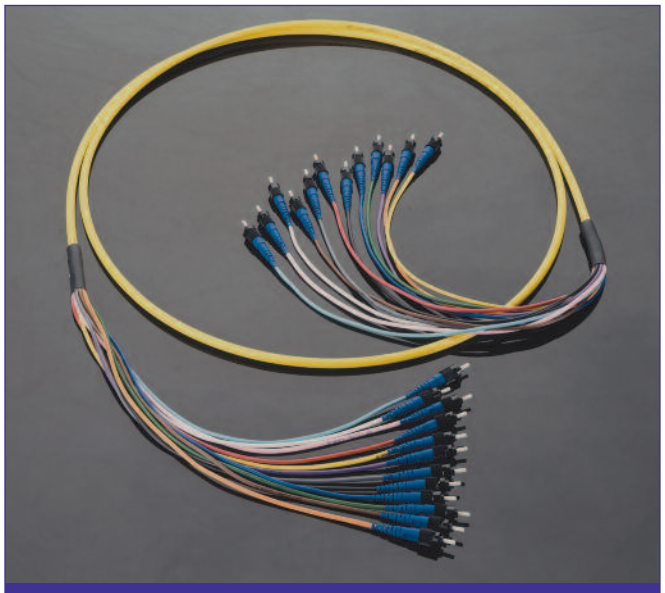
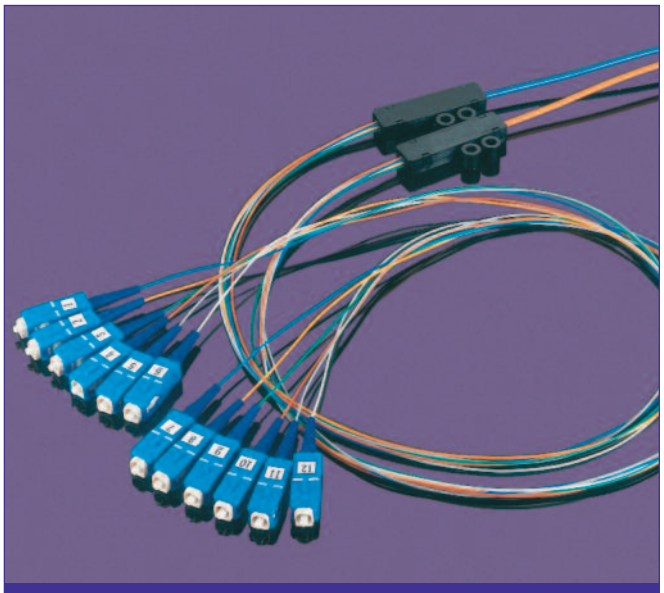
Cable Assemblies

An Evolant® Solutions Product

Corning Cable Systems offers the most complete line of connectors and factory-terminated cables, from single-fiber jumpers to high-fiber-count assemblies. As the industry's leading supplier of cable assemblies, Corning Cable Systems' state-of-the-art manufacturing process ensures unsurpassed connector performance with products that meet or exceed all industry standards for reflectance and insertion loss. Highly trained and qualified associates thoroughly screen the incoming fibers and ferrules, assemble and polish them in a carefully monitored and controlled process, and quality test the assemblies at the end. This assembly and polishing process ensures the same outstanding quality in every connector.



ST® Compatible Ultra PC 12-Fiber Cable Assembly | Photo CCA29



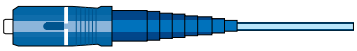
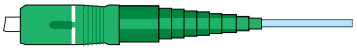
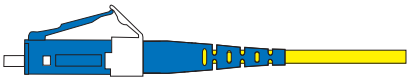
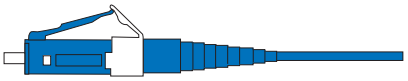
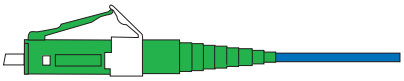
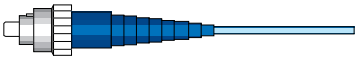
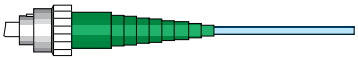
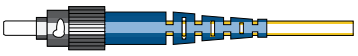
SC Ultra PC Cable Assembly | Photo CCA31

