

CORNING

RF connector presentation

Feb. 2015

Corning Optical Communications

We are the global leader in optical fiber, cable and connectivity

2013 Sales
\$2.3B

Employees:
~12,000 worldwide

Locations
20+ locations
around the globe

Product Line Brands

- Bargoa
- Corning Cable Systems
- Gilbert
- MobileAccess



Hickory, NC



Production Facilities

Corning, Vordingborg

- design
- prototyping
- precision machining
- plating
- injection molding



Corning, Arizona

- design,
- prototype,
- precision machining,
- plating



CCS, Poland

- fiber optics
- assembly (jumpers)



Reynosa, Mexico

- injection molding
- assembly



OEM components and finished connectors from Denmark, China and Taiwan

CATV – A core competence

More than 3,000 different types of connectors

CATV

Broadband

Broadcast
Applications



Truelock Connectors

- NiTin plated brass



CX3 Drop Connectors

- Compression
- NiTin plated brass

Tools and accessories, Jumpers, Custom-made solutions, Endless R&D

Presentation objectives

Understanding importance of connectors in the network.

- Why use TrueLock connectors
 - Demonstrate how connector quality and the network can be impeded through improper installation.
- Why use SpringConnect connectors
 - Importance of in-house installation, importance of proper shielding to the last end.
- Why use QuickMount connectors
 - Importance of easy and safe installation especially on PE cables
- Why use CX3 4,9 connector
 - Robust and very forgiven to a lot of cable dimensions

What is the True Lock Connector?

- A coaxial connector used in the trunk/distribution segment of the CATV network
- Combines the best features of existing Corning connector offerings with new features that enhance performance and simplify installation

