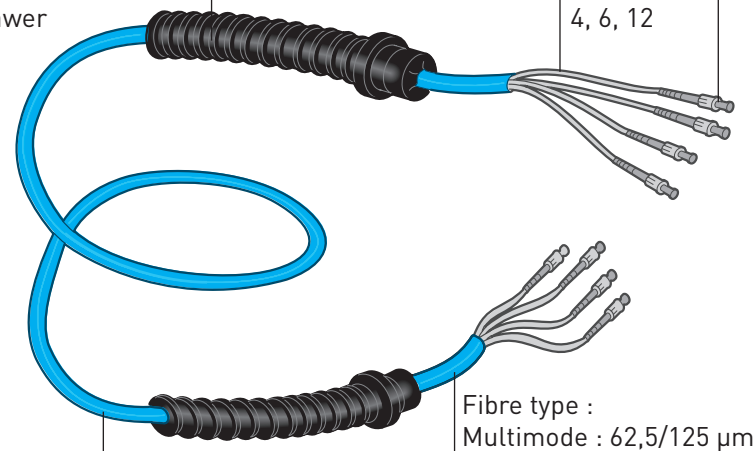
Pre-fitted fibre optic links on demand



Benefits

> On demand we supplied fibre optic cable with fitted connectors.

> Solution ready to be installed.

> Performance and facility of installation for links ‹ 500 meters.

Features

> Solution for multimode and single mode cables with ST, SC and LC connectors.

> Each link is supplied with a test report.

> Cable conditionning by reel (for length > 50 meters).

> Shipped with pulling sock to protect connectors during installation.

Application

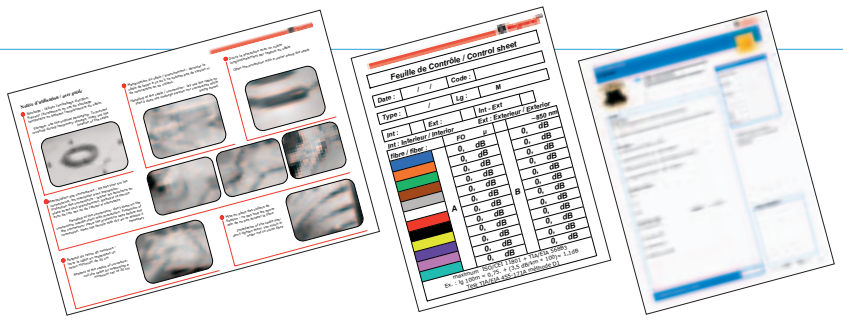
> Local Area Networks (LAN).

> Data Centers.

> Storage Area Networks.

Documents

> Each link is supplied with a test report and an illustrated instruction sheet.



LCS fibre optic
19" fibre optic drawer and pigtails

331 22 equipped with Cat.No 327 29 unit

327 82

327 85

329 07

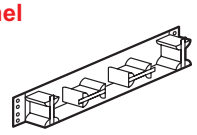
326 22

326 21

Pack	Cat.Nos	Fibre optic drawer
1	331 22	Fibre optic drawer to be equipped modular and sliding drawer Maximal capacity : • 24 fibres ST and SC connectors • 36 fibres LC connectors Depth 220 mm, height 1 U Supplied with screws and cabling accessories Capacity : 6 optical fibre units below

Pack	Cat.Nos	Fibre optic units
	NEW	Clip directly into the fibre optic drawer or into patch panels via the fibre optic cassette (Cat.No 327 26) Supplied with label holder
		Singlemode fibre optic units (9/125 µm)
1	327 82	SC unit for 4 singlemode fibres
1	327 84	Highdensity LC unit for 6 singlemode fibres
		Multimode fibre optic units (62.5 et 50/125 µm)
1	327 28	ST unit for 4 multimode fibres
1	327 29	SC unit for 4 multimode fibres
1	327 36	LC unit for 4 multimode fibres
1	327 85	High density LC unit for 6 multimode fibres

Pack	Cat.Nos	Fibre optic management panel
		Optimize the cable management inside cabinets, 2 U - 2 axes
1	332 48	For fibre optic jumper, vertical and horizontal management



Pack	Cat.Nos	Accessories
10	327 25	Blanking plate
1	327 24	Coloured label holder for LCS units 6 red + 6 green