CORNING | Evolant® Solutions

Cable Assemblies

An Evolant® Solutions Product

Single-Mode Connector Types

	Jacketed Fiber	900 µm Fiber
SC Ultra PC	 *Drawing ZA-1447*	 *Drawing ZA-1448*
SC Angled PC	 *Drawing ZA-1451*	 *Drawing ZA-1452*
LC Ultra PC	 *Drawing ZA-3135*	 *Drawing ZA-3135*
LC Angled PC	 *Drawing ZA-2958*	 *Drawing ZA-3136*
FC Ultra PC	 *Drawing ZA-1441*	 *Drawing ZA-1442*
FC Angled PC	 *Drawing ZA-1445*	 *Drawing ZA-1446*
ST® Compatible Ultra PC	 *Drawing ZA-1457*	 *Drawing ZA-1458*
MT-RJ	 *Drawing ZA-2385*	 *Drawing ZA-2385*
MTP	 *Drawing ZA-2386*	 *Drawing ZA-2386* *Note: Shown with ribbon*

Notes: Drawings are not to scale.
Connectors shown above are single-mode. Multimode connectors are also available.

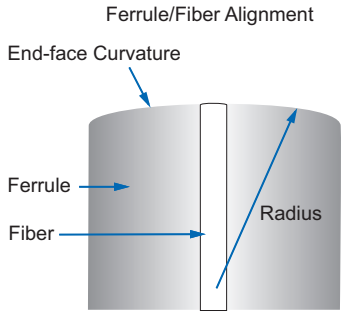
CORNING | Evolant® Solutions

Connector Performance

Controlling connector end-face geometry is key to ensuring network reliability. Radius of Curvature, Apex Offset and Fiber Undercut are the three critical parameters that affect long-term connector performance. These parameters are closely monitored and controlled throughout Corning Cable Systems automated process, thus assuring the highest quality in each and every connector assembly.

Radius of Curvature

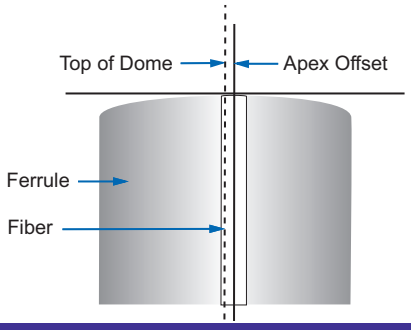
Radius of Curvature describes the radius of the end-face surface measured from the ferrule axis. The correct Radius of Curvature is necessary to control the compressive forces on the connector end-face. Radius of Curvature values between 10 to 30 millimeters are recommended to avoid fiber damage and to ensure low reflectance and insertion loss.



Radius of Curvature | Drawing ZA-3450

Apex Offset

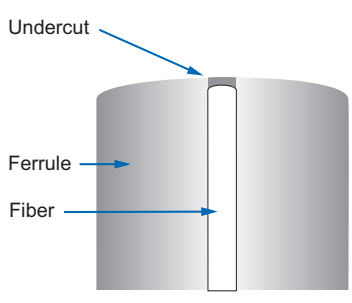
Apex Offset is the displacement between the apex of the sphere that fits the ferrule end-face and the center of the fiber core. Excessive Apex Offset can lead to lack of physical contact of the fiber cores and an increase in insertion loss. A typical Apex Offset value of 50 microns is recommended. Values greater than 50 microns can reduce fiber-to-fiber contact and cause increases in reflectance over the operating temperature.



Apex Offset | Drawing ZA-3451

Fiber Undercut/Protrusion

Fiber Undercut is the distance of the fiber above or below the fitted spherical surface of the ferrule. Proper undercut guarantees that fiber-to-fiber contact will always be maintained. The fiber undercut specification value is related to specific Radius of Curvature and Apex Offset values per IEC industry standards. Fiber undercut values of typically ±50 mm on new product.



Fiber Undercut/Protrusion | Drawing ZA-3452

Single-Fiber Cable

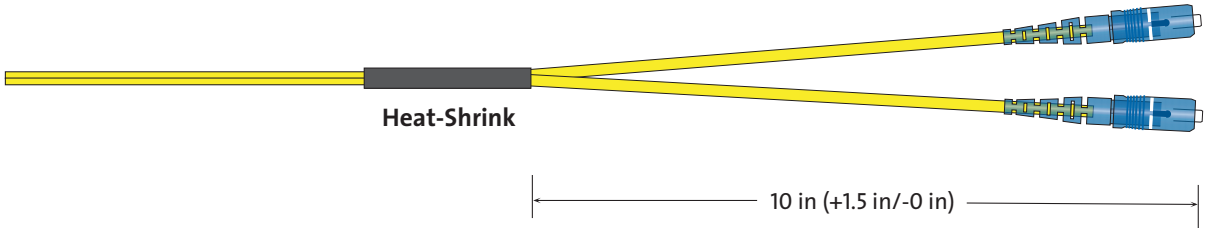
Example shows cable with an SC ultra PC connector installed.