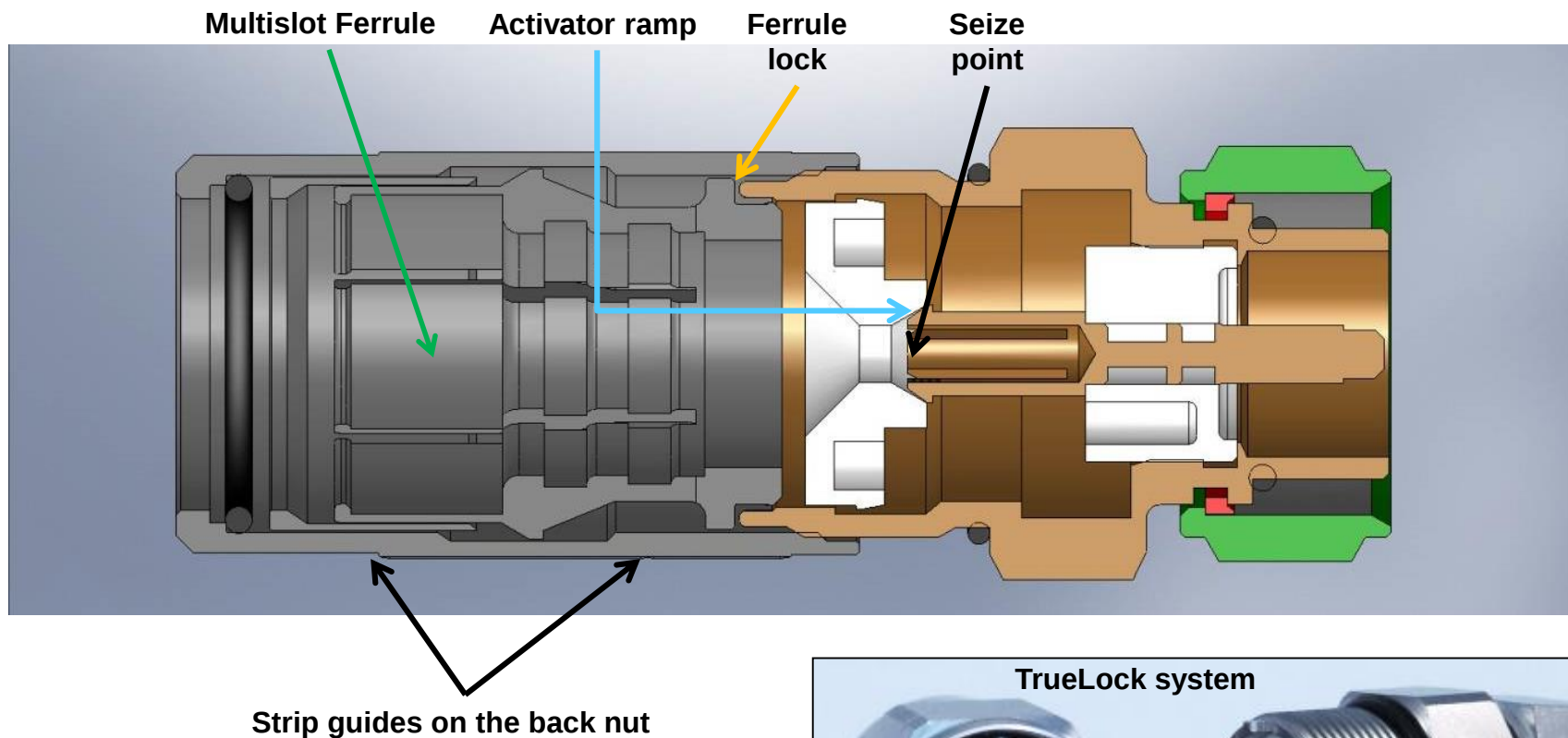


Why use TrueLock connector

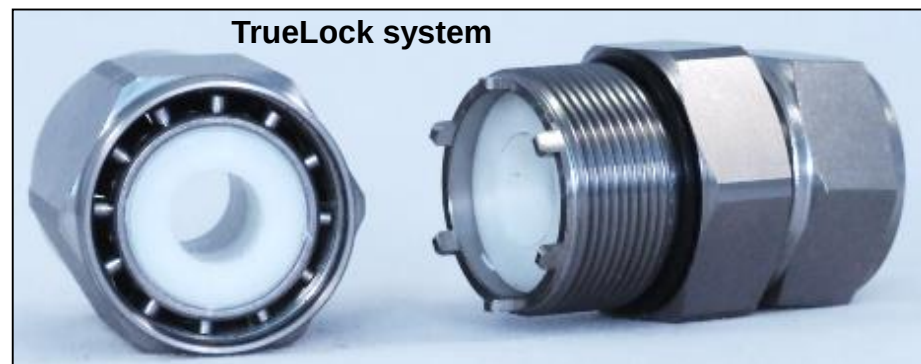
- Reduced tightening torque eases installation
- Locking system prevents cable turn during installation
- Multislot ferrule applies uniform grip on outer conductor and improves electrical performance
- Activator system ensures correct tightening pressure and reduces risk of IMD
- Multigrip seizing mechanism applies uniform grip on inner conductor and reduces risk of IMD



True Lock Connector Overview



[ST-3646_TrueLock.avi](#)



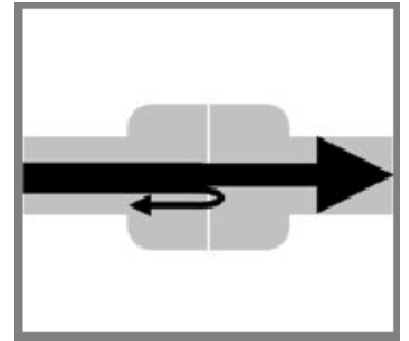
Importance of connectors in the network

Measurement	According to Standard
Return Loss	IEC 61169-1 §9.2.1.5.
Insertion Loss	IEC 61169-1 §9.2.1
Passive Intermodulation	IEC 62037-2 and IEC 62037-3
Shielding Effectiveness	EN 50289-1-6 §6 / EN 50289-1-6 §8
Sealing Test	IEC 60529+A1 §4-6
Dielectric Strength	IEC 61169-1 §9.2.6
TDR	IEC 1169 §9.2.1.8
Insulation Resistance	IEC 61169-1 §9.2.5
Ampere Rating	IEC Publication 512-3 Test 5a
Climatic Cycle Test	IEC 60068-2-14 part 2 §2
Damp Heat Test	IEC 61169-1 §9.4.3
Quick Temperature Change Test	IEC 61169-1 §9.4.4
Salt Spray Test	DS/EN 60068-2-11 / Belcore GR-1503-CORE §4-4
Chemical Resistance	Belcore GR-1503-CORE §4-7
Environmental Pollutants	Belcore GR-1503-CORE §4-5
Inner conductor Resistance	IEC 61169-1 §9.2.3
Inner conductor tensional strength	Belcore GR-1503-CORE §3.2.3 R3-16
Outer conductor tensional strength	Belcore GR-1503-CORE §3.2.3 R3-16
Total tensional strength	Belcore GR-1503-CORE §3.2.3 R3-16
Tensional force to mount cable	Belcore GR-1503-CORE §3.2.2 O3-10
Mechanical grip on cable after cable bend	IEC 61169-1 §9.3.9
Shock and vibration test	MIL-STD-202 Method 204 condition B. / Method 213 condition G

