fiber Access Terminals (FAT) are designed for Ribbonet<sup>®</sup> Air Blown Fiber and for changeover from fibers emerging from microducts or drop cables to all types of fiber optic distribution cables. The FATs consist of jointing cabinets and joint closures that are designed for easy access and good protection of fibers. Products for direct splicing of distribution and drop cabling sections as well as closure with connection panels are available.

#### **FAT Fiber Jointing Cabinet**

Small sized cabinet intended for fiber splicing and termination of up to 48 microducts (subscribers) or drop cables. The supplied fiber organizers can typically handle up to 96 fibers.

TYPE: Indoor cabinet, 19", ETSI or wall mount SIZE: 350x300x120 mm SEALING: IP class 45 CAPACITY: 96 splices, 48 microducts

E-NO.	PRODUCT NO.	PRODUCT NAME
5040031	NCD5188002	Fiber Jointing Cabinet for up to 48 microducts

#### **FAT Fiber Jointing Cabinet**

#### **FAT Fiber Jointing Cabinet**

Large cabinet suitable for fiber splicing and termination of up to 192 microducts (5 mm) or drop cables. The supplied fiber organizers can typically handle up to 384 fibers. TYPE: Indoor cabinet, 19", ETSI or wall mount size: 440x600x220 mm sealing: IP class 45 capacity: 384 splices, 192 microducts

E-NO.	PRODUCT NO.	PRODUCT NAME
5040033	NCD5188003	Fiber Jointing Cabinet for up to 192 microducts, wall mounting or 19* rack

#### **FAT Fiber Jointing Cabinet**

This is a medium sized cabinet for both traditional 5 mm microducts and 7 mm thick walled ducts. The closure is intended for mounting inside an outer protective cabinet or for indoor use.

TYPE: Indoor or protected outdoor use,
wall mount
<b>SIZE:</b> 289x493x140 mm
CAPACITY: 96 (single)/192 (ribbon) splices
96 microducts

	90 microducts
PRODUCT NO.	PRODUCT NAME
NCD5188006	Fiber jointing cabinet for up to 96 microducts, for cabinet or wall mounting



E-NO. 5060070

#### Fiber Access Terminal, Indoor or Outdoor

FATs for indoor or outdoor applications with up to 24 end-user connections. It can handle air-blown fiber in microducts, micro cables as well as drop cables and other fiber optic cables. It can also be used as a fiber optic splice box for various applications.

TYPE: Indoor closure, wall mount. Outdoor closure, wall or pole mount SIZE: 368x275x114 mm SEALING: (indoor) IP class 54, (outdoor) IP class 56 CAPACITY: 24 connectors (SC)



E-NO.	PRODUCT NO.	PRODUCT NAME
5060060	1/NCD507200/1	FAT Indoor excluding adapters
5060061	1/NCD507200/2	FAT Indoor with 24 SC/APC adapters
5060062	2/NCD507200/1	FAT Outdoor excluding adapters
5060063	2/NCD507200/2	FAT Outdoor with 24 SC/APC adapters

#### **Fiber Access Terminal, Indoor**

FAT for indoor applications with up to 96 end-user connections. It can handle air-blown fiber in microducts, micro cables as well as drop cables and other fiber optic cables. It can also be used as a fiber optic splice box for various applications. TYPE: Indoor closure, wall mount. Outdoor closure, wall or pole mount SIZE: 500x76x182 mm SEALING: IP class 54 CAPACITY: 96 connectors (SC)

size: 430x250x860 mm (above ground)

CAPACITY: 96 (single)/192 (ribbon) splices,

TYPE: Outdoor cabinet

**SEALING:** IP class 54

96 microducts



PRODUCT NO.	PRODUCT NAME
NCD507201/1	FAT 96B with keylock

#### **FAT Fiber Jointing Cabinet**

Outdoor street cabinet designed for blown fiber or cable splicing. It consists of an outer cabinet and an inner splicing compartment. The cabinet is made of aluminum. The cabinet can be used with traditional microducts, thick walled ducts or any type of fiber optic cables.

E-NO.	PRODUCT NO.	PRODUCT NAME
5084141	NBD116501	Outdoor cabinet, Midi, Slim, for up to 96 subscribers



#### **Fiber Joint Closure - High Capacity**

This compact, high capacity joint closure handles up to 576 fiber splices. The closure is designed for outdoor underground installation in manholes but can also be mounted above ground on poles or inside pedestals. The closure can handle air-blown fibers in microducts, micro cables and traditional cable. TYPE: Outdoor, underground use SEALING: IP class 68 CAPACITY: 576 splices DIMENSIONS: 520x280 mm

E-NO.	PRODUCT NO.	PRODUCT NAME
5060283	NCD507550	Fiber Joint Closure 576
	NSD515201	Swing-up arm for NCD507500/550
	NDM11016/1	10 x Round Micro cable cable entrance
	NDM11017/1	5 x Oval Micro cable entrance kit
	NDM11018/1	10 x Round Microducts entrance



#### **Fiber/Duct Joint Closure**

Plastic joint closure for outdoor, direct buried installations. The closure is designed for outdoor, underground installation in manholes. It can handle air-blown fibers in microducts, micro cables as well as traditional cables. TYPE: Outdoor, plastic closure for cables and microducts CAPACITY: 96 (single)/192 (ribbon) splices, 24 microducts SIZE: 342x262x140 mm SEALING: IP class 68



E-NO.	PRODUCT NO.	PRODUCT NAME
5060065	NCD5045202	Cable/Duct Joint Closure, closed inlets
5060066	NCD5046202	Cable/Duct Joint Closure, single cable inlet open
5060067	NCD5047202	Cable/Duct Joint Closure, multi cable inlet open
5060068	NCD5048202	Cable/Duct Joint Closure, all inlets open

#### **Fiber Termination Box**

The fiber termination box (FTB) designed for termination of fibers outside premises in FTTx applications. The box terminates and protects fiber or duct connections for the final drop cabling. It can also be used as a multi-purpose outdoor fiber optic wall outlet. The box is suitable for both air blown fiber installations and drop cables. TYPE: FTTH Fiber Optic Termination Box, Outdoor/indoor use DIMENSIONS: 190x130x45 mm SEALING: IP class 54 CAPACITY: 4xSC, 4xLC TYPE: Outdoor plastic closure for cables and microducts



E-NO.	PRODUCT NO.	PRODUCT NAME
5060064	5/NEG203200	Fiber Termination Box, Indoor/Outdoor for up to 2xSC Duplex cut-out

### **INSTALLATION TOOLS AND ACCESSORIES**

#### Air Blown Fiber (ABF) Installation Tool

The Air Blown Fiber Installation Tool is used for the installation of Air Blown Fibers into microducts. This unique, easy-to-handle and lightweight tool is designed for optimal performance in combination with all available fiber units and microducts in the Ribbonet® Air Blown Fiber System. The tool uses both compressed air and an electric motor to feed the fiber. An adjustable magnetic coupling limits feeding force on fiber to avoid damage in case of a sudden stop. The motor speed and direction is controlled by a trigger switch on the handle.

The tool is delivered with a case including nozzles for 3/2 mm, 5/3.5 mm and 7/3.5 mm microducts.

E-NO.	PRODUCT NO.	PRODUCT NAME
1623603	LTT1792011	ABF Blowing Tool

**TYPE:** Air blown fiber (ABF) installation **SUPPORTED PRODUCTS:** Hexatronic ABF 2 - 12 fiber, 3 - 7 mm microducts **CAPACITY:** ≤150 m/min



#### **Blowing Beads**

Beads that can be mounted on the tip of the air blown fiber unit for optimal blowing. This is recommended for long installation distances with many duct connectors or sharp bends. The beads come in two different sizes to suit the different blown fiber units.

E-NO.	PRODUCT NO.	PRODUCT NAME
5040890	NTK102245/1	100xBlowing Beads, 1-4f
5040891	NTK102245/2	100xBlowing Beads, 8-12f

#### **Cleaning Sponges**

Cleaning sponges are used when cleaning dust or moisture from a microduct. The sponge is simply blown through the microduct by the air pressure from the installation tool. **TYPE:** Cleaning sponge for 5/3,5 mm ducts

TYPE: Blowing bead for air blown fiber, 1 - 4f

or 12f versions



E-NO.	PRODUCT NO.	PRODUCT NAME
5040291	NTM50207	100xCleaning Sponges 3.5 mm
5040896	NTM50207/1	100xCleaning Sponges 10 mm
5040897	NTM50207/2	100xCleaning Sponges 8 mm

#### **Duct Sheath Cutter**

Used for quick and easy removal of any sheath from multiducts, this is an excellent tool for performing mid-span access on ducts.

**TYPE:** Sheath cutter for microduct assemblies **CAPACITY:** 1-26-way Ribbonet<sup>®</sup> 1 - 7-way Micronet

E-NO.	PRODUCT NO.	PRODUCT NAME
1649216	LDK19502	Sheath cutter for multiduct and midspann access



#### **Double Sheath Cutter**

Cutter to use when dismantling the outer sheath of a double-sheathed HDPE multiduct (direct buried).