Pack	Cat.Nos	Pigtails
	NEW	1 meter, 900 µm tight buffer
		10 Giga - 50/125 µm
6	326 22	SC single connector pigtail
6	326 23	LC single connector pigtail
		9/125 µm
6	326 20	SC single connector pigtail
6	326 21	LC single connector pigtail

Pack	Cat.Nos	Fusion splice tray
1	329 07	12 fibres (include splice support) Stackable, minimum bend radius > 35 mm

Pack	Cat.Nos	Heat shrink sleeves
50	327 44	40 mm

LCS fibre optic
19" patch panels

Cat.Nos 327 25, 327 28, 332 76 and RJ units on patch panel Cat.No 327 06

332 76

Pack	Cat.Nos	Fibre optic / copper converter
		For fast and simple conversion of copper to fibre optic and vice versa Clips directly into patch panels
1	332 76	10/100 base T to 10/100 base SX
1	NEW 332 75	1 000 base T (Giga) to 1 000 base SX/LX (Giga) and vice versa

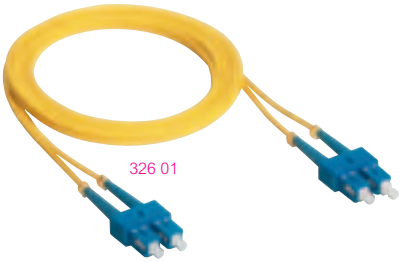
Pack	Cat.Nos	Fibre optic cassette for patch panel
1	327 26	For coiling the (2 to 12 fibres) Takes 2 optical fibre units Cat.Nos 327 28/29/36/82/84/85 Can be used to combine copper parts and optical fibre ports on 19" patch panel Supplied with blanking plate

Pack	Cat.Nos	Optical patch cabinet
1	329 19	Maximal capacity : • 16 fibres ST and SC connectors • 24 fibres LC connectors Can receive singlemode and multimodes fibre optic units

Patch panel for copper and fibre optic
(p. 790-791)

Red catalogue numbers : New products

LCS fibre optic
patch cords and connectors



Equipped with 2 connectors (ceramic ferrule) on each end
Individually packaged and supplied with test certificate
Zipcord, LSZH jacket

Pack	Cat.Nos	OS 1 singlemode patch cords (UPC)
	NEW	Insertion loss: max. 0.3 dB For 9/125 µm singlemode installations OS 1 type Yellow jacket
		SC/SC duplex patch cords
3	326 00	Length: 1 m
3	326 01	Length: 2 m
3	326 02	Length: 3 m
		SC/LC duplex patch cords
3	326 03	Length: 1 m
3	326 04	Length:2 m
3	326 05	Length: 3 m
		LC/LC duplex patch cords
3	326 06	Length:1 m
3	326 07	Length: 2 m
3	326 08	Length: 3 m

Pack	Cat.Nos	OM 3 (50/125µm) patch cords
	NEW	Insertion loss: max. 0.3 dB For 50/125 µm multimode installations, OM 3 type Purple jacket
		SC/SC duplex patch cords
3	326 09	Length: 1 m
3	326 10	Length: 2 m
3	326 11	Length: 3 m
		SC/LC duplex patch cords
3	326 12	Length: 1 m
3	326 13	Length: 2 m
3	326 14	Length: 3 m
		LC/LC duplex patch cords
3	326 15	Length: 1 m
3	326 16	Length: 2 m
3	326 17	Length: 3 m

Pack	Cat.Nos	OM 2 (50/125µm) patch cords
		Insertion loss: max. 0.3 dB For 50/125 µm multimode installations, OM2 type Orange jacket
		ST/ST duplex patch cords
3	330 80	Length: 1 m
3	330 81	Length: 2 m
3	330 82	Length: 3 m
		SC/SC duplex patch cords
3	330 69	Length: 1 m
3	330 70	Length: 2 m
3	330 71	Length: 3 m
		ST/SC duplex patch cords
3	330 72	Length: 2 m
3	330 73	Length: 3 m
		LC/LC duplex patch cords
3	330 61	Length: 2 m
		LC/SC duplex patch cords
3	330 75	Length: 1 m
3	330 63	Length: 2 m
3	330 76	Length: 3 m
		LC/ST duplex patch cords
3	330 65	Length: 2 m