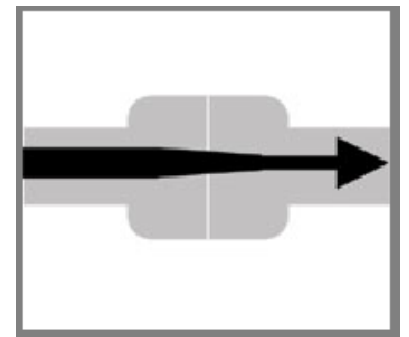
The weak point in the chain – the connector!

Impedance out of tolerance = high reflexion and loss

Part of the signal's power level is reflected.

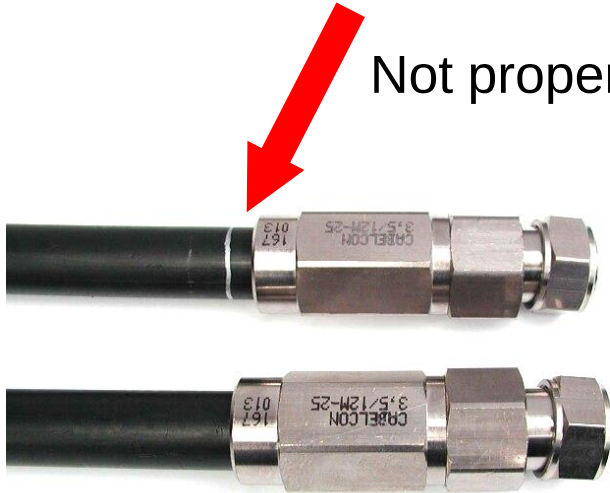


Part of the signal level is lost.



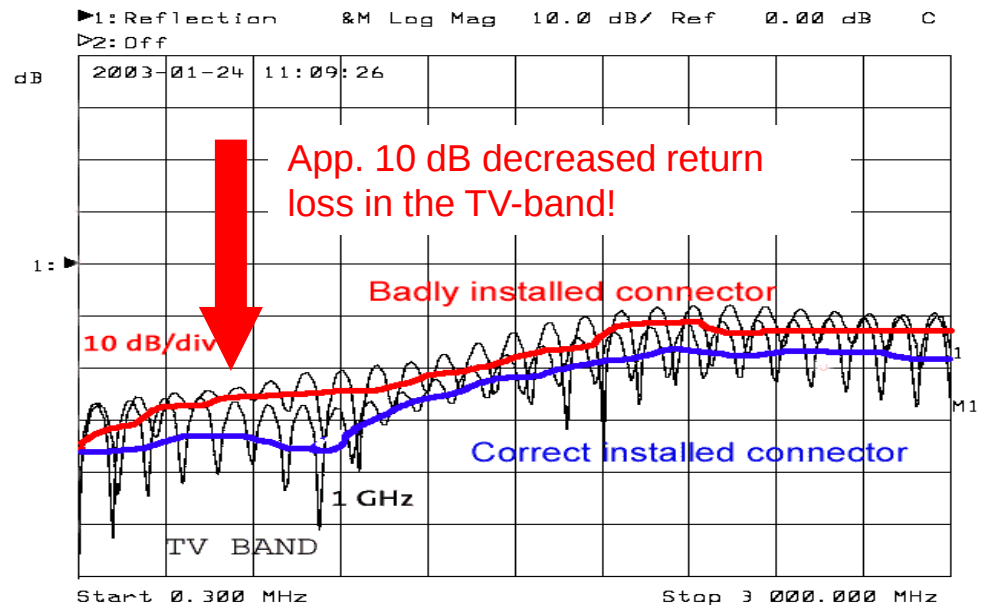
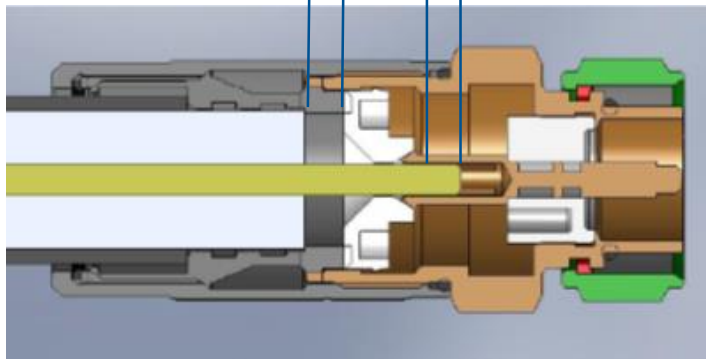
What is the difference?