**TYPE:** Sheath cutter for microduct assemblies **CAPACITY:** 1-26-way Ribbonet<sup>®</sup> 1 - 7-way Micronet



 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 1649217
 LDK19501
 Double sheath cutter for microduct assemblies

#### **Single Sheath Cutter**

A small and single-sheath	handy tool primar ed ducts.	ily for removing	TYPE: Single sheath cutte
E-NO.	PRODUCT NO.	PRODUCT NAME	
1649690	LDK1951	Sheath cutter for mu	tiduct, small

TYPE: Micro cable sheath cutter

#### **Micro Cable Sheath Cutter**

Used for removal of the sheath on micro cables. The tool is delivered with three straight and one round blade. Cutting depth is adjustable.

E-NO.	PRODUCT NO.	PRODUCT NAME
1649218	LDK19503	Sheath cutter for micro cable

#### **Microduct Cutter**

Provides a clean and straight cut necessary to perform a smooth duct splice prior to the mounting of microduct snap-in connectors.

E-NO.	PRODUCT NO.	PRODUCT NAME
1649028	LDK20803	Microduct cutter 3-12 mm
	LDK19501/03	Microduct cutter, pliers 3-20 mm

PRODUCT NAME

Toolkit microduct, TKM200, with box

TYPE: ABF stripper

#### **Toolkit for Microducts**

The toolkit contains all necessary tools for removal of sheath on microduct assemblies as well as for cutting assemblies and microducts. Included in the kit is also a pair of pliers for removal of duct connectors. The tools are delivered in a protective hard case.

PRODUCT NO.

LTT179003

TYPE: Toolkit for preparation of microducts and microduct assemblies

#### **ABF Stripping Scissors**

E-NO.

1649025

Used for removal of the acrylate coating on air blown fiber (ABF). The scissors are also a handy tool for various applications.

 PRODUCT NO.
 PRODUCT NAME

 LDK1951/07
 ABF Scissors





TYPE:	Microduct cutter

#### **DROP CABLES**

Designed for quick and easy installation Hexatronic's Drop Cables connect end users in FTTx networks to a nearby Fiber Access Terminal. Drop cables are usually a good choice for shorter distances and where there is easy access for the cable installation. To facilitate installation and minimize attenuation when cable is installed around sharp corners, all Hexatronic's drop cables are based on extra bend resistant G657A2 fiber. The fiber is compatible with standard G652D fiber used in feeder and distribution cables.

#### **Drop Cable for Indoor and Outdoor Use**

Halogen-free, flame-retardant drop cables with tight secondary coated fiber for quick and easy splicing and fitting of connectors. The cable is designed with G657A2 extra high bend-resistant fiber and a robust design to facilitate mounting with brackets directly on the wall. The cable has a flame retardant and UV protected sheath and is suitable for both indoor and outdoor use.

TYPE: Indoor and outdoor use, HFFR, IEC60332-3 CAPACITY: 1 - 4 fibers DIAMETER: 4.8mm to be used with cable clamps FIBER TYPE: G657A2

TYPE: Indoor use, HFFR, IEC60332-3

FIBER TYPE: G657A2 (G652D compatible)

TYPE: Indoor use, HFFR, IEC60332-3

FIBER TYPE: G657A2 (G652D compatible)

**CAPACITY:** 1 - 4 fibers

DIAMETER: 4.8 mm

**CAPACITY:** 1 fiber

DIAMETER: 2.9 mm

E-NO.	PRODUCT NO.	PRODUCT NAME
4979680	TOL4063007/1A	Drop Cable, Indoor/Outdoor, 4.8 mm HFFR, Tight sec, G657A2, 1-fiber
4979690	TOL4063007/2A	Drop Cable, Indoor/Outdoor, 4.8 mm HFFR, Tight sec, G657A2, 2-fiber
4979700	TOL4063007/4A	Drop Cable, Indoor/Outdoor, 4.8 mm HFFR, Tight sec, G657A2, 4-fiber

#### **Drop Cable, Indoor**

Halogen-free, flame-retardant drop cable for FTTx applications. The cable is used for both vertical (riser) and horizontal installations in buildings. To facilitate installation, G657A2 extra high bendresistant fiber is used.

E-NO.	PRODUCT NO.	PRODUCT NAME
4979650	T0L4063006/1A	GNGQQBDU 1x10/125
4979660	T0L4063006/2A	GNGQQBDU 2x10/125
4979670	T0L4063006/4A	GNGQQBDU 4x10/125

#### **Drop Cable, Indoor**

Extra slim drop cable with excellent bend-performance, for indoor installations in cable chutes or directly on the wall with cable clamps. Fits easily to standard connectors bend protection.

E-NO.	PRODUCT NO.	PRODUCT NAME
4979710	TOL4063005/1A	Drop Cable, Indoor, 2.8 mm HFFR, Tight sec, G657B, 1-fiber

#### **Drop Cable, Outdoor, Duct or Direct Buried**

Durable loose tube drop cable for outdoor installation in ducts or direct-buried applications. Two fiber reinforced glass rods guarantee highest crush performance. The cable is longitudinally water blocked. **TYPE:** Duct or direct-buried **CAPACITY:** 1 - 12 fibers **DIAMETER:** 6.1x3.3 mm **FIBER TYPE:** G657A2

E-NO.	PRODUCT NO.	PRODUCT NAME
4979780	TOL4069001/1A	Drop Cable, Outdoor, 6.1x3.3 mm Loose tube, G657A2, 1-fiber
4979790	TOL4069001/2A	Drop Cable, Outdoor, 6.1x3.3 mm Loose tube, G657A2, 2-fiber
4979800	TOL4069001/4A	Drop Cable, Outdoor, 6.1x3.3 mm Loose tube, G657A2, 4-fiber
4979820	TOL4069001/12A	Drop Cable, Outdoor, 6.1x3.3 mm Loose tube, G657A2, 12-fiber



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#### Drop Cable, Aerial

Self-supporting figure-8 drop cable with loose tube design for aerial installation.

TYPE: Aerial figure-8 CAPACITY: 1 - 12 fibers DIAMETER: 4x8 mm FIBER TYPE: G657A2



E-NO.	PRODUCT NO.	PRODUCT NAME
4988300	TOL4069002/1A	Aerial drop cable for outdoor use, 2 G 657. A2
4988310	T0L4069002/2A	Aerial drop cable for outdoor use, 2 G 657. A2
4988320	TOL4069002/4A	Aerial drop cable for outdoor use, 4 G 657. A2
4988330	T0L4069002/8A	Aerial drop cable for outdoor use, 8 G 657. A2
4988290	TOL4069002/12A	Aerial drop cable for outdoor use, 12 G 657. A2

## FIBER TRANSPORT NETWORK

Fiber optic cables for trunk networks. The fiber transport site related offering includes a range of fiber optic cables, joint closures and accessories for all kinds of installation environments such as installation in conduits, direct installation in ground as well as aerial installation.

All products have been designed and tested for optimal installation properties, as well as resistance to fire, chemicals and environmental damage.

#### **CABLES FOR DUCT INSTALLATION**

The range of cables for duct installation includes all our five basic designs: concentric core, slotted core, slotted core ribbon, DryTech and ribbon in loose tubes.

The duct installation cables include both metallic and dielectric cables with fiber counts of up to several hundred fibers. The fibers

can be of different types and different types of fiber can be mixed in the same cable. The duct cables can be supplied with aluminum foil as a moisture barrier. Aramid or glass yarn can be added for extra axial pulling strength. Glass yarn or polyamide can be used as protection against rodents.

#### **GRCLDV DryTech**

Slim loose tube cable with concentric core design, with up to six tubes per cable. The cable is all dielectric. DryTech filling compound is used in the cable core.

E-NO.	PRODUCT NO.	PRODUCT NAME
4988130	TOL4012084/12A	GRCLDV 12 G652D
4988150	TOL4012084/36A	GRCLDV 36 G652D
4988140	TOL4012084/24A	GRCLDV 24 G652D
4988160	TOL4012084/48A	GRCLDV 48 G652D
4988140	TOL4012084/24A	GRCLDV 24 G652D

#### **GRCLDV DryTech**

Slim loose tube cable with concentric core design, with up to six tubes per cable. The cable is all dielectric. DryTech filling compound is used in the cable core.

E-NO.	PRODUCT NO.	PRODUCT NAME
4982900	TOL4012098/12A	GRCLDV 12 G652D
4982910	TOL4012098/24A	GRCLDV 24 G652D
4982920	TOL4012098/48A	GRCLDV 48 G652D
4982930	TOL4012098/72A	GRCLDV 72 G652D
4982940	TOL4012098/96A	GRCLDV 96 G652D
4982950	TOL4012098/144A	GRCLDV 144 G652D
4982960	TOL4012098/192A	GRCLDV 192 G652D

DESIGN: Concentric core, extra slim TYPE: Dielectric, DryTech CAPACITY: 12 - 192 fibers DIAMETER: 11 - 18.5 mm

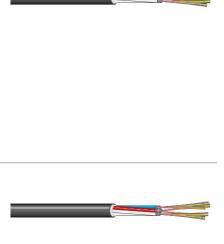
DESIGN: Concentric core, extra slim

TYPE: Dielectric. DrvTech

**CAPACITY:** 1 - 48 fibers

DIAMETER: 10 mm





#### **GRCLDV DryTech**

Loose tube cable with concentric core design, resulting in a cost-effective solution. The cable is all dielectric. DryTech filling compound is used in the cable core. Maximum capacity is 16 tubes with 4-12 fibers in each.