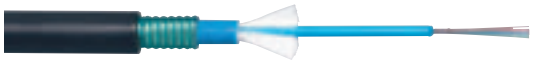
		OM 1 multimode patch cords (62.5/125 µm)
		Insertion loss: max. 0.3 dB Orange jacket
		SC/SC duplex patch cords
3	331 51	Length: 1 m
3	331 52	Length: 2 m
3	331 53	Length: 3 m
		ST/SC duplex patch cords
3	331 57	Length: 2 m
3	331 58	Length: 3 m
		LC/SC duplex patch cord
3	330 77	Length: 1 m
3	330 62	Length: 2 m
3	330 78	Length: 3 m

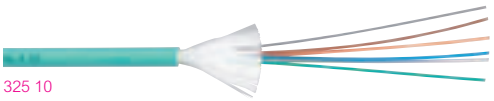
		Epoxy connectors, 50/125 and 62.5/125 µm
		For 900 µm fibre terminations Connectors with ceramic ferrule Typical insertion loss: 0.3 dB
10	331 27	ST connector
10	331 47	SC connector
10	331 00	LC connector

Red catalogue numbers : New products

LCS fibre optic
fibre cables

NEW


325 15


325 10


325 06


325 08

Fibre cables:
- fibre color code: FOTAG
- standard: EN 50173-2, ISO IEC 11801

Pack	Cat.Nos	OS 1 singlemode cables
		For 9/125 µm singlemode installations (OS 1) Yellow jacket
		Loose tube
2000(1)	325 12	Indoor/outdoor (universal) 6 fibres
2000(1)	325 13	Outdoor, corrugated steel tape 6 fibres
2000(1)	325 14	Indoor/outdoor (universal) 12 fibres
2000(1)	325 15	Outdoor, corrugated steel tape 12 fibres

Pack	Cat.Nos	OM 3 multimode cables
		For 50/125 µm multimode installations (OM 3) Aqua jacket 10 Gigabit Ethernet compliant
		900 µm tight tube
2000(1)	325 10	Indoor/outdoor (universal) 6 fibres
2000(1)	325 11	Indoor/outdoor (universal) 6 fibres

Pack	Cat.Nos	OM 2 multimode cables
		For 50/125 µm multimode installations (OM 2) Orange jacket
		Loose tube
2000(1)	325 04	Indoor/outdoor (universal) 6 fibres
2000(1)	325 05	Outdoor, corrugated steel tape 6 fibres
2000(1)	325 06	Indoor/outdoor (universal) 12 fibres
2000(1)	325 07	Outdoor, corrugated steel tape 12 fibres
		900µm tight tube
2000(1)	325 08	Indoor/outdoor (universal) 6 fibres
2000(1)	325 09	Indoor/outdoor (universal) 12 fibres

Pack	Cat.Nos	OM 1 multimode cables
		For 62.5/125 µm multimode installations (OM 1) Orange jacket
		900 µm tight tube
2000(1)	325 00	Indoor/outdoor (universal) 6 fibres
2000(1)	325 01	Indoor/outdoor (universal) 12 fibres

(1) Number of meters in pack (supplied by reel of 2000 meters)

Red catalogue numbers: New products

LCS fibre optic
fast crimp connectors


331 93


331 06


331 08


331 10

Installation principles and technical characteristics (p. 806)

Pack	Cat.Nos	Installation kit for fast crimping connector
1	331 93	For fast, simple creation of ST, SC or LC connectors Complete kit supplied with: - Installation instructions and video - Stripping tool (for fibres and cables) - Cleaving tool - Microscope for checking the quality of the cut - Crimping tool - Accessories (scissors, marker, wipes)

Pack	Cat.Nos	Fast crimping connectors 900 µm
		Pre-polished connectors with ceramic ferrule Typical attenuation < 0.3 dB No glue, polishing or current source required Unlimited storage period For exclusive use with kit Cat. No. 331 93
		Singlemode connectors
10	331 12	LC connector for 9/125 µm fibre
10	331 13	SC connector for 9/125 µm fibre
		Multimode connectors
10	331 06	LC connector for 50/125 µm fibre (10 Giga)
10	331 07	SC connector for 50/125 µm fibre (10 Giga)
10	331 08	ST connector for 50/125 µm fibre (10 Giga)
10	331 09	LC connector for 62,5/125 µm fibre
10	331 10	SC connector for 62,5/125 µm fibre
10	331 11	ST connector for 62,5/125 µm fibre

Pack	Cat.Nos	Fast Crimp connectors 900 µm with tool kit Cat.No 331 90
10	330 50	SC connector for 50/125 µm fibre
10	330 51	ST connector for 50/125 µm fibre
10	331 49	SC connector for 62,5/125 µm fibre
10	331 29	ST connector for 62,5/125 µm fibre