Not properly installed



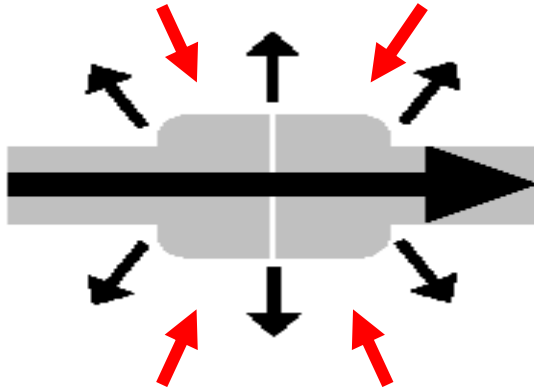
Should have been pushed in place to the bottom of the connector before tightening (to the mark).

Space increases Less inner conductor grip



The weak point in the chain – the connector!

What can cause shielding/Transfer impedance issues



Transfer impedance <30MHz issues caused by
Low conductivity in materials and/or connections.
Leads to, signal radiation when signal passes
through connectors or cables with low conductivity.

Shielding >30MHz, issue caused by
Signal can get in and out via leaks in
connectors or cables

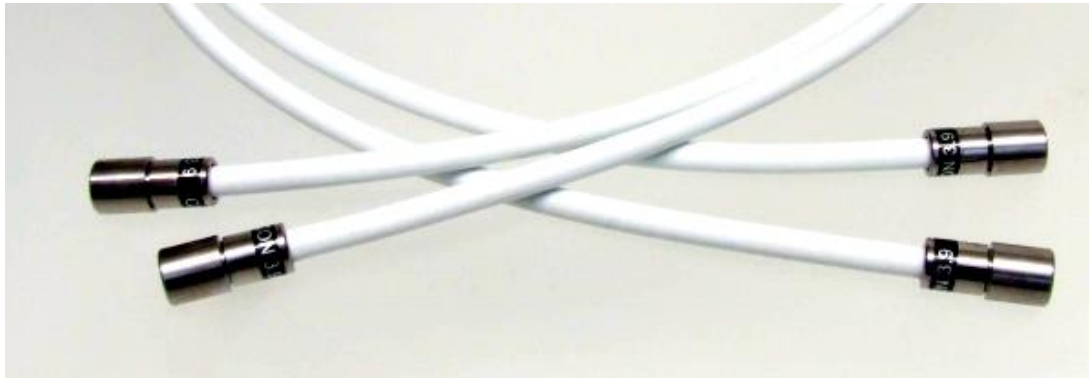


Summary of True Lock characteristics

- One unified program to cover all cable types
- Low tightening torque
- Multislot ferrule ensures perfect cable grip (signal transfer)
- Cable locking system prevents cable rotation
- Strip guides for both inner and outer conductor
- Inner conductor seizing mechanism
- Shielding, class A++ (cable dependent)
- Return loss better than 30 dB to 1 GHz
- Excellent pull strength (min. 100% better than cable spec)
- Unique Nitin6 plating for controlled quality
- No tooling changes or additional installer training needed

Why use SpringConnect jumper / connectors

- Push on connector
 - [SpringConnect](#)™ technology
 - RF tight until last point of connection.
 - The perfect choice for home installations
 - No need for torque wrenches
 - No risk of damaging equipment
 - It doesn't get any easier!



SpringConnect™ is also available as ready made jumper cables
For modems and other applications in customer specified
lengths.