E-NO. PRODUCT NO. PRODUCT NAME 4984810 TOL4012017/8A GRCLDV 8 G652D 4984820 TOL4012017/12A GRCLDV 12 G652D 4984830 TOL4012017/24A GRCLDV 24 G652D 4984840 TOL4012017/36A GRCLDV 36 G652D TOL4012017/48A GRCLDV 48 G652D 4984850 4984860 TOL4012017/72A GRCLDV 72 G652D 4984870 TOL4012017/96A GRCLDV 96 G652D 4984880 TOL4012017/144A GRCLDV 144 G652D 4984890 TOL4012017/192A GRCLDV 192 G652D DESIGN: Concentric core TYPE: Dielectric, DryTech CAPACITY: 2 - 192 fibers DIAMETER: 11 - 23 mm



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GRCALV	<b>DryTech</b>
	2.,

Loose tube cable with concentric core design and aluminum foil, which provides an excellent moisture barrier, making the cable suitable for humid environments. DryTech filling compound is used in the cable core. Maximum capacity is 16 tubes with 12 fibers in each. **DESIGN:** Concentric core **TYPE:** Aluminum barrier, DryTech **CAPACITY:** 2 - 192 fibers

PRODUCT NO.	PRODUCT NAME
T0L4012064/12A	GRCALV 12 G652D
T0L4012064/24A	GRCALV 24 G652D
T0L4012064/36A	GRCALV 36 G652D
T0L4012064/48A	GRCALV 48 G652D
T0L4012064/72A	GRCALV 72 G652D
T0L4012064/96A	GRCALV 96 G652D
T0L4012064/144A	GRCALV 144 G652D
T0L4012064/192A	GRCALV 192 G652D

#### **GRHLDV**

Loose tube cable with concentric core design, resulting in a cost-effective solution. The cable is dielectric, making it suitable for environments with a high risk of electrical interference. Maximum capacity is 12 tubes with 12 fibers in each. **DESIGN:** Concentric core **TYPE:** Dielectric, slim, low weight **CAPACITY:** 2 - 144 fibers

E-NO.	PRODUCT NO.	PRODUCT NAME
	TOL4012012/4A	GRHLDV 4 G652D
	TOL4012012/8A	GRHLDV 8 G652D (2x4f)
4979540	TOL4012012/12A	GRHLDV 12 G652D (3x4f)
4979550	TOL4012012/24A	GRHLDV 24 G652D (6x4f)
4979560	TOL4012012/48A	GRHLDV 48 G652D (6x8f)
	TOL4012012/72A	GRHLDV 72 G652D (6x12f)
4979570	TOL4012012/96A	GRHLDV 96 G652D (8x12f)
4979580	TOL4012012/120A	GRHLDV 120 G652D (10x12f)
4979590	TOL4012012/144A	GRHLDV 144 G652D (12x12f)

#### **GNGQBDU** Drop Cable, Outdoor

Durable loose tube drop cable for outdoor installation in ducts or direct-buried applications. Two fiber reinforced glass rods guarantee highest crush performance.The cable is longitudinally water blocked. TYPE: Duct or direct-buried CAPACITY: 2 - 12 fibers DIAMETER: 6.1x3.3mm FIBER TYPE: G657A2

4979780 TOL4069001/1A Drop Cable, Outdoor, 6.1x3.3mm Loose tube, G657A2, 1-fiber
4979790 TOL4069001/2A Drop Cable, Outdoor, 6.1x3.3mm Loose tube, G657A2, 2-fiber
4979800 TOL4069001/4A Drop Cable, Outdoor, 6.1x3.3mm Loose tube, G657A2, 4-fiber
4979820 T0L4069001/12A Drop Cable, Outdoor, 6.1x3.3mm Loose tube, G657A2, 12-fiber

#### **GNHLDV** Micro Cable

Micro cable based on a slim loose tube design with up to eight tubes per cable. The design facilitates fiber preparation and mid-span access. The cable is suitable for long-distance, air blown installation in microducts, with an inner diameter of as little as 8 mm. The cable has excellent bend performance and extremely wide operational temperature range. DESIGN: Loose tube TYPE: Dielectric, slim DIMENSIONS: Ø5.7 - 8.1 mm CAPACITY: 12 - 192 fibers



NO.	PRODUCT NO.	PRODUCT NAME	E-NO.	PRODUCT NO.	PRODUCT NAME
Standard Color	r Code		S12 Color Code		
4979600	TOL4019017/12A	Micro Cable 12f GNHLDV G652D		TOL4019028/12AH	Micro Cable 12f GNHLDV G652D S12
4979610	TOL4019017/24A	Micro Cable 24f GNHLDV G652D		TOL4019028/24AH	Micro Cable 24f GNHLDV G652D S12
	TOL4019017/36A	Micro Cable 36f GNHLDV G652D		TOL4019028/48AH	Micro Cable 48f GNHLDV G652D S12
4979620	TOL4019017/48A	Micro Cable 48f GNHLDV G652D		TOL4019028/72AH	Micro Cable 72f GNHLDV G652D S12
4979630	TOL4019017/72A	Micro Cable 72f GNHLDV G652D		TOL4019028/96AH	Micro Cable 96f GNHLDV G652D S12
4979640	TOL4019017/96A	Micro Cable 96f GNHLDV G652D		TOL4019028/144AH	Micro Cable 144f GNHLDV G652D S12
4980030	TOL4019017/144A	Micro Cable 144f GNHLDV G652D		TOL4019030/192AH	Micro Cable 192f GNHLDV G652D S12

#### GASLDV

4-fiber ribbon cable using slotted core design. The design reduces installation costs and gives superior fiber protection. The cable is dielectric, making it suitable for installation where there is electrical interference.

DESIGN: Slotted core ribbon TYPE: Dielectric CAPACITY: Ø 9.5 mm 4 - 48 fibers Ø 12.5 mm 4 - 48 fibers Ø 14 mm 48 - 96 fibers

E-NO.	PRODUCT NO.	PRODUCT NAME
14988110	TOL4011013/4A	GASLDV-SLIM 4x10/125
4988120	TOL4011013/8A	GASLDV-SLIM 8x10/125
4984750	TOL4011013/12A	GASLDV-SLIM 12x10/125
4984760	TOL4011013/24A	GASLDV-SLIM 24x10/125
	TOL4011013/36A	GASLDV-SLIM 36x10/125
4984770	TOL4011013/48A	GASLDV-SLIM 48x10/125
4984110	TOL4011001/4A	GASLDV 4x10/125
4982990	T0L4011001/8A	GASLDV 8x10/125
4983000	TOL4011001/12A	GASLDV 12x10/125
4983010	TOL4011001/24A	GASLDV 24x10/125
4983020	T0L4011001/36A	GASLDV 36x10/125
4983030	TOL4011001/48A	GASLDV 48x10/125
	TOL4011001/64A	GASLDV 64x10/125
4983040	TOL4011001/72A	GASLDV 72x10/125
4983050	TOL4011001/96A	GASLDV 96x10/125



#### GASLDV

8-fiber ribbon cable using slotted core design. The design allows high packing density that reduces installation costs and gives superior fiber protection. Water-blocking filling compound in the TOL 401 1002 cable and dry water-blocking tape in the TOL 410 1020 cable prevents water penetration along the cables. The cable is dielectric, making it suitable for installation where there is electrical interference.

DESIGN: Slotted core ribbon TYPE: Dielectric CAPACITY: Ø 15.5 mm 8 - 192 fibers Ø 20 - 22.5 mm 288 - 640 fibers

E-NO.	PRODUCT NO.	PRODUCT NAME
4984120	TOL4011002/144A	GASLDV 144 G652D
4984100	TOL4011002/192A	GASLDV 192 G652D
4979850	TOL4011020/384A	GASLDV 384 G.652.D (24x12f)
4982970	TOL4011020/480A	GASLDV 480 G652D
4982980	TOL4011020/640A	GASLDV 640 G652D

#### GASALV

4-fiber ribbon cable using slotted core design, which reduces installation costs and gives superior fiber protection. The cable uses 4-fiber ribbons. Aluminum foil provides an excellent moisture barrier, making the cable suitable for humid environments. **DESIGN:** Slotted core ribbon **TYPE:** Aluminum barrier **CAPACITY:** 4 - 96 fibers Ø 12 - 14.5 mm

PRODUCT NO.	PRODUCT NAME
TOL4011018/24A	GASALV 24 G652D
TOL4011018/48A	GASALV 48 G652D
TOL4011018/72A	GASALV 72 G652D
TOL4011018/96A	GASALV 96 G652D

#### GASALV

8-fiber ribbon cable with slotted core design, which reduces installation costs and gives superior fiber protection. The cable uses 8-fiber ribbons. Aluminum foil provides an excellent moisture barrier, making the cable suitable for humid environments.

