

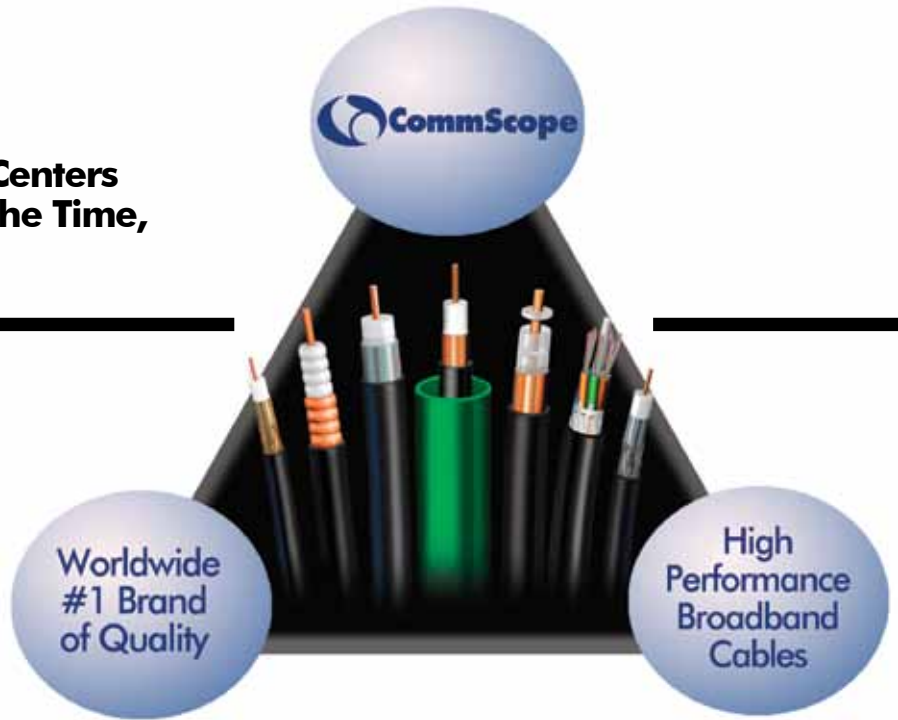


**CommScope Europe  
Broadband Product  
Catalog**



- > Drop Cables
- > Trunk & Distribution Cables
- > Fiber Optic Cables

**Global Customer Service Centers  
Ready to Support You All the Time,  
Any Time!**



**Contact Us!**

It is easy to get in contact with CommScope sales engineers or customer service representatives. We are organized to serve customers on all continents and every region. Rely on Customer Service Centers to assist with:

- Product quotations
- Assistance with specifications
- Documentation requests
- Technical services guidance
- Local languages support

**Global Sales Office**

1100 CommScope Place SE  
PO Box 1729  
Hickory, North Carolina 28603-1729 (USA)  
Tel: +1-828 324 2200  
Fax: +1-828 323 4989  
[www.commscope.com](http://www.commscope.com)

**Sales e-mail:**

[intlcustserv@commscope.com](mailto:intlcustserv@commscope.com)

**Technical services e-mail:**

[brc@commscope.com](mailto:brc@commscope.com)

**We Thank You...**

for your interest in CommScope cable products. This catalog includes our most frequently requested products. If the product you need is not listed in this catalog, please contact your local CommScope customer service representative. Please also refer to our website at [www.commscope.com](http://www.commscope.com) for quick access to comprehensive product specifications.

**CommScope Company Overview**

Company Overview .....	2-3
Engineering Services .....	4
Facilities .....	5
CommScope at a Glance.....	6



**Drop Cable Products**

Product Overview .....	7
F59 Digital Series Drop Cable .....	8
F6 Digital Series Drop Cable .....	9
F11 Digital Series Drop Cable .....	10
F59 Digital Series Headend Drop Cable .....	11
Special Series Drop Cable .....	12
F6 Copper Series Drop Cable .....	13
F11 Copper Series Drop Cable .....	14
F113 Copper Series Drop Cable .....	15
F59 Copper Digital Headend Series Drop Cable.....	16
Special Copper Series Drop Cable .....	17
MultiReach® Drop Cable Series .....	18