Single-Fiber Cable | Drawing ZA-2557

Note: Available in 1.6 mm, 2.0 mm or 2.9 mm outer diameters.

Zipcord Cable (2 fibers)

Example shows cable with SC ultra PC connectors installed.

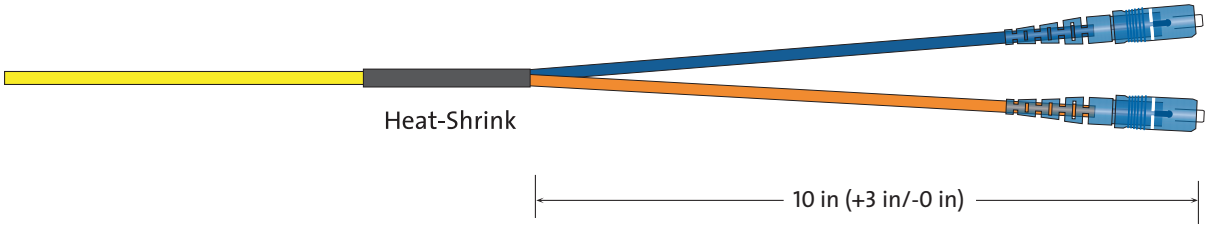


Zipcord Cable (2 fibers) | Drawing ZA-2930

Note: Available in 1.6 mm, 2.0 mm and 2.9 mm subunits.

DFX® Cable (2 fibers)

Example shows cable with SC ultra PC connectors installed.

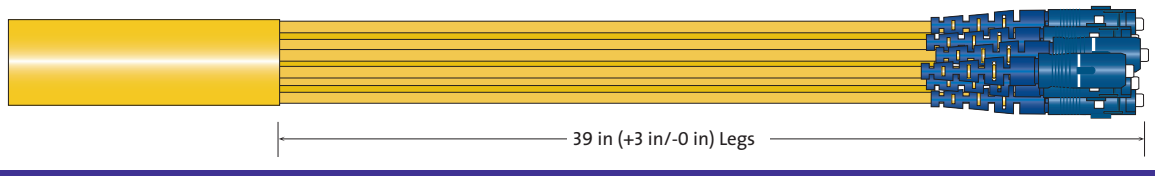


DFX Cable (2 fibers) | Drawing ZA-2931

Notes:
1) Available in 2.0 mm or 2.9 mm legs.
2) For total assembly length less than 3 ft, legs are 6 in (+3 in/-0 in).

Fan-Out Cable (2-24 fibers)

Example shows cable with SC ultra PC connectors installed.

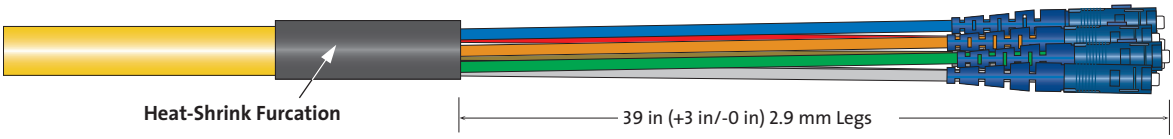


Fan-Out Cable (2-24 fibers) | Drawing ZA-2932

Note:
1) Maximum fiber count for fan-out cable assemblies is 24 fibers.
2) Available in 1.6 mm, 2.0 mm and 2.9 mm subunits.

MIC® Cable Furcation (2-12 fibers) with 2.9 mm legs

Example shows cable with SC ultra PC connectors installed.

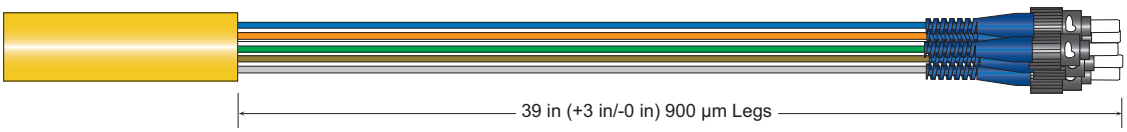


MIC Cable Furcation (2-12 fibers) | Drawing ZA-2933

Note: Available in 2.0 mm and 900 µm legs.