DESIGN: Slotted core ribbon TYPE: Aluminum barrier CAPACITY: 8 - 192 fibers Ø 17 mm

PRODUCT NO	. PRODUCT NAME
TOL4011019	/48A GASALV 48 G652D
T0L4011019	/96A GASALV 96 G652D
TOL4011019	/144A GASALV 144 G652D
T0L4011019	/192A GASALV 192 G652D



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#### **CABLES FOR DIRECT BURIED INSTALLATION**

The range of cables for direct buried installation includes all our five basic designs: concentric core, slotted core, slotted core ribbon, DryTech and ribbon in loose tubes. The cables are reinforced with corrugated steel tape, steel wire, or foamed thermoplastic

elastomer, providing excellent mechanical protection. The range of cables includes both metallic and dielectric cables and covers fiber counts up to several hundred fibers.

#### **GRCLWLV, DryTech**

Slim loose tube cable with concentric core design, a corrugated steel tape layer and a second outer sheath. The corrugated steel tape reinforcement provides good mechanical protection, but the cable is still easy to install. DryTech<sup>TM</sup> filling compound is used in the cable core. Maximum capacity is 6 tubes with 4 or 8 fibers in each. DESIGN: Concentric core TYPE: Corrugated steel tape reinforced, DryTech CAPACITY: 24 - 48 fibers DIAMETER: 16 - 24 mm

PRODUCT NO.	PRODUCT NAME
TOL4022038/24	GRCLWLV 24 G652D (6x4f)
T0L4022038/48	GRCLWLV 48 G652D (6x8f)

#### **GRCLWLV, DryTech**

Slim loose tube cable with concentric core design, a corrugated steel tape layer and a second outer sheath. The corrugated steel tape reinforcement provides good mechanical protection, but the cable is still easy to install. DryTech<sup>™</sup> filling compound is used in the cable core. Maximum capacity is 16 tubes with 12 fibers in each.

DESIGN: Concentric core
TYPE: Corrugated steel tape reinforced, DryTech
CAPACITY: 72 - 192 fibers
<b>DIAMETER:</b> 16 - 24 mm



PRODUCT NO.	PRODUCT NAME
T0L4022039/72	GRCLWLV 72 G652D
TOL4022039/96	GRCLWLV 96 G652D
TOL4022039/144	GRCLWLV 144 G652D
TOL4022039/192	GRCLWLV 192 G652D

#### **GRCLWLV**, DryTech

Slim loose tube cable with concentric core design, a corrugated steel tape layer and a second outer sheath. The corrugated steel tape reinforcement provides good mechanical protection, but the cable is still easy to install. DryTech<sup>™</sup> filling compound is used in the cable core. Maximum capacity is 24 tubes with 12 fibers in each.

PRODUCT NO.	PRODUCT NAME
TOL4022040/288	GRCLWLV 288 G652D

DESIGN: Concentric core TYPE: Dielectric, thermoplastic cushion layer, DryTech CAPACITY: 288 fibers DIAMETER: 24.5 mm



#### **GRCLLDV**, DryTech

Slim loose tube cable with concentric core design, a thermoplastic cushion layer and a second outer sheath. The thermoplastic cushion layer makes the non-metallic cable suitable for installation along power lines, e.g. railway embankments. DryTech™ filling compound is used in the cable core. Maximum capacity is 6 tubes with 4 or 8 fibers in each. **DESIGN:** Concentric core **TYPE:** Dielectric, thermoplastic cushion layer, DryTech **CAPACITY:** 24 - 48 fibers



PRODUCT NO.	PRODUCT NAME
T0L4022041/24	GRCLLDV 24 G652D (6x4f)
TOL4022041/48	GRCLLDV 48 G652D (6x8f)

#### **GRCLLDV**, DryTech

Slim loose tube cable with concentric core design, a thermoplastic cushion layer and a second outer sheath. The thermoplastic cushion layer makes the non-metallic cable suitable for installation along power lines, e.g. railway embankments. DryTech™ filling compound is used in the cable core. Maximum capacity is 16 tubes with 12 fibers in each.

D	esign: Concentric core
Т	YPE: Dielectric, thermoplastic cushion layer,
Ľ	DryTech
С	APACITY: 72-192 fibers



PRODUCT NO.	PRODUCT NAME
T0L4022042/72	GRCLLDV 72 G652D
T0L4022042/96	GRCLLDV 96 G652D
TOL4022042/144	GRCLLDV 144 G652D
TOL4022042/192	GRCLLDV 192 G652D

#### **GRCLLDV**, DryTech

Slim loose tube cable with concentric core design, a thermoplastic cushion layer and a second outer sheath. The thermoplastic cushion layer makes the non-metallic cable suitable for installation along power lines, e.g. railway embankments. DryTech™ filling compound is used in the cable core. Maximum capacity is 24 tubes with 12 fibers in each tube.

DESIGN: Concentric core TYPE: Dielectric, thermoplastic cushion layer CAPACITY: 288 fibers DIAMETER: 27.5 mm



PRODUCT NO.	PRODUCT NAME
T0L4022043/288	GRCLLDV 288 G652D

#### GASQWQBUV

Ribbon cable with slotted core design and corrugated steel tape protection providing superior fiber protection against rodents. Ideal for duct and direct buried installation in tunnels. The cable comes in two configurations; up to 96 fibers with 4-fiber ribbons and more than 96 fibers with 8-fiber ribbons. **DESIGN:** Slotted core ribbon **TYPE:** Corrugated steel tape reinforce, high crush resistance, flame retardant **CAPACITY:** 96 - 640 fibers



PRODUCT NO.	PRODUCT NAME
T0L4021014/72A	GASQWQBUV 72 G652D
T0L4021014/96A	GASQWQBUV 96 G652D
TOL4021014/144A	GASQWQBUV 144 G652D
TOL4021014/192A	GASQWQBUV 192 G652D

#### GASLLDV

4-fiber ribbon cable with slotted core design, a thermoplastic cushion layer and a second outer sheath. The thermoplastic cushion layer makes the non-metallic cable suitable for installation along power lines, e.g. railway embankments.

DESIGN: Slotted core ribbon
TYPE: Dielectric, thermoplastic cushion layer
CAPACITY: 24-96 fibers
<b>DIAMETER:</b> 19.5 - 21 mm



E-NO. PRODUCT NO. PRODUCT NAME 4980700 TOL4021001/4A GASLLDV 4 G652D 4980710 TOL4021001/8A GASLLDV 8 G652D 4980720 TOL4021001/12A GASLLDV 12 G652D 4980730 TOL4021001/24A GASLLDV 24 G652D 4980740 TOL4021001/36A GASLLDV 36 G652D 4980750 TOL4021001/48A GASLLDV 48 G652D 4980790 TOL4021001/72A GASLLDV 72 G652D GASLLDV 96 G652D 4980770 TOL4021001/96A

#### GASLLDV

8-fiber ribbon cable with slotted core design, a thermoplastic cushion layer and a second outer sheath. The thermoplastic cushion layer makes the non-metallic cable suitable for installation along power lines, e.g. railway embankments.

DESIGN: Slotted core ribbon TYPE: Dielectric, thermoplastic cushion layer CAPACITY: 192 fibers DIAMETER: 23 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
4980780	TOL4021005/144A	GASLLDV 144 G652D
4980760	T0L4021005/192A	GASLLDV 192 G652D

#### **CABLES FOR AERIAL INSTALLATIONS**

Self-supporting aerial fiber cables. Hexatronic's range of Fiber Optic Cables for aerial installation includes self-supporting All Dielectric Self Support (ADSS) and figure-8 types, designed for pole installation.

The cables come in different types for different span lengths.

All ADSS and figure-8 cables can be supplied with bulletproof material (aramid tape), or with extra protection against rodents (nylon sheath). Hexatronic also offers a complete range of installation support material for aerial cables.

#### GRHSLDV

ADSS, non-metallic cable with concentric core design. This extremely slim and low-weight cable, which can be ordered with 4 to 144 fibers, is suitable for span lengths from 60-170 m. It can be installed adjacent to power lines with up to 120 kV. It contains standard filling compound and utilizes aramid yarn to increase strength.

**DESIGN:** ADSS, concentric core **TYPE:** Dielectric **CAPACITY:** 4 - 144 fibers

E-NO.	PRODUCT NO.	PRODUCT NAME
4979460	T0L4032003/8A	GRHSLDV (<75 m) 8 G652D 4 kN-11.5 mm
4979470	T0L4032003/12A	GRHSLDV (<75 m) 12 G652D 4 kN-11.5 mm
4979480	T0L4032003/24A	GRHSLDV (<75 m) 24 G652D 4 kN-11.5 mm
4979490	T0L4032003/36A	GRHSLDV (<75 m) 36 G652D 4 kN-11.5 mm
4979500	T0L4032003/48A	GRHSLDV (<75 m) 48 G652D 4 kN-11.5 mm
4979510	T0L4032003/72A	GRHSLDV (<75 m) 72 G652D 4 kN-15.5 mm
4979520	TOL4032003/96A	GRHSLDV (<75 m) 96 G652D 4 kN-19 mm
4979530	TOL4032003/144A	GRHSLDV (<75 m) 144 G652D 4 kN-19 mm

#### **GRHSLLDV**

ADSS, non-metallic cable with concentric core design that utilizes aramid yarn and a second outer sheath for an extra robust cable design. It is suitable for installation in harsh climates with high ice loads, and for span lengths of 100-250 m. Like the GRHSLDV, this cable contains standard filling compound and can be ordered with 4 to 144 fibers.