SpringConnect™ is waterproof
with our additional Seal Ring
Item no. 99900902



Why use QuickMount

Simple, easy and safe installation in seconds

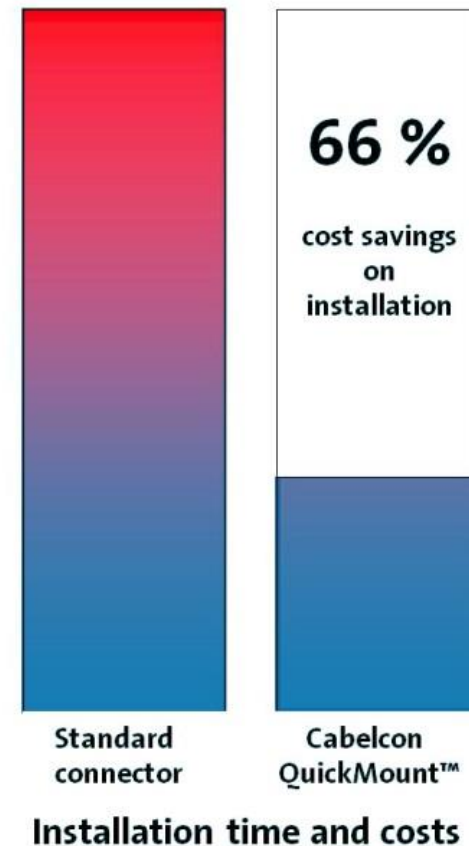


- No folding back the braid
- Simply slide on & compress

Completely waterproof solution Fits a large range of RG6 cables



Available in RG11
- With push pin feature

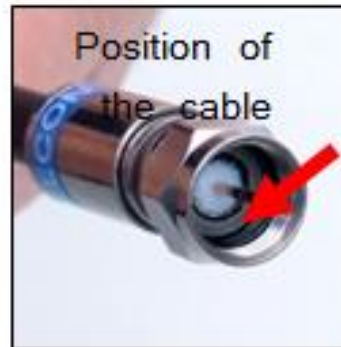


Why use QuickMount



No cable insertion force needed!

- The cable slides easy and smooth into the connector. No force needed.
- Pull strength (typical 236N/20 kg) (size 7.0).



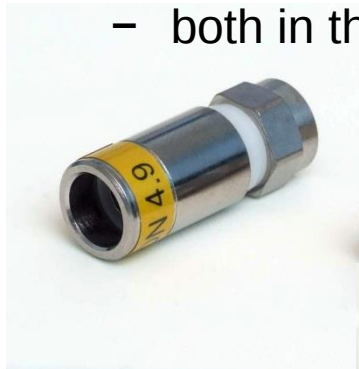
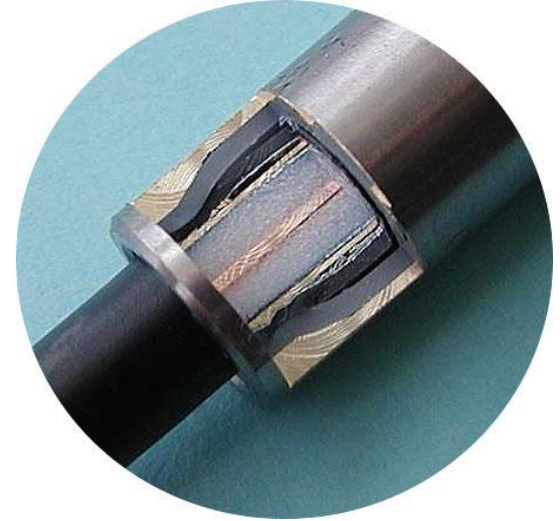
QuickMount™ Key messages:

- Controlled installation
- No damages on cable foil and braid
- No cable insertion force needed!
- Perfect for hard & cold PE cable
- Waterproof QuickMount™
- Save time & money on installation time and installation reliability



Why use CX3 4,9

- Most robust connector.
- Very “forgiving” for different cable dimensions
- Outstanding quality and performance
- waterproof to 30 meter of water
 - both in the cable end and interface



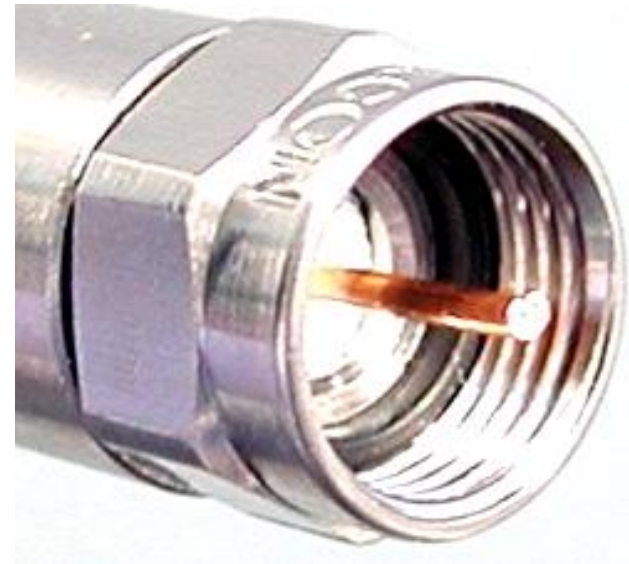
- For RG6 cables.
- 99909441-01
- F-56-CX3 4.9