**Trunk and Distribution Cable Products**

Product Overview .....	19
QR® 320 Digital Series .....	20
QR® 540 Digital Series .....	21
QR® 715 Digital Series .....	22
QR® 860 Digital Series .....	23
P3® 500 Digital Series .....	24
P3® 625 Digital Series .....	25
P3® 750 Digital Series .....	26
P3® 875 Digital Series .....	27
CL 1,7/7,0 Series .....	28
CL 2,1/8,8 Series .....	29
CL 3,3/13,5 Series .....	30
CL 4,75/19,4 Series .....	31
CA 511 Series .....	32
CA 514 Series .....	33
CA 516 Series .....	34
CA 519 Series .....	35



**Fiber Optic Cable Products**

Product Overview .....	36-39
Fiber Specifications.....	40-41
Gel-Free Stranded Loose Tube Cable (Armored).....	42
Gel-Free Stranded Loose Tube Cable (All-Dielectric) .....	44
Arid-Core® Stranded Loose Tube Cable (Armored).....	46
Arid-Core® Stranded Loose Tube Cable (All-Dielectric) .....	48
Arid-Core® Mini-Diameter Stranded Loose Tube Cable (All Dielectric).....	50
Multi-Jacketed Stranded Loose Tube Cable .....	52
Figure-8 Stranded Loose Tube Cable .....	54
ADSS Self-Supporting Stranded Loose Tube Cable .....	56
Central Tube Cable (Armored & All-Dielectric).....	58
Fiber Drop Cable .....	60
Mini-Drop Cable & Flat Drop Cable .....	62
Packaging & Shipping .....	64-69

## CommScope BroadBand - Industry Leader

CommScope designs and manufactures high-performance and high-bandwidth cables for communications applications. We are the world's largest producer of coaxial cables for HFC (Hybrid Fiber Coaxial) applications. We are also a leading supplier of fiber cables for HFC, Wireless and LAN market segments.

**As a team we win!**



## More Innovations, More Solutions, More Reach

With more than 30 years experience, CommScope is positioned as an industry leader committed to research and development employing the highest quality practices and superior product performance. We back this with more than 1,300 patents and patent applications, a global customer service organization and manufacturing capacities on all five continents. **More value!**



## Bright Ideas, Innovative Technologies and Smart People

Since 1978, P3<sup>®</sup> trunk and distribution coaxial cable has been at the core of cable television networks and has been hailed for its integrity and reliability. P3 technology spawned many imitators, but none that duplicates CommScope's proprietary blend of manufacturing expertise and engineering knowledge. QR<sup>®</sup> (Quantum Reach) trunk cable was introduced in 1982 and enhanced in 2003 with ACT<sup>®</sup> (Advanced Coring Technology), now standard on all CommScope Trunk and Distribution products. CommScope braided cable features a critical fully-bonded construction to protect broadband networks from noise migration and assures long-term reliability. With the increasing usage of fiber optic cables, CommScope released a 100% dry stranded loose tube fiber optic cable design that simplifies cable installation and termination in a product that is smaller in size and lighter weight. **CommScope is synonymous with innovation.**



**A Brand of Quality –**

Trusting CommScope products for network infrastructure allows you more assurance and time to focus on your own business and meeting customer needs. We are active members in various industry-leading global standards committees, and our products are designed to comply with or exceed the relevant international standards bodies. Proprietary automated testing systems, including electrical sweep-testing for coaxial cables and test reports attached to every reel of fiber optic



cables, are your assurance that the cables you purchase from CommScope perform to or exceed the standards specified. **Quality each time, every time.**



**Ask for Performance**

CommScope's leading field-proven cable solutions meet your increasing demand for maximum performance and reliability. CommScope bridges the gap between yesterday's analog systems and next generation digital networks with cables that consistently exceed expectations. **Specify CommScope!**



**CommScope BroadBand – Engineering Services**

We have engineering services with global presence to support our customer and their businesses:

- Laboratory analysis
- Standards committee support
- Field trials and troubleshooting support
- Sag and tension analysis

*Ready to support you all the time, any time!*



**Tools**

We provide you and the industry with

- Comprehensive product catalogs
- Industry standard construction manuals
- Product information guides
- Published articles
- White papers
- Internet web-site access for all documentation
- SpanMaster® software for cable sag and tension calculations



- ConQuest® PullMaster software to help system engineering and construction groups to model and optimize before construction begins

- Attenuation slide rules

*Sharing experiences with you!*



**Training Support**

The CommScope Broadband Resource Center is a repository of experience, knowledge, services and tools designed to assist you to successfully deploy state-of-the-art subscriber networks. Among the many resources and tools, Training Videos together with Construction Manuals are made available for you on topics such as:

- Cable Termination (QR, P3, PowerFeeder, and Drop cables)
- Expansion Loops
- Drop Cable Installation
- Fiber Optic Cable Entry and Splicing
- ACT – Advanced Coring Technology

*Your success is our measure!*





○ **Corporate Headquarters**  
1100 CommScope Place, SE  
Hickory, NC (USA) 28603-1729  
+1-828 324 2200



○ **CommScope Asia**  
Suzhou, P.R.China



○ **CommScope Ireland**  
Bray, Ireland



○ **Catawba, North Carolina**  
USA



○ **CommScope Australia**  
Brisbane, Australia



○ **Claremont, North Carolina**  
USA



○ **Statesville, North Carolina**  
USA



○ **Newton, North Carolina**  
USA


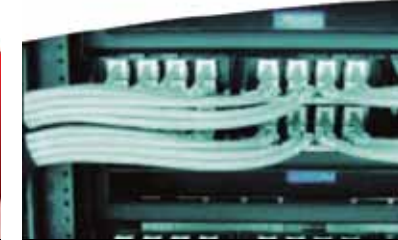



○ **Sparks, Nevada**  
USA



○ **Richardson, Texas**  
USA

## What Technology Makes Possible— CommScope Makes a Reality™

<p><b>customers/ business applications</b></p>	 <p><b>broadband</b></p> <ul style="list-style-type: none"> <li>• Cable television operators</li> <li>• Broadband service providers</li> <li>• Telecommunications companies</li> <li>• Hybrid Fiber Coaxial (HFC) networks deployed throughout the world</li> </ul>	 <p><b>enterprise</b></p> <ul style="list-style-type: none"> <li>• Customers: 75% of the Fortune 100, global companies, large multi-nationals &amp; small- to medium-sized enterprises</li> <li>• Applications: Enterprise networks supporting data, voice, video &amp; building management communication</li> </ul>	 <p><b>carrier</b></p> <ul style="list-style-type: none"> <li>• Wireline &amp; wireless telecommunication service providers (Carriers)</li> <li>• Cellular &amp; PCS wireless service providers</li> <li>• Competitive local exchange carriers</li> </ul>
<p><b>products/ solutions</b></p>	<ul style="list-style-type: none"> <li>• QR®, P3® and MC2® distribution coaxial cable</li> <li>• Indoor/outdoor drop cables featuring BrightWire®, a proprietary corrosion resistant treatment</li> <li>• ConQuest® Cable-In-Conduit</li> <li>• LightScope ZWP® &amp; flexible mini-drop fiber cables</li> <li>• AirBridge™ Wireless Plant Extension</li> <li>• Unique hybrid cable designs</li> <li>• Custom inventory management solution</li> <li>• Company-owned truck fleet</li> <li>• Business Services Solutions</li> <li>• BrightPath™ FTTH Solution</li> </ul>	<p>Connectivity solutions are marketed under two brands:</p> <ul style="list-style-type: none"> <li>• SYSTIMAX® Solutions brand is cutting edge, providing premium copper, fiber &amp; intelligent solutions</li> <li>• Uniprise® Solutions brand provides competitive performing copper, fiber &amp; residential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Specially designed, environmentally secure cabinets for xDSL, FTTN &amp; other telecom applications</li> <li>• Cell Reach® cables, connectors &amp; accessories for wireless transmission systems</li> <li>• Cable &amp; connector solutions that reduce installation &amp; maintenance costs</li> </ul>
<p><b>key technologies</b></p>	<ul style="list-style-type: none"> <li>• Foam polyethylene extrusion</li> <li>• Patent pending ACT® Advanced Coring Technology</li> <li>• Patented BrightWire anti-corrosive treatment</li> <li>• Proprietary high-speed RF welding</li> <li>• Zero water peak optical fiber cable</li> <li>• Toneable ConQuest conduit</li> <li>• Proprietary manufacturing technologies</li> <li>• AIM customized inventory management</li> </ul>	<ul style="list-style-type: none"> <li>• Key design &amp; process technologies protected by over 600 active patents &amp; applications worldwide</li> <li>• Proprietary design &amp; development tools for copper &amp; fiber</li> <li>• Advanced connectivity solutions including patent pending 10Gb/s over copper cabling system (with alien crosstalk suppression)</li> <li>• Isolite® thin wall foam FEP cables</li> </ul>	<ul style="list-style-type: none"> <li>• Patented Cell Reach 50-ohm smooth-wall cable</li> <li>• Patented Extremerflex® 50-ohm line of aluminium cable</li> <li>• Innovative two-piece connectors</li> <li>• Patented cooling system &amp; electromagnetic interface shielding for cabinets</li> </ul>