**DESIGN:** ADSS, concentric core **TYPE:** Dielectric **CAPACITY:** 4 - 144 fibers, max 7 kN



E-NO.	PRODUCT NO.	PRODUCT NAME
4979380	T0L4032002/8A	GRHSLLDV (<100 m) 8 G652D, 7kN-14.0 mm
4979390	T0L4032002/12A	GRHSLLDV (<100 m) 12 G652D, 7kN-14.0 mm
4979400	T0L4032002/24A	GRHSLLDV (<100 m) 24 G652D, 7kN-14.0 mm
4979410	T0L4032002/36A	GRHSLLDV (<100 m) 36 G652D, 7kN-14.0 mm
4979420	T0L4032002/48A	GRHSLLDV (<100 m) 48 G652D, 7kN-14.0 mm
4979430	T0L4032002/72A	GRHSLLDV (<100 m) 72 G652D, 8kN-15.5 mm
4979440	TOL4032002/96A	GRHSLLDV (<100 m) 96 G652D, 8kN-15.5 mm
4979450	TOL4032002/144A	GRHSLLDV (<100 m) 144 G652D, 8kN-15.5 mm

#### GRHSLLDV

ADSS, non-metallic cable with concentric core design that utilizes aramid yarn and a second outer sheath for an extra robust cable design. It is suitable for installation in harsh climates with high ice loads, and for span lengths of 200-500 m. Like the GRHSLDV, this cable contains standard filling compound and can be ordered with 4 to 144 fibers.

DESIGN: ADSS, concentric core TYPE: Dielectric CAPACITY: 4 - 144 fibers, max 14.5 kN



E-NO.	PRODUCT NO.	PRODUCT NAME
4979310	T0L4032008/12A	GRHSLLDV (<200 m) 12 G652D, 14.5kN-15.0 mm
4979320	TOL4032008/24A	GRHSLLDV (<200 m) 24 G652D, 14.5kN-15.0 mm
4979330	TOL4032008/36A	GRHSLLDV (<200 m) 36 G652D, 14.5kN-15.0 mm
4979340	T0L4032008/48A	GRHSLLDV (<200 m) 48 G652D, 14.5kN-15.0 mm
4979350	TOL4032008/72A	GRHSLLDV (<200 m) 72 G652D, 14.5kN-16.5 mm
4979360	TOL4032008/96A	GRHSLLDV (<200 m) 96 G652D, 16kN-19 mm

#### GRCLCV

Self-supporting figure-8 cable with concentric core design. The cable has patented DryTech filling compound and includes suspension steel wire integrated into the sheath.

The cable is suitable for span lengths up to 75 m. The GRCLCV can be ordered with 4 to 192 fibers.

DESIGN: Fig-8, concentric core TYPE: DryTech CAPACITY: 4 - 192 fibers



PRODUCT NO.	PRODUCT NAME
TOL4032024/12A	GRCLCV 12 G652D
TOL4032024/24A	GRCLCV 24 G652D
T0L4032024/36A	GRCLCV 36 G652D
TOL4032024/48A	GRCLCV 48 G652D
TOL4032024/72A	GRCLCV 72 G652D
T0L4032024/96A	GRCLCV 96 G652D
TOL4032024/144A	GRCLCV 144 G652D
TOL4032024/192A	GRCLCV 192 G652D

#### GRCLCDV

Non-metallic figure-8 cable using concentric core design, with a glass-fiber reinforced plastic rod integrated into the sheath. The self-supporting cable is suitable for span lengths of up to 75m. Being dielectric, the cable can be installed adjacent to power lines with up to 120kV. The GRCLCDV can be ordered with 4 to 192 fibers.

**DESIGN:** Fig-8, concentric core **TYPE:** Dielectric **CAPACITY:** 4 - 192 fibers



PRODUCT NO.	PRODUCT NAME
TOL4032010/12A	GRCLCDV 12 G652D
TOL4032010/24A	GRCLCDV 24 G652D
TOL4032010/36A	GRCLCDV 36 G652D
T0L4032010/48A	GRCLCDV 48 G652D
TOL4032010/72A	GRCLCDV 72 G652D
TOL4032010/96A	GRCLCDV 96 G652D
TOL4032010/144A	GRCLCDV 144 G652D
TOL4032010/192A	GRCLCDV 192 G652D

#### JOINT CLOSURES FOR FIBER OPTIC CABLES

Joint closures for optimal protection. Hexatronic has developed a range of cost-effective joint closures for every installation environment.

The offering, for both indoor and outdoor installation, includes boxes optimized for virtually all conditions, and for small, medium and large fiber counts. Made in a variety of materials to suit environments ranging from simple to very demanding, the boxes are designed to join most types of fiber cables.

Hexatronic offers a complete line of accessories, including tool kits, protection sleeves, shrink-on hoses, mounting brackets and expansion kits, suitable for various types of installation.

#### **Fiber Joint Closure**

Versatile fiber closure made of durable plastic to meet most environmental demands. The standard box can handle up to 96 single fibers or 48 ribbon sleeves, and is expandable to manage higher fiber counts and a greater number of entrances. The closure can also handle mid-span access. **TYPE:** Underground, plastic **SEALING:** IP class 68 **CAPACITY:** 96 single fiber splices or 48 ribbon fiber splices with 4 extra cassettes. Up to 144 single splices with extension ring and 8 extra cassettes.

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E-NO.	PRODUCT NO.	PRODUCT NAME
5060021	NCD5045004	Plastic Joint Closure, no open entrance, 4 organizers
5060022	NCD5046004	Plastic Joint Closure, 2xØ24 entrances opened+1xMulti entrance not opened, 4 organizers
5060023	NCD5047004	Plastic Joint Closure, 2xØ24 entrances not opened+1xMulti entrance opened, 4 organizers
5060024	NCD5048004	Plastic Joint Closure, 2xØ24 entrances opened+1xMulti entrance opened, 4 organizers

#### **Fiber Joint Closure - High Capacity**

This compact, high capacity joint closure handles up to 576 fiber splices. The closure is designed for outdoor underground installation in manholes but can also be mounted above ground on poles or inside pedestals. The closure can handle air-blown fibers in microducts, micro cables and traditional cable. TYPE: Outdoor, underground use SEALING: IP class 68 CAPACITY: 576 splices DIMENSIONS: 520x280 mm



E-NO.	PRODUCT NO.	PRODUCT NAME
5060283	NCD507550	Fiber Joint Closure 576
	NSD515201	Swing-up arm for NCD507500/550
	NDM11016/1	10 x Round Micro cable cable entrance
	NDM11017/1	5 x Oval Micro cable entrance kit
	NDM11018/1	10 x Round Microducts entrance

#### Fiber Joint Closure, Stainless Steel

Closure for higher fiber counts in harsh outdoor environments. The generous size of the fiber organizers makes installation fast and trouble free. The design is compact but easy to expand to accommodate very large fiber counts. The closure can also handle mid-span access. Several versions and accessories are available resulting in a total capacity of 144 fibers to more than 2000 fibers depending on configuration. TYPE: Underground, stainless steel SEALING: IP class 68 CAPACITY: ≤576 single fiber splices ≤288 ribbon fiber splices



E-NO.	PRODUCT NO.	PRODUCT NAME	
5040185	NCD5061050	Joint closure L 240/50	
5040186	NCD5061070	Joint closure L 240/70	
5040187	NCD5061150	Joint closure L 240/150	
5040189	NCD5062050	Joint closure LM 240/50	
5040190	NCD5062070	Joint closure LM 240/70	
5040191	NCD5062150	Joint closure LM 240/150	
5040193	NCD5063050	Joint closure LMB 240/50	
5040194	NCD5063070	Joint closure LMB 240/70	
5040297	NCD5065050	Joint Closure LD3M 240/50, for multiducts	

#### Fiber Joint Closure - Indoor, Wall Mount

Compact indoor closure that provides mechanical protection in situations where jointing and branching of cables needs to be carried out costeffectively. It can be mounted inside a cabinet, container or directly on a wall. **TYPE:** Indoor, alu-zinc **SIZE:** 369x185x40 mm **CAPACITY:** 24 single fiber splices 12 ribbon fiber splices



### E-NO. PRODUCT NO. PRODUCT NAME NCD5025000 Fiber Joint Closure, wall mount 24 splices

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## **SUBMARINE CABLE SYSTEMS**

Hexatronic's range of cables for submarine installation is based on extensive experience in submarine-cable projects, including design, project management and installation. The offering comprises cables using unitube loose tube as well as ribbon fiber design for depth down to 3000 m.