- For RG59 cables.
- 99909421-01
- F-59-CX3 3.9



- For RG11 cables.
- 99909538-02
- FM-RG11-CX3 QM 10.5



Why use CX3 4,9

- Easy determination of cable and connector sizes CX3

connector Sizes CX3™/ Self-Install™	Label Colour
3.7	CABELCON
3.9	CABELCON
3.9 HEC+ 6.0	CABELCON
4.9 + 7.5 + 10.5	CABELCON
5.1 + 7.0	CABELCON
4.5	CABELCON
5.0	CABELCON
5.7	CABELCON
7.5Q	CABELCON
4.0	CABELCON

Check the stripping dimensions against the guide printed on the connectors



6,5 + 6,5 mm (1/4" + 1/4")

You can use the front part of the connector (with the built-in "tool") against the cable and turn it slowly to prepare the foil to enter into the connector easier.



Environmental care



- RoHS compliant
- REACH compliant (Registration Evaluation Authorisation CHemicals)
- Follow EU packaging legislation

1. Air cleaning systems
2. Coolant cleaning
3. Waste water cleaning
4. Scrap cleaning



Searching product search



CORNING

Searching product search



■ main menu

■ guided search via cable

■ product search

■ read memory pad

Product catalogue

Guided search via cable

Leads you through a step by step procedure based on choice of cable.

Product search

Find products using the product number, product name, Cabelcon type *or* type of interface.

Add to memory pad

Add products to the memory pad for printing product names and numbers after searching the system.



For further information regarding availability for products not mentioned in this catalogue, please

Searching product search

Corning
Cabelcon

■ main menu

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Search

PRODUCT NUMBER OR NAME:

Type part of the product name or number in the field below and press the search button.

4.9

Search

CABELCON TYPE:

Type the specific Cabelcon Type (CC Type) in the field below and press the search button.

Search

INTERFACE:

Select the specific interface in the field below and press the search button.

Select Interface: ▾

Search

Hardline: ☒

Compression: ☐

CXJ6/CXJ59 jumpers: ☐

Crimp: ☐

Adapter: ☐

CXJ11/HFX jumpers: ☐

Searching product search



- main menu
- guided search via cable
- product search
- read memory pad

Search Results:

Number of matches: 27	
33000221	SR 56-EPA 4.9/8.1-TL202 for jumper
99450055	90-IECM-56-UNIV 4.9/8.8 .360"
99455150	IEC14M-56-UNIV 4.9/8.8 .360"
99470117	90-IECF-56-UNIV 4.9/8.8 .360"
99495150	3.5/12M-56-UNIV 4.9/8.8 .360"
99515150	3.5/12F-56-UNIV 4.9/8.8 .360"
99530058	90-FM-56-UNIV 4.9/8.8 HQ
99900300	IECM-56-UNIV 4.9/8.8 .360"
99900400	IECF-56-UNIV 4.9/8.8 .360"
99901400	F-56-UNIV 4.9/8.8
99901410	F-56-ALM 4.9/8.4
99905140	F-56-UNIV 4.9/8.4
99909388	GF-UE 4.9 NiTin PLATING
99909441	F-56-CX3 4.9
99909475	BNCM-56-CX3 4.9
99909484	IECM-56-CX3 4.9
99909494	IECF-56-CX3 4.9
99909508	F-56-UL 4.9
99909517	FM-56-CX3 4.9 (wide interface)
99909540	E-56-CX3 4.9
Next Page >>	
Select Result Page: <u>1</u> 2	



Searching product search



- main menu
- guided search via cable
- product search
- read memory pad

Compression Connector:	F-56-CX3 4.9
Item number:	99909441-01

Selected cable:

Cable manufacturer	Cable description	CC Type
- - -	- - -	K-COMP 4,9



Single package:

Quantity	1
Barcode	5707957066862

Bulk package:

Quantity	2000
Barcode	5707957866868

Min. order:

Quantity	100
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- Data Sheet
- Tools/Accessories
- Matching Cables
- Mounting instruction
- Add to memory pad

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Guided search via cable

Corning
Cabelcon

- main menu
- **guided search via cable**
- product search
- read memory pad

Product catalogue

Guided search via cable  Leads you through a step by step procedure based on choice of cable.