NEW

LCS fibre optic
Mosaic sockets


742 28


742 29


742 30


330 49

Pack	Cat.Nos	Mosaic optical sockets
		2 modules For connecting 2 fibres to the workstation Equipped with 1 duplex adaptor Supplied with protective caps
1	742 28	 Socket with 2 ST optical adaptors bayonet connection
1	742 29	 Socket with 2 SC optical adaptors push-pull connection
1	742 30	 Socket with 2 LC optical adaptors push-pull connection

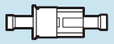
Pack	Cat.Nos	Breakout kits
		900 µm tubes Allows field termination of loose tube cables 1 meter
1	330 48	6 fibres
1	330 49	12 fibres

Red catalogue numbers: New products

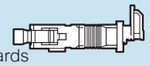
■ Fast crimping with kit Cat. No. 331 93

Types of connector

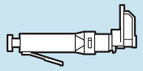
- ST connector: Helical shape
  locked by "push and turn" bayonet type connector



- SC connector: Rectangular shape
  "push-pull" latch type locking.
  Suitable for a large number of active devices
  Recommended in the generic standards ISO/IEC 11801 and EN 50173



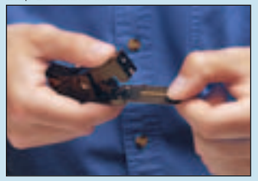
- LC connector: Rectangular shape
  tab locking
  Half the size of a conventional connector



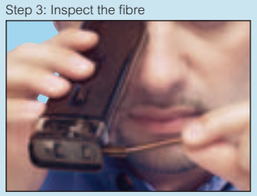
The 6 essential steps for fast crimping

Step 1: Strip the fibre

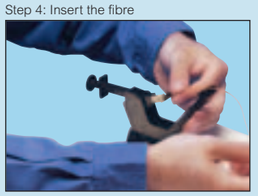
Step 2: Cleave the fibre



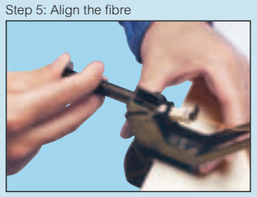
Step 3: Inspect the fibre



Step 4: Insert the fibre



Step 5: Align the fibre



Step 6: Crimp the connector

Technical characteristics

- The kit is used for attaching the connectors to 900 µm fibre
- Average loss of a connection: 0.3 dB
- Ideal for high-speed systems: 10 Gigabit Ethernet provided with 50/125 µm connector
- Operating temperature: from 0°C to 65°C

Advantages:

- High quality finish
- No polishing: connectors pre-polished in factory
- No Epoxy type glue required
- Easy connection
- No complex tools or consumables required: the termination is made in less than 3 minutes, and is very cost-effective
- Practical, lightweight kit
- Both multimode and singlemode fibres can be crimped (50/125 µm and 62.5/125 µm)

■ Fibre optic pre-fitted with connectors on request

Consists of defining your fibre optic links so that you can easily create your installations with multimode (OM1, OM2, OM3) and singlemode (OS1) fibres. Legrand supplies you the fibre with the connectors fitted:
A ready-to-use solution
Information to be provided:
- Length of link (in metres)
- Number of fibres (4, 6, 12)
- Type of fibre (multimode, monomode)
- Type of sheath (internal, external)

Advantages:

- Assured performance: fibre tested in factory
- Speed of installation: avoids fitting the connectors on site
- Excellent protection of the ends enabling risk-free pulling
- Quick, low-cost solution for switch-distribution block installations
- Quick delivery: 6 working days from receipt of order
- Supplied with instructions and test report (carried out for each fibre)

■ New optical classes (ISO 11801 2nd Ed.)

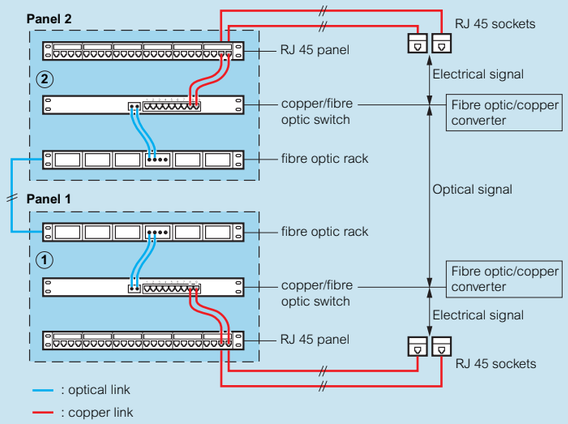
Distance over which the rate is assured

	Multimode fibre		Singlemode fibre
Rate	OM2	OM3	OS1
10 Gigabit Ethernet	82 metres	300 metres	2 km
Gigabit Ethernet (LX base)	550 metres	550 metres	5 km
Gigabit Ethernet (SX base)	550 metres	550 metres	-
100 Megabit Ethernet	2 km	2 km	2 km
10 Megabit Ethernet	2 km	1514 metres	-