MIC Cable Furcation (13-24 fibers) with 900 µm legs

Example shows cable with ST® Compatible ultra PC connectors installed.

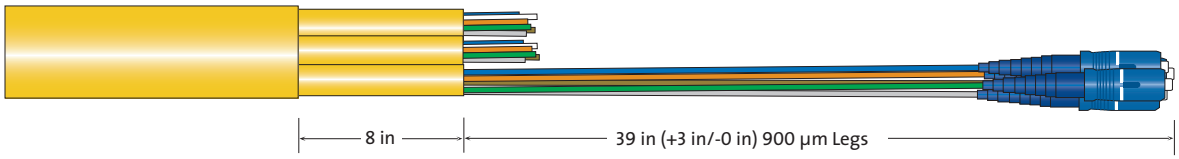


MIC Cable Furcation (13-24 fibers) | Drawing ZA-2934

Notes:
1) Also available in 2.0 mm and 2.9 mm legs.
2) Standard construction of 24-fiber assembly is a single-layer MIC® Cable.
3) For MIC Unitized Cable construction, a serialized part number is required.

MIC® Unitized Cable Furcation (36-144 fibers)

Example shows cable with SC ultra PC connectors installed.

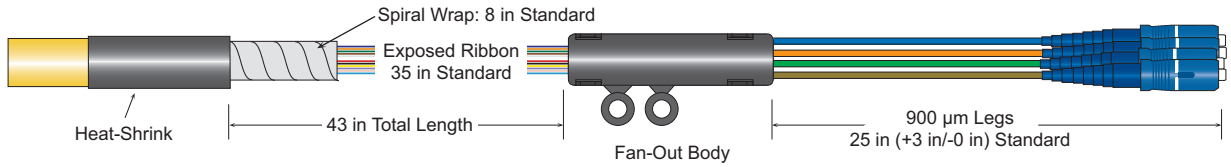


MIC Unitized Cable Furcation (36-144 fibers) | Drawing ZA-2935

Note:
1) Also available in 2.0 mm and 2.9 mm legs.
2) Standard construction is 6-fiber subunit up to 48-fiber and 12-fiber subunit from 60 to 144 fibers.
3) 24-fiber assembly available in MIC unitized construction. A serialized part number is required.

Ribbon Riser and FREEDM® Ribbon Cable Configuration (12-72 fibers)

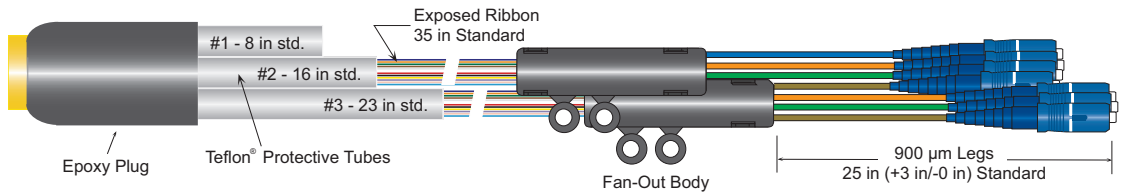
Example shows cable with SC ultra PC connectors installed.



Ribbon Riser and FREEDM Ribbon Cable Configuration | Drawing ZA-3140

Ribbon Riser and FREEDM Ribbon Cable Configuration (84-216 fibers)

Example shows 216-fiber cable with SC ultra PC connectors installed.

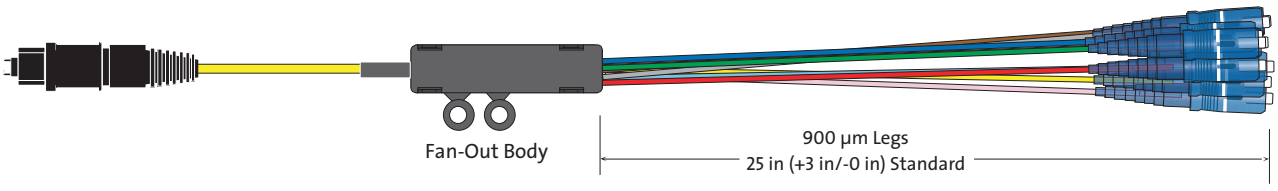


Ribbon Riser and FREEDM Ribbon Cable Configuration | Drawing ZA-2960

Fiber Counts for Protective Tubes:
Tube #1: 1-72 fibers
Tube #2: 73-144 fibers
Tube #3: 145-216 fibers