#### LOOSE TUBE CABLES

Hexatronic's submarine loose tube cables provide superior mechanical protection, easy handling and reliable performance. All cables have steel wire armoring in one or several layers and/or stainless steel tube to provide the highest protection and water blocking properties. The cables are resistant to tensile forces and impact caused by anchoring, recovery operations and handling. All loose tube cables and joints are built with the highest quality protection to ensure a long life span for maximum efficiency over long distances.

#### **Single Armored**

#### GJMLTV, 10-ton SA

Single-armored, unitube cable where moderate protection is required in submarine applications. This design includes a hermetically sealed stainless tube (3.7 mm outer diameter). Inside the tube the fibers are free to move in the thixotropic water blocking compound. The tube is protected by a polyethylene sheath, one layer of galvanized steel wires and wrapped in a layer of polypropylene yarn.

The unitube technique results in a high packing density. This permits a small outer diameter and easy handling.

E-NO.	PRODUCT NO.	PRODUCT NAME
4988440	T0L4041050/24A	GJMLTV 24 G652D 10 TON SA
4988450	TOL4041050/48A	GJMLTV 48 G652D 10 TON SA

**DESIGN:** Loose tube, single armor **TYPE:** 10 ton,  $\leq$  3000 m **CAPACITY:** 12 - 96 fibers



#### **Double Armored**

#### GJMLTV, 15-ton DAL

Double-layer armored, unitube cable where high protection is required in submarine applications. This design includes a hermetically sealed stainless tube (3.7 mm outer diameter). Inside the tube the fibers are free to move in the thixotropic water blocking compound. The tube is protected by a polyethylene sheath, two layers of galvanized steel wires and wrapped in a layer of polypropylene yarn. **DESIGN:** Loose tube, double armor **TYPE:** 15 ton,  $\leq$  3000 m **CAPACITY:** 12 - 96 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME
4988420	TOL4041051/24A	GJMLTV 24 G652D 15 TON DAL
4988430	TOL4041051/48A	GJMLTV 24 G652D 15 TON DAL

#### GJMLTV, 25-ton DA

Double-layer armored, unitube cable with the same principal design as the GJMLTV, 15-ton DA.

PRODUCT NO.	PRODUCT NAME
TOL4041062/24A	GJMLTV 24 G652D 25 TON DA
T0L4041062/48A	GJMLTV 48 G652D 25 TON DA

#### GJMLTV, 40-ton DAH

Double-layer armored with the same principal design as the GJMLTVa, 15-ton DA.

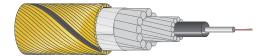
PRODUCT NO.	PRODUCT NAME
TOL4041054/24A	GJMLTV 24 G652D 40 TON DAH
TOL4041054/48A	GJMLTV 24 G652D 40 TON DAH

**DESIGN:** Loose tube, double armor **TYPE:** 40 ton, ≤ 3000 m **CAPACITY:** 12 - 96 fibers

DESIGN: Loose tube, double armor

**TYPE:** 25 ton, ≤ 3000 m

CAPACITY: 12 - 96 fibers



#### **Electroding / Toning – Single Armored**

#### GJMMLTV, 10-ton SA

Double-layer armored with the same principal design as the GJMLTV, 10-ton DA. The cable incorporates a copper layer wrapped around the stainless tube for electroding and toning.

**DESIGN:** Loose tube, single armor, electroding **TYPE:** 10 ton,  $\leq$  3000 m **CAPACITY:** 12 - 96 fibers



PRODUCT NO.	PRODUCT NAME
TOL4041080/24A	GJMMLTV 24 G652D 10 TON SA
TOL4041080/48A	GJMMLTV 48 G652D 10 TON SA

#### Electroding / Toning – Double Armored

#### GJMMLTV, 25-ton DA

Double-layer armored with the same principal design as the GJMLTV, 25-ton DA. The cable incorporates a copper layer wrapped around the stainless tube for electroding and toning.

**DESIGN:** Loose tube, double armor, electroding **TYPE:** 25 ton,  $\leq$  3000 m **CAPACITY:** 12 - 96 fibers



	PRODUCT NO.	PRODUCT NAME
	TOL4041082/24A	GJMMLTV 24 652D 25 TON DA
	TOL4041082/48A	GJMMLTV 48 652D 25 TON DA

#### GJMMLTV, 40-ton DAH

Double-layer armored with the same principal design as the GJMLTV, 15-ton DA.

DESIGN: Loose tube, double armor, electroding TYPE: 40 ton, ≤ 3000 m CAPACITY: 12 - 96 fibers



PRODUCT NO.	PRODUCT NAME
TOL4041083/24A	GJMMLTV 24 G652D 40 TON DAH
TOL4041083/48A	GJMMLTV 48 G652D 40 TON DAH

### Submarine Joints for Loose Tube Cables

#### NCD 601 0014 Submarine Joint Closure

Closure made of heavy-duty stainless steel and hermetically sealed cable joints for loose tube fiber optic submarine cables. The joint can host up to 48 fibers. **DESIGN:** Straight joint for GJMLTV **CAPACITY:** 1 - 48 fibers

PRODUCT NO.	PRODUCT NAME	
NCD6010014	Straight joint for GJMLTV	
NCD6010014/1	Armor Kit SA & DAL	
NCD6010014/2	Armor Kit DA & DAH	
NCD60100xx	Straight joint for GJMLTV	
NCD60100xx/1	Armor Kit SA & DAL	
NCD60100xx/2	Armor Kit DA & DAH	

#### NCD 601+ Universal Joint for Submarine Cables

Universal Joint is a technology developed by the Universal Joint Consortium to facilitate efficient maintenance of installed submarine cable systems. Most of Hexatronic's submarine cables are qualified for this technology and for some cable types this joint type is used in installation projects of new systems. **DESIGN:** UJ for 10-, 25-, 40 ton submarine cables **CAPACITY:** 1 - 96 fibers



PRODUCT NO.	PRODUCT NAME
NCD6010036	UJ for GJM(M)LTV SA to SA
NCD6010038	UJ for GJM(M)LTV DA to DA
NCD6010039	UJ for GJM(M)LTV DAH to DAH
NCD6010041	UJ for GJM(M)LTV SA to DA
NCD6010042	UJ for GJM(M)LTV SA to DAH
NCD6010045	UJ for GJM(M)LTV DA to DAH

PRODUCT NO.	PRODUCT NAME
NCD6010053	UQJ HexatronicGJM(M)LTV Tool Kit
NCD6010054	UQJ for GJM(M)LTV SA to SA
NCD6010055	UQJ for GJM(M)LTV DAL to DAL
NCD6010056	UQJ for GJM(M)LTV DA to DA
NCD6010057	UQJ for GJM(M)LTV DAH to DAH
NCD6010058	UQJ for GJM(M)LTV SA to DAL
NCD6010059	UQJ for GJM(M)LTV SA to DA
NCD6010060	UQJ for GJM(M)LTV SA to DAH
NCD6010061	UQJ for GJM(M)LTV DAL to DA
NCD6010062	UQJ for GJM(M)LTV DAL to DAH
NCD6010063	UQJ for GJM(M)LTV DA to DAH

#### **RIBBON CABLES**

Hexatronic's submarine ribbon cables offer high packing density and efficient fiber management as well as high protection for fiber in the harsh conditions under the sea. Exceptional mechanical and water blocking properties are provided by a slotted cable core design, protected by a copper tube and with steel wire armoring. This combination has a good resistance to crushing and heavy impacts, such as anchoring, recovery operations or manhandling. Protection from the water is achieved by the copper tube acting as a water barrier.

The cable core is also filled with a water repelling compound for extra reassurance. The cable design enables extremely long delivery length with a minimum number of bulky joint closures.

#### **Single Armored**

#### **GASLMLTV** Submarine Cables 5 ton SAL Single Armored

GASLMLTV, 5-ton SAL is a single armored light fiber ribbon cable for submarine installations where light to moderate protection is required. This submarine cable is based on our wellproven 4- or 8-fiber ribbon cable design. Added on to the inner PE-jacket is a waterproof copper tube, followed by a second outer polyethylene jacket and a layer of galvanized steel wires. The complete cable is wrapped with a layer of polypropylene yarn. **DESIGN:** Slotted core ribbon, single armor **TYPE:** 5 ton,  $\leq$  500 m **CAPACITY:** 12 - 192 fibers



PRODUCT NO	PRODUCT NAME
T0L4041010/24A	GASLMLTV 24 G652D 5 TON SAL
TOL4041010/48A	GASLMLTV 48 G652D 5 TON SAL
T0L4041010/96A	GASLMLTV 96 G652D 5 TON SAL
TOL4041038/144A	GASLMLTV 144 G652D 5 TON SAL
TOL4041038/192A	GASLMLTV 192 G652D 5 TON SAL

#### **GASLMLTV** Submarine Cables 10 ton SA Single Armored

Single-layer armored with the same principal design as the GASLMLTV, 5-ton SAL.

