



# Distribution Cable

## FCA-XXX-X-DS-X-EX / 2-12 Fibers

### Description

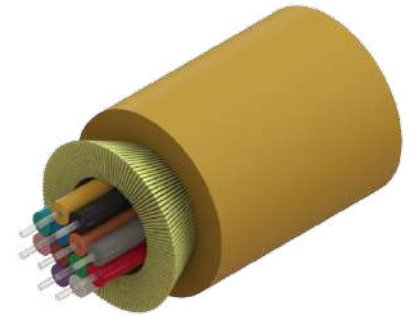
Waveoptics Distribution Cables are designed for indoor applications, field connectorization, telecommunications rooms and data centers. Thick outer jacket protects the fibers during installation.

The optical fibers are under a protective cover made of acrylate and a tight buffer. The tight buffers are colored for easy identification. Aramid yarn as a strength member to provide excellent tensile strength during installation.

The following jacket and tight buffer materials are available:

**PVC RISER:** used in vertical installations. Prevents the spread of flames to higher floors, in case of fire. Riser cable jackets are rated for flame generation and are held to a lower standard compared to plenum cables.

**PVC PLENUM:** ideal for applications in spaces with good air circulation, such as low ceilings or under elevated floors. Resistant to fire and produces low smoke when burned. Cable jackets used in plenum spaces are rated for both flame and smoke generation.



DISTRIBUTION CABLE OFNR 12F G652D S EX

### Quality

Waveoptics is a ISO-9001: 2015 certified company.

We meet or exceed the following international standards:

- Telcordia GR-409: Generic requirements for indoor fiber optic cable.
- IEC 60794: Basic requirements for optical fiber and cable elements.

Each Waveoptics cable meets the highest quality standards in the industry and contains a compliance certificate in which the performed tests in our quality laboratory are physically attached.

### Applications:



Indoor



Bend  
Insensitive

### Protections:



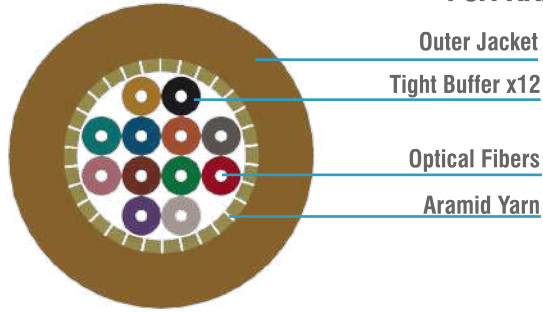
Flame  
Retardant




Riser Cable



Plenum Cable

**Dimensions and Properties**


Design	
Fiber count	2 - 12
Fiber color code	
Dielectric strength member	Aramid yarn
Outer jacket / tight buffer material*	PVC Riser / PVC Plenum
Drum length	4 km (13,123 ft) (±5%)
Temperature range	
Operation (Riser / Plenum)	-20°C to 70°C (-4°F to 158°F) / 0°C to 70°C (32°F to 158°F)
Installation (Riser / Plenum)	-10°C to 60°C (14°F to 140°F) / 0°C to 60°C (32°F to 140°F)
Storage / transport (Riser / Plenum)	-40°C to 70°C (-40°F to 158°F) / -40°C to 70°C (-40°F to 158°F)
Mechanical properties	
Maximum crush resistance	1000 N/100mm
Minimum bend radius (operation / installation)	10 x OD / 20 x OD

Note: Waveoptics recommends storing cable in a proper temperature environment prior to installation to allow the cable temperature to meet installation temperature range specifications for best installation results.

\*LSZH jacket also available upon request.