Ribbon Interconnect Cable Configuration (6-12 fibers with 900 µm legs)

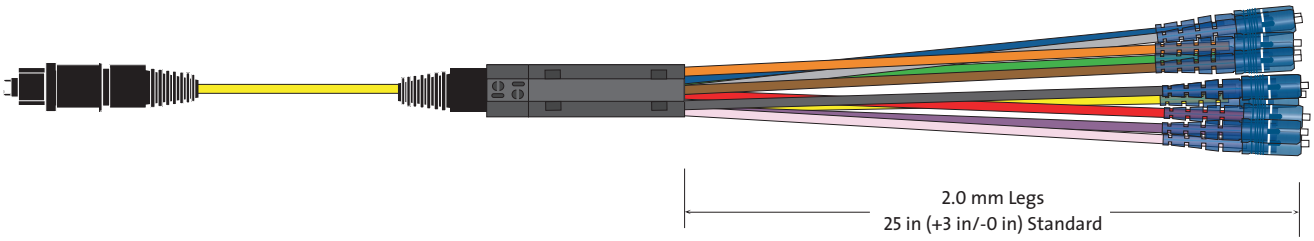
Example shows cable with MTP® SC ultra PC connectors installed



Ribbon Interconnect Cable Configuration | Drawing ZA-2329

Ribbon Interconnect Cable Configuration with Upjacketed Legs

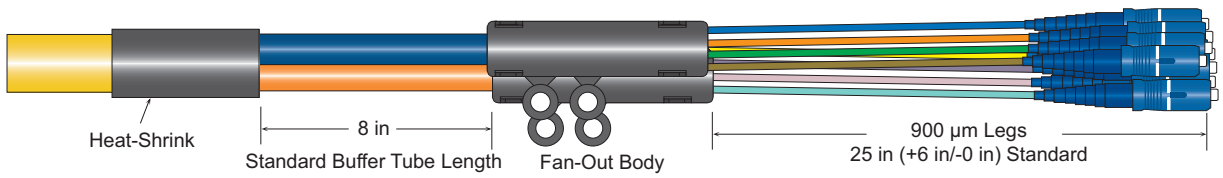
Example shows cable with MTP SC ultra PC connectors installed



Ribbon Interconnect Cable Configuration with Upjacketed Legs | Drawing ZA-2424

ALTOS® Riser Cable Configuration

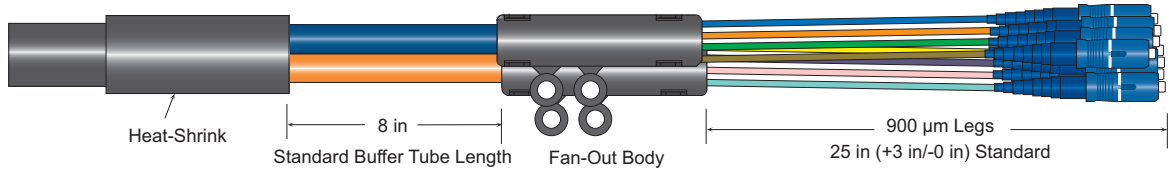
Example shows cable with SC ultra PC connectors installed.



ALTOS Riser Cable Configuration | Drawing ZA-2955

ALTOS® Outside Plant and FREEDM® Cable Configuration

Example shows cable with SC ultra PC connectors installed.



ALTOS Outside Plant and FREEDM Cable Configuration | Drawing ZA-2956

specifications |

Multimode Connectors

Type	Code	Insertion Loss (dB) 50/125 µm and 62.5/125 µm Typical	Ferrule	Housing
FC PC	17	0.35	Ceramic	Composite
SC PC Simplex	39	0.35	Ceramic	Composite
SC PC Duplex	57	0.35	Ceramic	Composite
ST® Compatible PC	50	0.35	Ceramic	Composite
MT-RJ (non-pinned)	97	0.3	Composite	Composite
LC PC Simplex	03	0.35	Ceramic	Composite
LC PC Duplex	05	0.35	Ceramic	Composite

Notes:
1) Low-loss cable assemblies available.
2) Low-loss LC and SC Cable Assemblies are available. Refer to LAN-664-EN for ordering information.