## Coaxial Drop Cables – Digital, Multimedia & Smart Homes

During the last years of the 20th Century, new words were added to the vocabulary of both subscribers and system operators of telecommunications services; terms like digital, multimedia, and smart homes entered our everyday language. Coaxial cable, formerly a one-way wire for television, is now a two-way digital highway for specialty programming, HDTV, stereo radio, internet access, telephony and more. Within the home and office, coaxial cables carry these services with a speed and clarity that was once thought impossible. **The systems have never been more demanding!**



## The Last Mile

CommScope's last mile infrastructure products have been proven over years of use to be reliable for the delivery of bi-directional high bandwidth digital information services. This long record of demonstrated success will continue as new services are deployed. Additionally, more than any other brand, CommScope Drop cables are installed worldwide and tested in virtually every geographic location. This unequivocally validates CommScope's reliability and performance.

Our drop cable products are engineered to be flexible and durable while possessing and maintaining the electrical performance you require. **With CommScope you are ensured a future-proof cable infrastructure!**



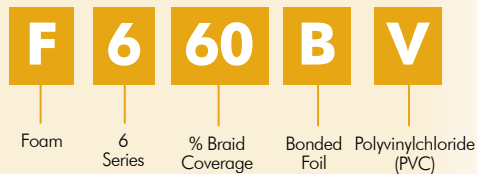
Specify the **GOLD** Standard.

## And The Last 30 Meters

Drop cables are the last link to the consumer. Aware of the critical aspects in this section of the network, CommScope engineers listened to your concerns in order to develop even better drop cables. They emerged with BrightWire®, an innovative anti-corrosive treatment available in different shielding types (standard design, Tri-Shield and Super-Shield). Beyond this, all CommScope drop cables feature a standard bonded tape and rugged sheathing to withstand exposure to sunlight, temperature variations and ground chemicals. **Every meter designed to exceed your expectations!**

## Applications & Construction Manual — Drop Cable

Request your Drop Cable Applications and Construction Manual. These manuals assist and teach you how to protect your Broadband plant and provide recommended construction and installation practices. CommScope Construction Manuals are simply a "must-have" for anyone upgrading or maintaining broadband networks. **Download a PDF from [commscope.com](http://commscope.com) or ask for your own copy!**



## Drop Cable Product Construction Codes

### Prefix

- F = Gas Expanded Polyethylene Dielectric Foam
- 2 = Dual Cable
- 59 = Cable Series
- 6 = Cable Series
- 11 = Cable Series
- 113 = Cable Series

### Suffix

- B = Bonded Foil
- V = Polyvinylchloride (PVC)
- E = Polyethylene (PE)
- M = Messenger
- F = Flooded
- SS = Super-Shield
- TS = Tri-Shield
- BW = BrightWire®
- APD = Amorphous Polypropylene Drop

### Material Codes

- AL = Aluminium
- T/CU = Tinned Copper
- CU = Copper
- ALT = Aluminium-Polymeric Laminated Tape
- FR-PVC = Flame Retardant PVC
- HDC = Hard Drawn Copper

*This is a sample list. Other options are available.*

Mechanical Data	F5967	F5995	F59TS	F5977TS	F59SS
<b>Center Conductor</b>	CCS	CCS	CCS	CCS	CCS
nominal dia. mm	0,81	0,81	0,81	0,81	0,81
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	3,66	3,66	3,66	3,66	3,66
<b>Screen</b>					
Foil	ALT*	ALT*	ALT*	ALT*	ALT*
Foil Coverage %	100	100	100	100	100
Braid	AL	AL	AL	AL	AL
nominal dia. mm	0,16	0,16	0,16	0,16	0,16
Braid Coverage %	67	95	67	77	53
2nd Foil			ALT*	ALT*	ALT*
Foil Coverage %			100	100	100
2nd Braid					AL
nominal dia. mm					0,16
Braid Coverage %					35
<b>Jacket</b> available in	PVC or PE	PVC or PE	PVC or PE	PVC or PE	PVC or PE
nominal dia. mm	6,10	6,10	6,10	6,10	6,73

