

OPTICAL PATCH CORD



Product Type Optical Cord

Product Family TeraLan

Standard RoHS Compliant

Description Optical Patchcord is a single fiber or duplex cable with optical connectors on both sides

Applications

Installation Environment Internal

Operation Environment Non-agressive

Compatibility All Furukawa Cabling System line.

Warranty 12 months

Extended Guaranty 15 or 25 years - in accordance to the Special Warranty Program FCS

Advantage

- Recommended for internal use only, interconnecting optical internal distributors with networking equipments, in optical systems with low loss and high bandwidth, like: high distance systems, backbone networks, video and data transmission and distribution;
- Exceeds performance requirements of EIA/TIA-568-C.3 standard;
- Support for background requirements of IEEE 802.3 (Gigabit and 10 Gigabit Ethernet)⁽²⁾, ANSI T11.2 (Fibre Channel)⁽²⁾ standard and ITU-T-G-984⁽¹¹⁾;
- Full assembled and tested in factory;
- High performance for insertion loss and return loss (backreflection);
- Available in diverse kinds of optical connectors;
- Available for singlemode and multimode optical fiber;
- Available in PC and APC polishing;
- Available in several lengths.

Marking

Cord Monofibre:

"**FURUKAWA COA - V - MF - Y - Z W OPTICAL CORD ANATEL** nANATEL month/year
LOTE nL **DDG:0800-412100 YAAMMDDHHmm**"

Cord Duplex:

"**FURUKAWA COA - V - DP - Y - Z W DUPLEX OPTICAL CORD ANATEL** nANATEL
 month/year **LOTE** nL **DDG:0800-412100 YAAMMDDHHmm**"

where:

V = kind of optical fiber

- SM (singlemode fiber)
- BLI-A/B (fiber "bending loss insensitive")
- MM (multimode fiber)
- NZD (Non-Zero Dispersion)

Y = Cord diameter

- 18 Cord with diameter 1.8mm
- 20 Cord with diameter 2.0mm
- 29 Cord with diameter 2.9mm

Z = degree of protection as the flame front behavior

W = detail of the kind of optical fiber

- MM50 multimode fiber 50µm standard
- MM62.5 multimode fiber 62.5µm standard
- MM50 GIGABIT multimode fiber 50µm OM2+
- MM50 OM3 10 GIGABIT multimode fiber 50µm OM3
- MM50 OM4 10 GIGABIT multimode fiber 50µm OM4
- G-652D fiber "low water peak" ITU-T G-652D

month / Year = date of manufacture

nL = batch number of manufacture

YAAMMDDHHmm = Traceability

Y - Extruder case

AA - Year

MM - MonthDD - Dia

HH - hour

mm - Minute

Length 1,5m; 2,5m; 3,0m; 4,0m; 5,0m; 7,0m; 10m; 15m and 20m ⁽³⁾

Nominal Diameter	OPTICAL CORD ⁽⁴⁾	
	SINGLE-FIBER	DUPLEX
	2,0 mm	2,0 x 4,5 mm
	3,0 mm	3,0 x 5,9 mm

Color	
Singlemode Standard (G.652B)	Yellow
Singlemode LWP (G.652D)	Yellow
Singlemode (G.657)	Gray or yellow
Singlemode NZD (G.655)	Yellow
Multimode OM1 (62,5 mm)	Orange
Multimode OM2 (50 mm)	Orange
Multimode OM3 (50 mm)	Acqua
Multimode OM4 (50 mm)	Acqua

Connector Type LC

- SFF "Push-pull" Connector Type

- Plastic Body
- Ceramic Ferrule (zirconia)
- SM and MM Fiber
- PC Polishing (SPC/UPC)
- SM-PC Blue
- MM Beige
- APC Polishing
- SM-APC Green
- Option with removable clip to LC duplex
- Duplex cord assembled as paralel TX-RX