**DESIGN:** Slotted core ribbon, single armor **TYPE:** 10 ton,  $\leq$  500 m **CAPACITY:** 12 - 192 fibers



PRODUCT NO	PRODUCT NAME
TOL4041016/24A	GASLMLTV 24 G652D 10 TON SA
T0L4041016/48A	GASLMLTV 48 G652D 10 TON SA
TOL4041016/96A	GASLMLTV 96 G652D 10 TON SA
TOL4041039/144A	GASLMLTV 144 G652D 10 TON SA
TOL4041039/192A	GASLMLTV 192 G652D 10 TON SA

#### **GASLMLTV** Submarine Cables 15 ton SAH Single Armored

Single-layer armored with the same principal design as the GASLMLTV, 5-ton SAL.

**DESIGN:** Slotted core ribbon, single armor **TYPE:** 15 ton, ≤ 500 m **CAPACITY:** 12 - 192 fibers

PRODUCT NO	PRODUCT NAME
TOL4041023/24A	GASLMLTV 24 G652D 15 TON SAH
TOL4041023/48A	GASLMLTV 48 G652D 15 TON SAH
TOL4041023/96A	GASLMLTV 96 G652D 15 TON SAH
TOL4041040/144A	GASLMLTV 144 G652D 15 TON SAH
TOL4041040/192A	GASLMLTV 192 G652D 15 TON SAH



#### **Double Armored**

#### Submarine Cables 20 ton DA Double Armored

GASLMLTV, 20-ton DA is a double armored fiber ribbon cable for submarine installation where high protection is required. This submarine cable is based on our well-proven 4- or 8- fiber ribbon cable design. Added on to the inner PEjacket is a waterproof copper tube, followed by a second outer polyethylene jacket and two layers of galvanized steel wires. The complete cable is wrapped with a layer of polypropylene yarn.

**DESIGN:** Slotted core ribbon, double armor **TYPE:** 20 ton, ≤ 500 m **CAPACITY:** 12 - 192 fibers



PRODUCT NO	PRODUCT NAME
T0L4041011/24A	GASLMLTV 24 G652D 20 TON DA
T0L4041011/48A	GASLMLTV 48 G652D 20 TON DA
T0L4041011/96A	GASLMLTV 96 G652D 20 TON DA
T0L4041024/144A	GASLMLTV 144 G652D 20 TON DA
T0L4041024/192A	GASLMLTV 192 G652D 20 TON DA

#### **GASLMLTV** Submarine Cables 40 ton DAH Double Armored

Double-layer armored with the same principal design as the GASLMLTV, 20-ton DA.

**DESIGN:** Slotted core ribbon, double armor **TYPE:** 40 ton, ≤ 500 m **CAPACITY:** 12 - 192 fibers



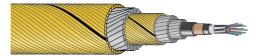
PRODUCT NO	PRODUCT NAME
TOL4041002/24A	GASLMLTV 24 G652D 40 TON DAH
TOL4041002/48A	GASLMLTV 48 G652D 40 TON DAH
TOL4041002/96A	GASLMLTV 96 G652D 40 TON DAH
TOL4041042/144A	GASLMLTV 144 G652D 40 TON DAH
TOL4041042/192A	GASLMLTV 192 G652D 40 TON DAH

#### **Rock Armored**

#### Submarine Cables 20 ton RA Rock Armored

The GASLMLTV, 20-ton RA is a rock armored fiber ribbon cable for submarine installation in areas where the cable is exposed to severe mechanical wear and tear. For example, installation direct on rock or shore landings where the cable is hit by forces from waves and tides.

This submarine cable is based on our wellproven 4- or 8-fiber ribbon cable design. Added on to the inner PE-jacket is a waterproof copper tube, followed by a second outer polyethylene jacket and a triple layer of galvanized steel wires. The complete cable is wrapped with a layer of polypropylene yarn. **DESIGN:** Slotted core ribbon, triple armor, rock **TYPE:** 20 ton, ≤ 500 m **CAPACITY:** 12 - 192 fibers



PRODUCT NO	PRODUCT NAME
T0L4041043/24A	GASLMLTV 24 G652D 20 TON RA
T0L4041043/48A	GASLMLTV 24 G652D 20 TON RA
TOL4041043/96A	GASLMLTV 96 G652D 20 TON RA
TOL4041041/144A	GASLMLTV 144 G652D 20 TON RA
TOL4041041/192A	GASLMLTV 192 G652D 20 TON RA

#### **Submarine Joints**

#### **Submarine Cable Joint**

The NCD 601 joint is designed for jointing of Hexatronic fiber optic submarine cables, maintaining the mechanical, optical and electrical properties of the cable.

The joint closure is made of corrosion resistant stainless steel alloy. The watertight outer housing provides the mechanical strength and protection. An inner sealed box contains the fiber organizers and can accommodate splice sleeves for up to 96 fibers in the NCD 601 0010 model and up to 192 fibers in the NCD 601 0008 model.

NCD 601 0010 is designed for 4-fiber ribbon submarine cables. NCD 601 0008 is designed for 8-fiber ribbon submarine cables. **DESIGN:** Straight joint for GASLMLTV **CAPACITY:** 1 - 192 fibers

PRODUCT NO.	PRODUCT NAME
NCD6010010	Straight Joint for GASLMLTV, 12-96f
NCD6010008	Straight Joint for GASLMLTV, 144-192f

#### **CABLE PARTS FOR INTEGRATION**

Throughout our history of supplying high quality, reliable cable solutions, we have developed a long track record with leading power cable suppliers. Fiber optic submarine cable parts for integration into power cables, enables global suppliers to meet the growing need for more power over greater distances.

#### **GJMLV Submarine Optical Cable Part 12-96 Fibers**

The cable part is based on a hermetically sealed stainless tube of 3.7mm outer diameter. Inside the tube the fibers are free to move in thixotropic water blocking compound. The steel tube is protected by a semiconductive polypropylene sheath. The fibers are easy to identify due to color and colored yarns. The cable part is designed to be integrated in submarine electrical power cables.

**DESIGN:** Loose tube **TYPE:** For integration, ≤ 3000 m **CAPACITY:** 12 - 96 fibers

# Cable up to 24 km can be installed without a factory joint. Cables that are longer than 24 km require factory joints. Repair joints can also be provided.



#### **GASLMLV** Submarine Optical Cable Part 12-192 Fibers, Ribbon

This submarine cable part is based on our wellproven 4- or 8- fiber ribbon cable design. Added on to the inner polyethylene jacket is a waterproof copper tube, followed by asecond outer semiconductive polyethylene jacket.

**DESIGN:** Slotted core ribbon **TYPE:** For integration,  $\leq$  500 m **CAPACITY:** 12 - 192 fibers



# LOCAL SITE CABLING AND FTTA

#### **CABLES FOR INDOOR INSTALLATION**

The range of indoor installation cables is intended for various telecommunication applications and especially for interconnection between the optical line interface and the optical distribution frames. The indoor cables are also suitable for use in LAN networks or other types of data networks. All indoor cables are

halogen-free and flame-retardant, and consequently generate no corrosive gases during combustion. All cables are also completely dielectric. The fibers in the cable can be of different types and different fiber types can be mixed in the same cable.

#### **GNGQBDU**, 1-fiber

Simplex, buffered patch cord cable, non-jelly filled with an outer diameter of 2.0mm as standard. It can be delivered pre-terminated with a variety of connector types. The cable has low shrinkage of less than 0.5% for reliable high performance. DESIGN: Tight-buffered TYPE: Halogen-free, flame-retardant, EC60332-3 cat C (LSZH), UL 1666 (CMR/Riser) CAPACITY: 1 fiber

**DESIGN:** Tight-buffered

**CAPACITY:** 2 fibers

TYPE: Halogen-free, flame-retardant,

EC60332-3 cat C (LSZH), UL 1666 (CMR/Riser)

E-NO.	PRODUCT NO.	PRODUCT NAME
4984130	TOL4053001/1A	GNGQBDU 1xG652D

#### **GNGQBDU**, 2-fibers

Two-fiber, tight-buffered duplex patch cord cable, non-jelly filled and aramid reinforced. The cable has a figure-8 design with single fibers laid in parallel, which makes it easy to split into two simplex patch cables.

 E-NO.
 PRODUCT NO.
 PRODUCT NAME

 4984140
 TOL4053001/2A
 GNGQBDU 2xG652D

#### **GNGQQBDU**, 2-fibers

Two fiber, tight-buffered duplex patch cord cable, non-jelly filled and aramid reinforced. Two single fiber cables are enclosed in an outer sheath forming a flexible and dry cable with an outer dimension of 4.8x2.8 mm. It can be delivered pre-terminated with a variety of connector types.

E-NO.	PRODUCT NO.	PRODUCT NAME
4980580	T0L4053006/2A	GNGQQBDU 2xG652D

DESIGN: Tight-buffered, break-out TYPE: Halogen-free, flame-retardant, EC60332-3 cat C (LSZH), UL 1666 (CMR/Riser) CAPACITY: 2 fibers

#### **GNGQQBDU**, 4-fibers

Break-out cable where simplex cables are assembled into one cable, with aramid yarn as central strength member. The construction results in a robust cable combined with high flexibility. The cable can be delivered pre-terminated with a variety of connector types.