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F5967	F5995	F59TS	F5977TS	F59SS
<b>Impedance</b> $\Omega$	75 +/-3	75 +/-3	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53	53	53	53
<b>Velocity of Propagation</b>					
% nominal	85	85	85	85	85
<b>Maximum Attenuation (@ 20°C)</b>					
5 MHz dB/100m	2,82	2,82	2,82	2,82	2,82
55 MHz dB/100m	6,73	6,73	6,73	6,73	6,73
250 MHz dB/100m	13,45	13,45	13,45	13,45	13,45
450 MHz dB/100m	17,72	17,72	17,72	17,72	17,72
550 MHz dB/100m	19,52	19,52	19,52	19,52	19,52
750 MHz dB/100m	22,87	22,87	22,87	22,87	22,87
865 MHz dB/100m	24,67	24,67	24,67	24,67	24,67
1000 MHz dB/100m	26,64	26,64	26,64	26,64	26,64
<b>Nominal DC Resistance (@20°C)</b>					
Inner Conductor $\Omega$ /km	150	150	150	150	150
Outer Conductor $\Omega$ /km	34	24	25	23	21
Loop $\Omega$ /km	184	174	175	173	171
<b>Structural Return Loss (SRL)**</b>					
5 - 1000 MHz dB	$\geq 20$	$\geq 20$	$\geq 20$	$\geq 20$	$\geq 20$
<b>Screening Effectiveness**</b> Class	—	—	B	A	A
(As) 30-1000 MHz dB	70	70	75	85	105
<b>Transfer Impedance (Zt)**</b> m $\Omega$ /m	24	30	5,5	5	3

\*\*In accordance with EN 50117

Options		
<b>Messenger</b>	801N / 1,30mm 1624N / 1,83mm	minimum breaking strength (N) / nominal diameter of messenger (mm)
<b>Anti-Corrosion</b>	BrightWire® APD®	dry chemical treatment that combines with metal components forming protective shield against water and subsequent corrosion non-flowing, amorphous polypropylene flooding compound
<b>Moisture Blocking</b>	Migra-Heal®	flowing floodant compound that inhibits moisture migration



Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

Mechanical Data	F660	F690	F6TS	F677TS	F6SS
<b>Center Conductor</b>	CCS	CCS	CCS	CCS	CCS
nominal dia. mm	1,02	1,02	1,02	1,02	1,02
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	4,57	4,57	4,57	4,57	4,57
<b>Screen</b>					
Foil	ALT*	ALT*	ALT*	ALT*	ALT*
Foil Coverage %	100	100	100	100	100
Braid	AL	AL	AL	AL	AL
nominal dia. mm	0,16	0,16	0,16	0,16	0,16
Braid Coverage %	60	90	60	77	60
2nd Foil			ALT*	ALT*	ALT*
Foil Coverage %			100	100	100
2nd Braid					AL
nominal dia. mm					0,160
Braid Coverage %					40
<b>Jacket</b> available in	PVC or PE	PVC or PE	PVC or PE	PVC or PE	PVC or PE
nominal dia. mm	6,91	6,91	7,06	7,06	7,54

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F660	F690	F6TS	F677TS	F6SS
<b>Impedance</b> Ω	75 +/-3	75 +/-3	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53	53	53	53
<b>Velocity of Propagation</b>					
% nominal	85	85	85	85	85
<b>Maximum Attenuation (@ 20°C)</b>					
5 MHz dB/100m	1,90	1,90	1,90	1,90	1,90
55 MHz dB/100m	5,25	5,25	5,25	5,25	5,25
250 MHz dB/100m	10,82	10,82	10,82	10,82	10,82
450 MHz dB/100m	14,44	14,44	14,44	14,44	14,44
550 MHz dB/100m	16,08	16,08	16,08	16,08	16,08
750 MHz dB/100m	18,54	18,54	18,54	18,54	18,54
865 MHz dB/100m	20,01	20,01	20,01	20,01	20,01
1000 MHz dB/100m	21,49	21,49	21,49	21,49	21,49
<b>Nominal DC Resistance (@20°C)</b>					
Inner Conductor Ω/km	100	100	100	100	100
Outer Conductor Ω/km	34	22	23	21	17
Loop Ω/km	134	122	123	121	117
<b>Structural Return Loss (SRL)**</b>					
5 - 1000 MHz dB	≥ 20	≥ 20	≥ 20	≥ 20	≥ 20
<b>Screening Effectiveness**</b> Class	—	B	A	A	A
(As) 30-1000 MHz dB	70	85	85	90	100
<b>Transfer Impedance (Zt)**</b> mΩ/m	39	10	4,5	3	3