SC

- "Push-pull" Connector Type
- Plastic Body
- Ceramic Ferrule (zirconia)
- SM and MM Fiber
- PC Polishing (SPC/UPC)
- SM-PC Blue
- MM Beige
- APC Polishing
- SM-APC Green

MT-RJ

- "Push-pull" Connector Type
- Male connector (with guide pin) or female connector (without guide pin)
- Duplex
- Plastic body and ferrule
- SM or MM Fiber
- PC Polishing (SPC/UPC)
- Black
- Available assembled Parallel or Cross

ST

- Guide pin connector type (BNC)
- Metallic Body
- Ceramic Ferrule (zirconia)
- SM and MM Fiber
- PC Polishing (SPC/UPC)
- Metallic

FC

- Spiral connector type
- Metallic Body
- Ceramic Ferrule (zirconia)
- SM and MM Fiber
- PC Polishing (SPC/UPC)
- APC Polishing
- Metallic

E-2000

- "Push-pull" connector type
- Plastic body
- Ceramic Ferrule (zirconia)
- SM Fiber
- APC Polishing
- Green

Polish Type

- PC (SPC/UPC) - Singlemode and multimode fibers
- APC - Singlemode fibers

Fiber Type

- Singlemode Standard G.652B (9,0µm) ⁽⁶⁾
- Singlemode LWP G.652D (9,0µm) ⁽⁶⁾
- Singlemode G.657-A (9,0µm) ⁽⁶⁾
- Singlemode G.657-B (9,0µm) ⁽⁶⁾
- Singlemode NZD G.655 (9,0µm) ⁽⁶⁾
- Multimode OM1 (62.5µm) ⁽⁶⁾
- Multimode OM2 (50.0µm) ⁽⁶⁾
- Multimode OM3 (50.0µm) ⁽⁶⁾
- Multimode OM4 (50.0µm) ⁽⁶⁾

Cable type

Simplex cordage: totally dielectric, consists of one multimode or singlemode optical fiber coated with acrylate resin and a secondary coating of thermoplastic material (tight buffer). Dielectric strength members and a thermoplastic flame-retardant outer jacket surround the tight buffered fiber.

Duplex Zip-cord cordage: totally dielectric, consists of two multimode or singlemode optical fibers coated with acrylate resin and a secondary coating of thermoplastic material (tight buffer). Dielectric strength members and a thermoplastic flame-retardant outer jacket surround both tight buffered fibers.

Flame Standards

- OFN - General Optical Cable
 - LSZH - Low Smoke and Zero Halogen ⁽⁷⁾⁽¹²⁾
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Insertion loss

CONNECTOR TYPE	POLISHING	FIBER	TYPICAL - MAXIMUM INSERTION LOSS ⁽¹⁰⁾	CLASS (NBR 14433) ⁽¹⁰⁾
LC	SPC	MM	0,30 - 0,50	II
LC	UPC	MM	0,15 - 0,30	III
LC	SPC	SM	0,30 - 0,50	II
LC	UPC	SM	0,15 - 0,30	III
LC	APC	SM	0,15 - 0,30	III
SC	SPC	MM	0,30 - 0,50	II
SC	UPC	MM	0,15 - 0,30	III
SC	SPC	SM	0,30 - 0,50	II
SC	UPC	SM	0,15 - 0,30	III
SC	APC	SM	0,15 - 0,30	III
MT-RJ	-	MM	0,30 - 0,50	II
MT-RJ	-	SM	0,50 - 0,80	I
ST	SPC	MM	0,30 - 0,50	II
ST	UPC	MM	0,15 - 0,30	III
ST	SPC	SM	0,30 - 0,50	II
ST	UPC	SM	0,15 - 0,30	III
FC	SPC	MM	0,30 - 0,50	II
FC	UPC	MM	0,15 - 0,30	III
FC	SPC	SM	0,30 - 0,50	II
FC	UPC	SM	0,15 - 0,30	III
FC	APC	SM	0,15 - 0,30	III
E2000	APC	SM	0,15 - 0,30	III