Fiber count	Outer jacket / tight buffer material	Nominal outer diameter (mm) (in) (±5%)	Jacket thickness (mm) (in)	Tensile strength (N) (lbf) long-term / short-term	Cable weight (kg/km) (lb/kft) (±10%)
2	PVC Riser (ver. backbone)	4.4 (0.17)	0.75 (0.03)	198 / 660 (45 / 148)	14.7 (9.9)
	PVC Plenum (hor. backbone)			132 / 440 (30 / 99)	16.9 (11.4)
4	PVC Riser (ver. backbone)	4.8 (0.19)	0.9 (0.035)	198 / 660 (45 / 148)	20 (13.4)
	PVC Plenum (hor. backbone)			132 / 440 (30 / 99)	23 (15.4)
6	PVC Riser (ver. backbone)	5.3 (0.21)	0.95 (0.037)	198 / 660 (45 / 148)	24.6 (16.5)
	PVC Plenum (hor. backbone)			132 / 440 (30 / 99)	28.3 (19)
8	PVC Riser (ver. backbone)	5.8 (0.23)	1.15 (0.045)	198 / 660 (45 / 148)	32 (21.5)
	PVC Plenum (hor. backbone)			132 / 440 (30 / 99)	36.8 (24.7)
12	PVC Riser (ver. backbone)	6.3 (0.25)	1.25 (0.049)	198 / 660 (45 / 148)	40.1 (26.9)
	PVC Plenum (hor. backbone)			132 / 440 (30 / 99)	46.1 (31)

**Outer Jacket Color Guide**
**SINGLE MODE FIBER**


SM G652.x fiber  
SM G657.x fiber  
Yellow

**MULTI MODE FIBER**


MM OM1 fiber  
MM OM2 fiber  
Orange



MM OM3 fiber  
MM OM4 fiber  
Aqua

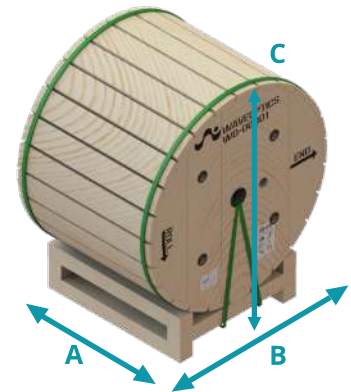
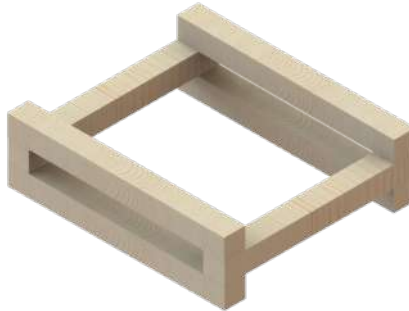


MM OM5 fiber  
Lime Green

**Printed Information on Outer Jacket**
**FCA-XXX-X-DS-X-EX / 2 - 12 fibers**

=/MONTH/YEAR/ WAVEOPTICS= =DISTRIBUTION= =/FIRE RATING/= =/FIBER TYPE/= =/FIBER COUNT/= =/METERS\*/ M= =/LOT #/=

- Printed in black, except for dark colored cables, which will be printed in white.
- Marking interval: every 1 meter + 1% or 2 feet + 1%.
- The marking can be changed according to customer requirements.
- \*The standard marking interval is every 1 meter, in case the marking requirement is in feet, a notification on the purchase order would be necessary.

**Drum Dimensions and Pallet Packaging Information**


Outer jacket / tight buffer material	Nominal outer diameter (mm) (in) (±5%)	Drum length (m) (ft) (±5%)	Fiber count	A (mm) (in) (±5%)		B (mm) (in) (±5%)	Drum and pallet total weight (kg) (lb) (±10%)	Total packaging (±5%)		
				Open	Closed			A (mm) (in)	B (mm) (in)	C (mm) (in)
PVC Riser	4.4 (0.17)	4,000 (13,123)	2	625 (25)	675 (27)	930 (37)	167 (367)	930 (37)	675 (27)	827 (33)
PVC Plenum				625 (25)	675 (27)					
PVC Riser	4.8 (0.19)		4	750 (30)	800 (32)	630 (25)	198 (437)	630 (25)	800 (32)	952 (38)
PVC Plenum				750 (30)	800 (32)					
PVC Riser	5.3 (0.21)		6	750 (30)	800 (32)	630 (25)	217 (477)	630 (25)	800 (32)	952 (38)
PVC Plenum				900 (35)	950 (37)					
PVC Riser	5.8 (0.23)		8	900 (35)	950 (37)	930 (37)	251 (553)	930 (37)	950 (37)	1,102 (43)
PVC Plenum				900 (35)	950 (37)					
PVC Riser	6.3 (0.25)	12	1,000 (39)	1,050 (41)	780 (31)	303 (669)	780 (31)	1,050 (41)	1,202 (47)	
PVC Plenum			1,000 (39)	1,050 (41)						780 (31)

Note 1: please contact your sales agent for higher fiber counts or different drum lengths available.