- Product search** Find products using the product number, product name, Cabelcon type or type of interface.
- Add to memory pad** Add products to the memory pad for printing product names and numbers after searching the system.

For further information regarding availability for products not mentioned in this catalogue, please contact your local Corning Cabelcon distributor or one of our sales departments. Corning Cabelcon is not responsible for any errors or omissions in this catalogue.

Guided search via cable

Manufacturer:

All manufacturers: ▾

Cable description:

T6

Full or part of description.

Minimum

Maximum

Sorted by

Inner conductor:

in mm.

☐

Dielectric:

in mm.

☐

Outer conductor:

in mm.

☐

Outer sheath:

in mm.

☐

Cabelcon Type (CC Type):

☐

Search cable for:

Connectors, splice connectors and jumpers >>	Search
Splice reducers and SR jumpers >>	Search
Crimp connectors >>	Search
Compression connectors >>	Search

Guided search via cable

Select Cable

Type of Cable	Manufacturer	CC Type	Inner conductor	Dielectric	Outer conductor	Outer sheath
C6 7CW04CRT63-5V	Eupen cables	-11	0,8	3,6	4,3	5,8
SAT6	Belden cables	-01	1,02	4,4	5,3	6,6
T6T77-V	Times Fiber cables	-01	1,02	4,57	5,49	7,06
T10 T6T77-V	Times Fiber cables	-01	1,02	4,57	5,38	7,06
<u>T6CTSFx77T-E BLACK (SPECIAL) / DBS T-WNNN</u>	Times Fiber cables	-01	1,02	4,6	5,33	6,81
T6CTSFx77T-U BLACK (SPECIAL) / DBS	Times Fiber cables	-01	1,02	4,6	5,33	6,81
T6CTSFx77T-U WHITE (SPECIAL) / DBS	Times Fiber cables	-01	1,02	4,6	5,33	6,81
T6CTSFx77-E BLACK (SPECIAL) / DBS T-WNNN	Times Fiber cables	-01	1,02	4,6	5,33	6,81
T6CTSFx77-U BLACK (SPECIAL) / DBS	Times Fiber cables	-01	1,02	4,6	5,33	6,81
T6CTSFx77-U WHITE (SPECIAL) / DBS	Times Fiber cables	-01	1,02	4,6	5,33	6,81
SAT6	Belden cables	-TL101	1,02	4,4	5,3	6,6
T6T77-V	Times Fiber cables	-TL101	1,02	4,57	5,49	7,06
T10 T6T77-V	Times Fiber cables	-TL101	1,02	4,57	5,38	7,06
T6CTSFx77T-E BLACK (SPECIAL) / DBS T-WNNN	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
T6CTSFx77T-U BLACK (SPECIAL) / DBS	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
T6CTSFx77T-U WHITE (SPECIAL) / DBS	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
T6CTSFx77-E BLACK (SPECIAL) / DBS T-WNNN	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
T6CTSFx77-U BLACK (SPECIAL) / DBS	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
T6CTSFx77-U WHITE (SPECIAL) / DBS	Times Fiber cables	-TL101	1,02	4,6	5,33	6,81
C6 7CW04CRT63-5V	Eupen cables	-TL111	0,8	3,6	4,3	5,8

Guided search via cable

Select Item



Item number	Product name
99909322	GF-UR-6 W. INTERFACE O-RING
99909388	GF-UE 4.9 NiTin PLATING
99909441	F-56-CX3 4.9
99909484	IECM-56-CX3 4.9
99909494	IECF-56-CX3 4.9
99909508	F-56-UL 4.9
99909517	FM-56-CX3 4.9 (wide interface)
99909540	E-56-CX3 4.9
99909549	F SC-56-CX3 4.9 SHORT
99909643	F-56 4.9 SELF INSTALL NITIN
99909647	F-56 4.9 W SELF INSTALL NITIN
99939440	F-56-CX3 B 4.9 SHORT
99939441	F-56-CX3 B 4.9
99949442	F-56-CX3 H 4.9 SHORT

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- main menu
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