DESIGN: Tight-buffered, break-out TYPE: Halogen-free, flame-retardant, EC60332-3 cat C (LSZH), UL 1666 (CMR/ Riser) CAPACITY: 4 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME
4980590	TOL4053018/4A	GNGQQBDU 4xG652D

#### CABLES FOR INDOOR/OUTDOOR INSTALLATION, FTTA APPLICATIONS

The cables for combined indoor/outdoor installation are all halogen-free and flame-retardant (HFFR); consequently, no corrosive gases are generated during combustion. The fibers can be of different types and different fiber types can be mixed in the same cable. The indoor/outdoor cables are often used between a pre-terminated indoor optical distribution frame and an outdoor joint closure as well as for Fiber To The Antenna (FTTA) applications.

#### **GNGQBDU** Drop Cable for Indoor and Outdoor Use

Halogen-free, flame-retardant drop cables with tight secondary coated fiber for quick and easy splicing. The cable is designed with G657A2 high bendresistant fiber and has a robust design to facilitate mounting with brackets directly on the wall. A flame retardant and UV protected sheath makes it suitable for both indoor and outdoor use. The cable is water blocked.

TYPE: Indoor and outdoor use, halogen-free, flame-retardant, IEC60332-3, bend resistant G657A2 CAPACITY: 1 - 4 fibers DIAMETER: 4.8 mm to be used with cable clamps FIBER TYPE: G657A2

E-NO.	PRODUCT NO.	PRODUCT NAME
4979680	TOL4063007/1A	Drop Cable, Indoor/Outdoor, 4.8mm HFFR, Tight sec, G657A2, 1-fiber
4979690	T0L4063007/2A	Drop Cable, Indoor/Outdoor, 4.8mm HFFR, Tight sec, G657A2, 2-fiber
4979700	TOL4063007/4A	Drop Cable, Indoor/Outdoor, 4.8mm HFFR, Tight sec, G657A2, 4-fiber

#### **GRHQBDUV**

Loose tube cable with concentric core design, resulting in a cost-effective solution. Each tube contains up to 12 fibers and the cable contains up to 16 tubes. Dry water blocking makes the cable jointing procedure clean and easy.

**DESIGN:** Concentric core **TYPE:** Dielectric, halogen-free, flame-retardant **CAPACITY:** 4 - 144 fibers

E-NO.	PRODUCT NO.	PRODUCT NAME
4979110	T0L4052003/8A	GRHQBDUV 8 G652D
4979120	TOL4052003/12A	GRHQBDUV 12 G652D
4979130	TOL4052003/24A	GRHQBDUV 24 G652D
4979140	TOL4052003/36A	GRHQBDUV 36 G652D
4979150	T0L4052003/48A	GRHQBDUV 48 G652D
4979160	TOL4052003/72A	GRHQBDUV 72 G652D
4979170	TOL4052003/96A	GRHQBDUV 96 G652D
4988280	TOL4052003/144A	GRHQBDUV 144 G652D

#### **GNGQQBDV**

Fiber optic cable designed for FTTA applications in both indoor and outdoor environments. The cable is flame resistant. Water blocking tape guarantees that no water can pass through the cable and the outer sheath is specially designed for highest protection in outdoor environments. The cable is suitable for pre-terminated delivery and has extremely good bending performance due to the use of bend-resistant G657A2 fiber.

DESIGN: Tight-buffered TYPE: Dielectric, halogen-free, flame-retardant, bend resistant G657A2 CAPACITY: 2 fibers



PRODUCT NO.	PRODUCT NAME
T0L4063004/2A	GNGQQBDV 2 G657A2



#### GASQBDUV

Ribbon cable with slotted core design, which reduces installation costs and ensures superior fiber protection. Each of the six slots contains 1-2 ribbons of the 4-fiber ribbon type. The cable is dielectric, and very slim and flexible, making it very versatile. Dry water blocking makes the cable jointing procedure clean and easy. The cable is offered in two variants: standard and extra slim. **DESIGN:** Slotted core ribbon **TYPE:** Dielectric, halogen-free, flame-retardant **CAPACITY:** Ø 13 mm, 4 - 48 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME
4984170	TOL4051001/4A	GASQBDUV 4 G652D
4983550	TOL4051001/8A	GASQBDUV 8 G652D
4983160	TOL4051001/12A	GASQBDUV 12 G652D
4983170	T0L4051001/24A	GASQBDUV 24 G652D
4983180	T0L4051001/36A	GASQBDUV 36 G652D
4983190	TOL4051001/48A	GASQBDUV 48 G652D
4983370	TOL4051001/72A	GASQBDUV 72 G652D (18x4f)
4983340	TOL4051001/96A	GASQBDUV 96 G652D (24x4f)

#### GASQBDUV

Ribbon cable with slotted core design which enables a cable design with reduced installation cost and superior fiber protection. Each of the six slots contains 1-2 ribbons of the 4-fiber ribbon type. The cable is dielectric, very slim and flexible, making it very versatile. Dry water blocking makes the cable jointing procedure clean and easy. The cable is offered in two variants: standard and extra slim. **DESIGN:** Slotted core ribbon **TYPE:** Dielectric, halogen-free, flame-retardant **CAPACITY:** Ø 9.9 mm, 4- 48 fibers



E-NO.	PRODUCT NO.	PRODUCT NAME
4983600	TOL4051014/4A	GASQBDUV-SLIM 4 G652D
4983610	TOL4051014/8A	GASQBDUV-SLIM 8 G652D
4983620	TOL4051014/12A	GASQBDUV-SLIM 12 G652D
4983630	TOL4051014/24A	GASQBDUV-SLIM 24 G652D
	TOL4051014/36A	GASQBDUV-SLIM 36 G652D
4983640	TOL4051014/48A	GASQBDUV-SLIM 48 G652D

#### GASQBDUV

4 or 8-fiber ribbon cable with slotted-core design providing superior fiber protection and high fiber count. Each of the slots contains ribbons of 4 or 8 fibers. The 8-fiber ribbon can easily be split into two 4-fiber ribbons. The versatility of the cable and the inherent benefits of ribbon fiber technology reduce installation costs. The cable is provided in two configurations:  $\leq$ 96 fibers with 4-fiber ribbons and >96 fibers with 8-fiber ribbons.

**DESIGN:** Slotted core ribbon **TYPE:** Dielectric, halogen-free, flame-retardant **CAPACITY:** 72 - 96 fibers (4-f ribbon) 192 - 640 fibers (8-f ribbon)



PRODUCT NO.	PRODUCT NAME
TOL4051024/288A	GASQBDUV 288 G652D
TOL4051024/384A	GASQBDUV 384 G652D
TOL4051024/480A	GASQBDUV 480 G652D
TOL4051024/640A	GASQBDUV 640 G652D
TOL4051024/1000A	GASQBDUV 1000 G652D

#### **GNGQBDUV**, High Temperature Performance

Fiber optic cable designed for FTTA applications in both indoor and outdoor environments. This cable has extremely good heat resistance and operates -40 to +95 (degrees) C. The cable is flame resistant so it can be installed indoors at the same time the outer sheath is robust enough to cope with outdoor environments. It is suitable for preterminated delivery. **DESIGN:** Tight-coated, with aramid yarn **TYPE:** Dielectric, halogen-free, flame-retardant, IEC60332-3, UL 1666 (CMR/Riser), bend resistant G657. A2\* **CAPACITY:** 2 fibers

**PRODUCT NO.** TOL4059009/2A

GNGQBDUV High Temp, 2 G657A2

PRODUCT NAME

#### **GNGQBDUV**

Fiber optic cable designed for FTTA applications for both indoor and outdoor environments. Water blocking aramid yarns guarantees that no water can pass through the cable and the outer sheath is specially designed for highest protection in outdoor environments It is suitable for pre-terminated delivery. **DESIGN:** Tight-coated, with aramid yarn **TYPE:** Dielectric, halogen-free, flame-retardant, IEC60332-3, UL 1666 (CMR/Riser) **CAPACITY:** 2 fibers



**PRODUCT NO.** TOL4063008/2A **PRODUCT NAME** GNGQBDUV FTTA 2 G652D

### Industry Leading System Solutions for Fiber Optic Communications

Hexatronic Cables & Interconnect Systems develops, manufactures, markets and provides solutions within the fiber optic cable infrastructure, for telecom companies. Hexatronic Cables & Interconnect Systems manufacture fiber optic cable, duct, copper cable and network accessories. The company originates from the former Ericsson site in Hudiksvall. Our products are developed and manufactured by Swedish specialists, with many years of experience and unique expertise in fiber optics. The product portfolio includes the industry leading brands Ribbonet<sup>®</sup> and Micronet.

#### A part of Hexatronic Group

Hexatronic Cables & Interconnect Systems is a part of Hexatronic which is an innovative Swedish technology group, specializing in fiber communications. The Group provides products and solutions for the fiber optic network and together, the five independent, entrepreneurial companies offer a full range of passive infrastructure. We combine our large corporate stability and resources with small company flexibility and speed.

Our customers are companies within the telecommunications industry such as communications and telecom suppliers, operators and network owners. The other companies within The Group are, Memoteknik in Skellefteå, Hexatronic Elektronik & Data in Gothenburg, The Blue Shift and Proximion in Stockholm.

For more information about Hexatronic Group: www.hexatronicgroup.com



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