Single-mode Connectors

Type	Code	Insertion Loss (dB) Typical	Reflectance (dB) Typical	Ferrule	Housing
LC ultra PC Simplex	02	0.15	≤ -58	Ceramic	Composite
LC ultra PC Duplex	04	0.15	≤ -58	Ceramic	Composite
LC Angled PC Simplex	22	0.3	≤ -75	Ceramic	Composite
SC ultra PC Simplex	58	0.15	≤ -58	Ceramic	Composite
SC Angled PC Simplex	44	0.15	≤ -75	Ceramic	Composite
SC ultra PC Duplex	72	0.15	≤ -59	Ceramic	Composite
FC ultra PC	54	0.15	≤ -59	Ceramic	Nickel, Brass
FC Angled PC	21	0.15	≤ -75	Ceramic	Nickel, Brass
ST Compatible ultra PC	61	0.15	≤ -58	Ceramic	Composite
MT-RJ (non-pinned)	98	0.3	≤ -53	Composite	Composite

ordering information |

Single-Fiber Connectors

Corning Cable Systems patch cords and high-fiber-count assemblies are ordered using five easy steps. The steps involve the selection of connector(s), cable and length. The format and steps are listed below.

☐☐☐☐ ☐☐ ☐☐☐☐☐ ☐☐☐ ☐

|1 |2 |3 |4 |5

|1

Select connector code.

00 = No connectors (use when ordering a pigtail)

Multimode

03 = LC Simplex PC*
05 = LC Duplex PC*
17 = FC PC
39 = SC Simplex PC
50 = ST® Compatible PC
57 = SC Duplex PC

Single-mode

02 = LC ultra PC Simplex*
04 = LC ultra PC Duplex*
21 = FC Angled PC Simplex
22 = LC Angled PC Simplex*
44 = SC Angled PC Simplex
54 = FC ultra PC Simplex
58 = SC ultra PC Simplex
61 = ST Compatible ultra PC
72 = SC ultra PC Duplex

See Notes 1 and 2.

|2

Select fiber count.

01-96

See Note 3.

|3

Select cable code based on construction and fiber type (see Table A).

|4

Select cable assembly length.

001 to 999

See Note 4.

|5

Select unit of measure.

M = Meters
F = Feet

Notes:

1) Base connector code based on type of adapter used at the patch panel and the electronic interface connector. Always use the lowest code first when constructing the part number.

*2) *Available on 1.6 mm, 2.0 mm and 900 µm cable types only.*

3) For fiber counts greater than 96, contact a Corning Cable Systems Customer Service Representative.

4) For lengths greater than 999, contact a Corning Cable Systems Customer Service Representative.

ordering information | (continued)

Table A

Fiber Type	62.5 µm	50 µm†	50 µm Pretium® 300 Solutions†	Single-Mode (SMF-28e®)	Bend-Improved Single-Mode (SMF-28e® XB)
Cable Type					
Cable Listing: No Listing Required					
900 µm	K4141	B4131	T4180	R4131	G4131
Cable Sheath Color	Orange	Orange	Aqua	Yellow	Yellow
Cable Listing: Riser – OFNR					
Single-Fiber Cable					
2.9 mm	K3141	B3131	T3180	R3131	G3131
2.0 mm	K2141	B2131	T2180	R2131	G2131
1.6 mm	K3116	B3116	T3116	R3116	G3116
Zipcord Cable (2 fiber)					
2.9 mm	K5141	B5131	T5180	R5131	G5131
2.0 mm	K5120	B5120	T5120	R5120	G5120
1.6 mm	K5116	B5116	T5116	R5116	G5116
DFX® Cable (2 fiber)					
2.9 mm legs	K9141	B9131	T9180	R9131	G9131
2.0 mm legs	K9120	B9120	T9120	R9120	G9120
Fan-Out Cable (2-24 fiber)					
2.9 mm subunits	K61HD	B61HD	T61HD	R61HD	
2.0 mm subunits	K61LD	B61LD	T61LD	R61LD	
1.6 mm subunits	K61XD	B61XD	T61XD	R61XD	
MIC® Cable (2-12 fiber)					
2.9 mm	K8130	B8131	T8180	R8131	
2.0 mm	K8120	B8120	T8120	R8120	
900 µm	K81NF	B81NF	T81NF	R81NF	
MIC Cable (> 12 fiber)					
2.0 mm legs	K8120	B8120		R8120	
900 µm legs	K8130	B8131	T8180	R8131	
MIC Unitized Cable (36-144 fiber)					
900 µm legs	K8130	B8131	T8180	R8131	
2.0 mm legs	K8120	B8120		R8120	
Ribbon Interconnect Riser (2, 4 and 12 fiber)	KJ140*	BJ131*	TJ180*	RJ131*	
Ribbon Riser	KC725*	BC725*	TC725*	RC725*	
ALTOS® Riser	KW725*	BW725*	TW725*	RW725*	