\*Note 2: all documentation included in each drum of cable is in english, if a different language is needed, please contact your sales agent.

All drums include\*:

- 1.- Drum handling instructions.
- 2.- Test report certificate.

- 3.- Product description (weight, dimensions, lot and part number).
- 4.- End cable marking.
- 5.- Both ends include end caps to protect against humidity.

**Transmission Performance by Fiber Type**
**FCA-XXX-X-DS-X-EX / 2 - 12 fibers**

Fiber type	Single Mode				Multi Mode				
Waveoptics fiber type	G652.D	G657.A1	G657.A2	G657.B3	OM1	OM2	OM3	OM4	OM5
Waveoptics fiber code	F	T	E	N	B	L	M	P	V
OFS® fiber type	G652.D	AllWave® FLEX	AllWave® FLEX+	EZ-Bend®	62.5 um Laser Optimized	50 um Graded Index	LaserWave® FLEX 300	LaserWave® FLEX 550	LaserWave® WideBand
OFS® fiber code	1	2	3	6	5	8	9	0	4
Wavelength (nm)	1310/1550				850/1300				
Max. attn. (dB/km) (1)	0.4/0.3	0.4/0.3	0.4/0.3	0.4/0.3	3.4/1	3/1			
Min. bandwidth (MHz*km) (2)	-				200/500	750/500	1500/500	3500/500	3500/500
1-Gigabit ethernet distance (m) (3)	-				300	750	> 550	> 550	> 550
10-Gigabit ethernet distance (m) (4)	-				-	150	300	400	400
40/100-Gigabit ethernet distance (m) (5)	-				-	-	100/70	150/100	150/100
Cable marking specifications	G652.D	G657.A1	G657.A2	G657.B3	OM1	OM2	OM3	OM4	OM5

**Notes:**

(1) Maximum attenuation after cabling process.

(2) OFL (overfilled launch) bandwidth measurement.

(3) 1-Gb/s at 850 nm transmissions based on IEEE 802.3z test protocol.

(4) 10-Gb/s at 850 nm transmissions based on IEEE 802.3ae test protocol.

(5) 40/100-Gb/s at 850 nm transmissions based on IEEE P802.3ba test protocol.

\*For more information about the optical fibers, consult the corresponding data sheets.

**Part Number Configuration**
**FCA-XXX-X-DS-X-EX**
**Fiber count**

 002 - 2 fibers  
 004 - 4 fibers  
 006 - 6 fibers  
 008 - 8 fibers  
 012 - 12 fibers

**Waveoptics optical fiber type**

 F - SM G652.D  
 T - SM G657.A1  
 E - SM G657.A2  
 N - SM G657.B3  
 B - MM OM1  
 L - MM OM2 TRUE BEND  
 M - MM OM3 TRUE BEND  
 P - MM OM4 TRUE BEND  
 V - MM OM5 TRUE BEND

**OFS® optical fiber type**

 1 - SM G652.D  
 2 - AllWave® FLEX  
 3 - AllWave® FLEX+  
 6 - EZ-Bend®  
 5 - 62.5 um Laser Optimized  
 8 - 50 um Graded Index  
 9 - LaserWave® FLEX 300  
 0 - LaserWave® FLEX 550  
 4 - LaserWave® WideBand

**Outer jacket material**

 R - PVC Riser  
 P - PVC Plenum

**Optical cable compliance**

 EX - Waveoptics standard  
 AC - Buy American Act compliance

Note: please contact your Waveoptics distributor if you need any additional compliance or if you have questions about the part number configuration.