\*\*In accordance with EN 50117

Options		
<b>Messenger</b>	801N / 1,30mm 1624N / 1,83mm	minimum breaking strength (N) / nominal diameter of messenger (mm)
<b>Anti-Corrosion</b>	BrightWire® APD®	dry chemical treatment that combines with metal components forming protective shield against water and subsequent corrosion non-flowing, amorphous polypropylene flooding compound
<b>Moisture Blocking</b>	Migra-Heal®	flowing floodant compound that inhibits moisture migration



Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

Mechanical Data	F1160	F1190	F11TS	F1177TS	F11SS
<b>Center Conductor</b>	CCS	CCS	CCS	CCS	CCS
nominal dia. mm	1,63	1,63	1,63	1,63	1,63
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	7,11	7,11	7,11	7,11	7,11
<b>Screen</b>					
Foil	ALT*	ALT*	ALT*	ALT*	ALT*
Foil Coverage %	100	100	100	100	100
Braid	AL	AL	AL	AL	AL
nominal dia. mm	0,16	0,16	0,16	0,16	0,16
Braid Coverage %	60	90	60	77	60
2nd Foil			ALT*	ALT*	ALT*
Foil Coverage %			100	100	100
2nd Braid					AL
nominal dia. mm					0,16
Braid Coverage %					40
<b>Jacket</b> available in	PVC or PE	PVC or PE	PVC or PE	PVC or PE	PVC or PE
nominal dia. mm	10,16	10,16	10,16	10,16	10,34

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F1160	F1190	F11TS	F1177TS	F11SS
<b>Impedance</b> Ω	75 +/-3	75 +/-3	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53	53	53	53
<b>Velocity of Propagation</b>					
% nominal	85	85	85	85	85
<b>Maximum Attenuation (@ 20°C)</b>					
5 MHz dB/100m	1,25	1,25	1,25	1,25	1,25
55 MHz dB/100m	3,15	3,15	3,15	3,15	3,15
250 MHz dB/100m	6,72	6,72	6,72	6,72	6,72
450 MHz dB/100m	9,02	9,02	9,02	9,02	9,02
550 MHz dB/100m	9,97	9,97	9,97	9,97	9,97
750 MHz dB/100m	11,97	11,97	11,97	11,97	11,97
865 MHz dB/100m	13,05	13,05	13,05	13,05	13,05
1000 MHz dB/100m	14,27	14,27	14,27	14,27	14,27
<b>Nominal DC Resistance (@20°C)</b>					
Inner Conductor Ω/km	41	41	41	41	41
Outer Conductor Ω/km	23	16	15	14	12
Loop Ω/km	64	57	56	55	53
<b>Structural Return Loss (SRL)**</b>					
5 - 1000 MHz dB	≥ 20	≥ 20	≥ 20	≥ 20	≥ 20
<b>Screening Effectiveness**</b> Class	—	—	B	A	A
(As) 30-1000 MHz dB	65	68	90	90	95
<b>Transfer Impedance (Zt)**</b> mΩ/m	38	33	6	2,5	2,2

\*\*In accordance with EN 50117

## Options

<b>Messenger</b>	8010N / 2,77mm 1624N / 1,83mm	minimum breaking strength (N) / nominal diameter of messenger (mm)
<b>Anti-Corrosion</b>	BrightWire®	dry chemical treatment that combines with metal components forming protective shield against water and subsequent corrosion
	APD®	non-flowing, amorphous polypropylene flooding compound
<b>Moisture Blocking</b>	Migra-Heal®	flowing floodant compound that inhibits moisture migration



Mechanical Data		F59HEC-2
<b>Center Conductor</b>		Silver/CCS
	nominal dia. mm	0,81
<b>Dielectric</b>		Gas Expanded PE
	nominal dia. mm	3,66
<b>Screen</b>		
	Foil	ALT*
	Foil Coverage %	100
	Braid	AL
	nominal dia. mm	0,16
	Braid Coverage %	95
	2nd Foil	ALT*
	Foil Coverage %	100
	2nd Braid	AL
	nominal dia. mm	0,16
	Braid Coverage %	95
<b>Jacket</b>		FR-PVC
	available in	
	nominal dia. mm	6,90