**Defines standard as 25-in leg lengths. Other leg lengths available. Part number will change.*

† With ultra-bendable performance.

ordering information | (continued)

Table A (continued)

Fiber Type	62.5 µm	50 µm†	50 µm Pretium® 300 Solutions†	Single-Mode (SMF-28e®)	Bend-Improved Single-Mode (SMF-28e® XB)
Cable Type					
Cable Listing: Plenum – OFNP					
Single-Fiber Cable					
2.9 mm	K3841	B3831	T3880	R3831	G3831
2.0 mm	K2841	B2831	T2880	R2831	G2831
1.6 mm	K3816	B3816	T3816	R3816	G3816
Zipcord Cable (2 fiber), 2.9 mm	K5841	B5831	T5880	R5831	G5831
Fan-Out Cable					
2.9 mm subunits	K68HD	B68HD	T68HD	R68HD	G68HD
2.0 mm subunits	K68LD	B68LD	T68LD	R68LD	G68LD
1.6 mm subunits	K68XD	B68XD	T68XD	R68XD	G68XD
MIC® Cable (2-12 fiber)					
2.9 mm	K8830	B8831	T8880	R8831	G8831
2.0 mm	K8820	B8820	T8820	R8820	G8820
900 µm legs	K88NF	B88NF	T88NF	R88NF	G88NF
MIC Cable (> 12 fibers)	K8830	B8831	T8880	R8831	G8831
2.0 mm legs	K8820	B8820	T8820	R8820	G8820
MIC Unitized Cable (36 - 144 fiber)					
900 um legs	K8830	B8831	T8880	R8831	G8831
2.0 mm legs	K8820	B8820	T8820	R8820	G8820
Ribbon Interconnect (2, 4 and 12 fiber)	KJ840*	BJ831*	TJ880*	RJ831*	GJ831*
Ribbon Plenum	KC825*	BC825*	TC825*	RC825*	GC825*
Indoor/Outdoor					
Cable Sheath Color	Black	Black	Black	Black	
FREEDM® Cable	KWF25*	BWF25*	TWF25*	RWF25*	
FREEDM LST™ Cable	KSF25*	BSF25*	TSF25*	RSF25*	
FREEDM Ribbon Riser Cable	KCF25*	BCF25*	TCF25*	RCF25*	
FREEDM One Riser Cable (6 and 12 fiber)					
2.9 mm, 39 in legs	K8F30	B8F31	T8F80	R8F31	
2.0 mm, 39 in legs	K8F20	B8F20	T8F20	R8F20	
900 µm, 39 in legs	K8FNF	B8FNF	T8FNF	R8FNF	
FREEDM One Plenum Cable (6 and 12 fiber)					
2.9 mm, 39 in legs	K8P30	B8P31	T8P80	R8P31	
2.0 mm, 39 in legs	K8P20	B8P20	T8P20	R8P20	
900 µm, 39 in legs	K8PNF	B8PNF	T8PNF	R8PNF	
Outdoor					
ALTOS® Cable	KW425*	BW425*	TW425*	RW425*	
Tactical Cable					
2.0 mm legs	K8U20			H8U20	

**Defines standard as 25-in leg lengths. Other leg lengths available. Part number will change.*

† With ultra-bendable performance.

Note:

1) When using the standard part number scheme, 39-in leg lengths are standard. Otherwise, a serialized part number will be required.

ordering information |

MT-RJ Jumpers

Corning Cable Systems 2-fiber patch cords are ordered using four easy steps. The steps involve the selection of connector(s), cable and length. The format and steps are listed below.

☐☐☐☐ ☐☐☐☐☐☐☐ ☐☐☐ ☐
|1 |2 |3 |4

|1

Select connector code.

00 = No connectors (use when ordering a pigtail)

Multimode

97 = MT-RJ (non-pinned)

Single-mode

98 = MT-RJ (non-pinned)

For hybrid MT-RJ jumpers, use the following options to construct the part number:

Multimode

03 = LC PC Simplex*
05 = LC PC Duplex*
17 = FC PC
39 = SC PC Simplex
50 = ST® PC Compatible
57 = SC PC Duplex

Single-mode

02 = LC ultra PC Simplex*
04 = LC ultra PC Duplex*
54 = FC ultra PC Simplex
58 = SC ultra PC
61 = ST ultra PC Compatible
72 = SC ultra PC Duplex

See Notes 1-3.

|2

Select cable code based on construction and fiber type (see Table B).

|3

Select length.