Return loss

CONNECTOR TYPE	POLISHING	FIBER	RETURN LOSS ⁽¹⁰⁾	CATEGORY (NBR 14433) ⁽¹⁰⁾
LC	SPC	MM	>30	A
LC	UPC	MM	>30	A
LC	SPC	SM	>40	B
LC	UPC	SM	>50	C
LC	APC	SM	>60	D
SC	SPC	MM	>30	A
SC	UPC	MM	>30	A
SC	SPC	SM	>40	B
SC	UPC	SM	>50	C
SC	APC	SM	>60	D
MT-RJ	-	MM	>30	A
MT-RJ	-	SM	>40	B
ST	SPC	MM	>30	A
ST	UPC	MM	>30	A
ST	SPC	SM	>40	B
ST	UPC	SM	>50	C
FC	SPC	MM	>30	A
FC	UPC	MM	>30	A
FC	SPC	SM	>40	B
FC	UPC	SM	>50	C
FC	APC	SM	>60	D
E2000	APC	SM	>60	D

Bend radius Bending Radius: 50 mm

Cycles quantity > 500 cycles ⁽⁸⁾

Maximum weight single fiber or duplex cord 30N ⁽⁹⁾
hardened cord 300N

- 200N - Singlefiber cordage ⁽⁹⁾
- 400N - Duplex cordage ⁽⁹⁾

Strength Tensile > 100N ⁽⁸⁾

Installation Temperature 20°C

Operation Temperature From -25°C to 75°C

Package

Amount for box gift

- Up to 5m: 10 pieces/box
- From 6 to 15m: 5 pieces/box
- From 16 to 24m: 3 pieces/box
- From 25 to 35m: 2 pieces/box
- From 36 to 60m: 1 piece/box
- More than 60m: 5 pieces/box

Note: standard delivery for 2.0 mm cords

Minimum order quantity

1 box

Associated Solutions

Data Center, Commercial Building, Government, Health, Education, FTTx.

Standards and Certifications

Standard

ISO 8877 - Information Technology - Telecommunications and information exchange between systems - Interface connector and contact assignments for ISDN basic access interface located at reference points S and T

ANSI/TIA/EIA-568-C.1

ANSI/TIA/EIA-568-C.3 - Optical Fiber Cabling Components Standard

ABNT NBR 14433 - Connectors mounted on optical cords or optical fiber cables and adapters - Specification

ABNT NBR 14106 - Singlefiber Optical Cord - Specification

ABNT NBR 14705 - Classification of internal cables for telecommunications about of flame behavior - Specification

ISO/IEC 11.801 Ed.02

Certification

LC-PC 1344-06-0256

LC-APC 0583-08-0256

SC-PC 1365-06-0256

SC-APC 0483-02-0256

FC-PC 1366-06-0256

FC-APC 0485-02-0256

ST-PC 0484-02-0256

MT-RJ 1364-06-0256

E2000-APC 0482-02-0256

Note

1 - Extended Warranty of 15 or 25 years, requires the fulfillment of the Special Extended Warranty FCS.

2 - Depends on the choice of optical fiber.

3 - Other lengths on request.

4 - Standard product with a diameter of 2mm. Other diameters and patterns of color on request.

5 - Colors not defined in national and international standards.

6 - Optical fibers should be as Annexes "A " (Single Mode Fiber), "B " (Multimode Fiber) or "C " (Non-Zero Dispersion Fiber).

7 - Providing standard flammability class type COG. Other classes of flammability under consultation.

8 - Mechanical characteristics in accordance with the procedures for testing of optical cables monofibra duplex and assembled with connectors as required by the NBR 14433.

9 - Mechanical characteristics in accordance with the procedures for testing of optical cables and monofibra duplex, required by the NBR 14106.

10 - Values α performance standards for products in accordance with ABNT NBR 14433. Losses can be optimized for each type of connector and polishing on request.