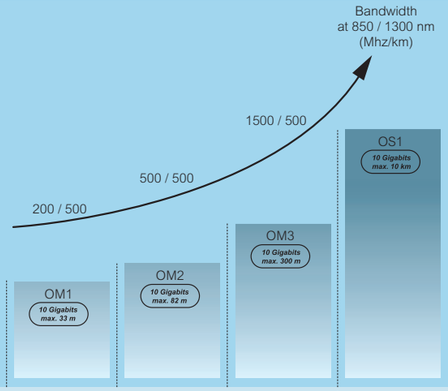
Parameters of the optical link (ISO 11801/EN 50173)

	Multimode		Singlemode	
Parameter	**850 nm**	**1 300 nm**	**1 310 nm**	**1 550 nm**
Fibre attenuation db/km	3.5 max.	1.5 max.	1.0	1.0
Bandwidth MHz.km	200 min.	500 min.	n/a	n/a
Connector attenuation dB	0.75 max.	0.75 max.	0.75 max.	0.75 max.
Return loss dB	20 min.	20 min.	26 min.	26 min.

■ Typical layout of an optical link between 2 distribution blocks



■ Assured rate per distance:

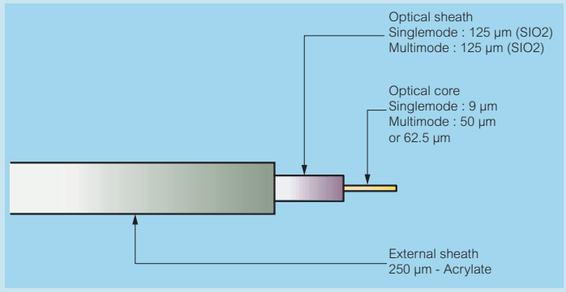


Protocols (max. length)	Singlemode fibre			Multimode fibre
	OM 1	**OM 2**	**OM 3**	**OS 1**
10 Gigabit Ethernet (Base S/L)	33 m	82 m	300 m	10 Km
Gigabit Ethernet (Base LX)	550 m	550 m	550 m	2 Km
Gigabit Ethernet (Base SX)	275 m	550 m	550 m	-
Fast Ethernet	2000 m	2000 m	2000 m	2 Km
Ethernet 10 Mbps	2000 m	1514 m	1514 m	-
Required durability	> 10 years	10 to 15 years	> 15 years	> 15 years
Market trend	↘	↗↗	↗	↗

■ Type of fibre per application

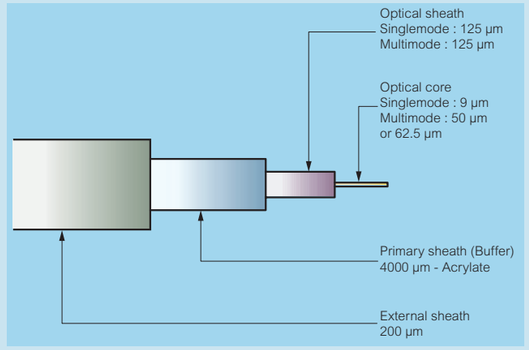
Multimode fibres

- Mainly used for links between buildings and backbone cables between floors
- Two possible constructions: 62.5/125 and 50/125
- Three performance levels OM1, OM2, OM3



Singlemode fibres

- Mainly used for long distance links - 10 Giga Ethernet compliant
- 9/125 construction – OS1 performance: optical sheath



■ Maximum length of optic link by fibre type

		Applications			Max. Length (meters)
	Protocole	**Wave Length**	**OM1 62.5/125**	**OM2 50/125**	**OM3 50/125**
100 mbits	100 base FX	1300 nm	2000 m	2000 m	2000 m
Gigabit	1000 base SX	850 nm	275 m	550 m	550 m
10 Gigabit	10 G base SR/SX 10 G base LR/LW	880 nm	35 m	86 m	300 m