001 – 999

See Note 4.

|4

Select unit of measure.

M = Meters
F = Feet

Notes:

1) Base connector code based on type of adapter used at the patch panel and the electronic interface connector. Always use the lowest code first when constructing the part number.

2) MT-RJ patch cords are typically sold without pins. For pinned versions, call Customer Service.

3) CLC available 2.0 mm legs only. If 900 µm or 1.6 mm legs are required, please contact Customer Service.

4) For lengths greater than 999, contact a Corning Cable Systems Customer Service Representative.

Table B

Fiber Type	62.5 µm	50 µm*	Pretium® 300 Solutions*	Single-Mode (SMF-28e®)
Cable Type				
Cable Listing: Riser – OFNR Ribbon Interconnect	02KJ140	02BJ131	02TJ180	02RJ131
Cable Listing: Riser – OFNP Ribbon Interconnect	02KJ840	02BJ831	02TJ880	02RJ831

* *With ultra-bendable performance.*

Note:

1) For hybrid jumpers, standard leg length for single-fiber connector end is 10-in, 2.9 mm legs. For LC, standard leg is 2.0 mm.

ordering information |

MT-RJ Trunks, 2-144 Fibers

□□	□□	□□	□	□□	□□	□□□	□
|1	|2	|3	|4	|5	|6	|7	|8

|1

Select connector type on first end.

Single-mode
87 = MT-RJ (pinned)
See Note 1.

Multimode
86 = MT-RJ (pinned)
See Notes 2 and 3.

For single-fiber connectors, use the following options to construct the part number:

Multimode
03 = LC PC Simplex
05 = LC PC Duplex
17 = FC PC
39 = SC PC
50 = ST® PC Compatible
57 = SC Duplex

Single-mode
02 = LC ultra PC Simplex
04 = LC ultra PC Duplex
54 = FC ultra PC
58 = SC ultra PC Simplex
61 = ST ultra PC Compatible
72 = SC ultra PC Duplex
See Note 4.

|2

Select connector type on second end.

Single-mode
87 = MT-RJ (pinned)

Multimode
86 = MT-RJ (pinned)
See Notes 3 and 5.

|3

Select standard fiber count.

02 = 2 fibers
06 = 6 fibers
12 = 12 fibers
24 = 24 fibers
36 = 36 fibers
48 = 48 fibers
72 = 72 fibers
96 = 96 fibers
E4 = 144 fibers

|4

Select fiber type.

R = Single-mode
K = Multimode 62.5 µm
B = Multimode 50 µm, with ultra-bendable performance
T = Multimode 50 µm, Pretium® 300, with ultra-bendable performance
H = Bend-improved single-mode

|5

Select cable type.

81 = MIC® Riser Cable
88 = MIC Plenum Cable

|6

Select cable performance.

31 = Single-mode
30 = Multimode 62.5 µm
31 = Multimode 50 µm
80 = Multimode 50 µm, Pretium 300

|7

Select assembly length.

001 – 999
See Note 6.

|8

Select unit of measure.

M = Meters
F = Feet

Notes:
1) Select connector code based on the type of adapter used at the patch panel and the electronic interface connector. Always use the lowest code first when constructing the part number.

2) Most multi-fiber applications are for backbone cabling and will require an MT-RJ (pinned) connector. If non-pinned connectors are required, please contact Customer Service.

3) For MT-RJ end, standard legs are 900 µm. Leg lengths are 39 in (-0/+3 in).

4) Fiber counts 12 or less, standard legs are 2.9 mm, leg lengths 39 in (-0/+3 in). Fiber counts greater than 12, standard legs are 900 µm, leg lengths 39 in (-0/+3 in).

5) If non-pinned connectors are required, please contact Customer Service.

6) For lengths greater than 999, contact a Corning Cable Systems Customer Service Representative.

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Part Number Examples

Part Number	Description
025801R2131010F	LC Ultra PC Simplex on first end and SC Ultra PC Simplex on second end; 1-fiber cable; single-mode 2.0 mm riser cable; assembly length of 10 ft
589802RJ131025M	SC Ultra PC Simplex on first end and MT-RJ (non-pinned) on second end; 2-fiber single-mode ribbon interconnect riser cable; assembly length of 25 m

notes |

notes |

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