\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data		F59HEC-2
<b>Impedance</b>	$\Omega$	75 +/-3
<b>Capacitance</b>	pF/m	53
<b>Velocity of Propagation</b>	% nominal	85
<b>Maximum Attenuation (@ 20°C)</b>		
5 MHz	dB/100m	2,82
55 MHz	dB/100m	6,73
250 MHz	dB/100m	13,45
450 MHz	dB/100m	17,72
550 MHz	dB/100m	19,52
750 MHz	dB/100m	22,87
865 MHz	dB/100m	24,67
1000 MHz	dB/100m	26,64
<b>Nominal DC Resistance (@20°C)</b>		
Inner Conductor	$\Omega$ /km	76
Outer Conductor	$\Omega$ /km	10
Loop	$\Omega$ /km	86
<b>Structural Return Loss (SRL)**</b>		
5 - 1000 MHz	dB	$\geq$ 20
<b>Screening Effectiveness**</b>		
(As) 30-1000 MHz	Class	A+
	dB	115
<b>Transfer Impedance (Zt)**</b>		
	m $\Omega$ /m	1

\*\*In accordance with EN 50117

## Options

**Colors** available in 12 colors: black, white, gray, green, brown, red, yellow, blue, orange, violet, aqua and rose

Mechanical Data		F5060	F50TS	F50SS	7539
<b>Center Conductor</b>		CCA	CCA	CCA	CU
nominal dia.	mm	2,77	2,77	2,77	0,61
<b>Dielectric</b>		Gas Expanded PE	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia.	mm	11,56	11,56	11,56	2,72
<b>Screen</b>					
Foil		ALT*	ALT*	ALT*	ALT*
Foil Coverage	%	100	100	100	100
Braid		AL	AL	AL	Al
nominal dia.	mm	0,18	0,18	0,18	0,16
Braid Coverage	%	60	60	60	60
2nd Foil		ALT*	ALT*	ALT*	ALT*
Foil Coverage	%	100	100	100	100
2nd Braid				AL	
nominal dia.	mm			0,18	
Braid Coverage	%			40	
<b>Jacket</b>	available in	PVC or PE	PVC or PE	PVC or PE	FR-PVC
nominal dia.	mm	15,00	15,00	15,75	4,50

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data		F5060	F50TS	F50SS	7539
<b>Impedance</b>	$\Omega$	75 +/-3	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b>	pF/m	53	53	53	53
<b>Velocity of Propagation</b>	% nominal	85	85	85	85
<b>Maximum Attenuation (@ 20°C)</b>					
5 MHz	dB/100m	0,69	0,69	0,69	3,14
55 MHz	dB/100m	1,97	1,97	1,97	8,33
250 MHz	dB/100m	4,17	4,17	4,17	18,37
450 MHz	dB/100m	5,61	5,61	5,61	24,74
550 MHz	dB/100m	6,20	6,20	6,20	27,36
750 MHz	dB/100m	7,32	7,32	7,32	31,06
865 MHz	dB/100m	7,87	7,87	7,87	34,31
1000 MHz	dB/100m	8,50	8,50	8,50	36,08
<b>Nominal DC Resistance (@20°C)</b>					
Inner Conductor	$\Omega$ /km	4	4	4	58
Outer Conductor	$\Omega$ /km	15	11	8	37
Loop	$\Omega$ /km	19	15	12	95
<b>Structural Return Loss (SRL)**</b>					
5 - 1000 MHz	dB	$\geq 20$	$\geq 20$	$\geq 20$	$\geq 20$
<b>Screening Effectiveness**</b>	Class	—	A	A	A
(As) 30-1000 MHz	dB	70	95	95	105
<b>Transfer Impedance (Zt)**</b>	m $\Omega$ /m	28	4	1,5	3

\*\*In accordance with EN 50117

### Options

<b>Messenger</b>	8010N / 2,77mm 1624N / 1,83mm	minimum breaking strength (N) / nominal diameter of messenger (mm)
<b>Anti-Corrosion</b>	BrightWire® APD®	dry chemical treatment that combines with metal components forming protective shield against water and subsequent corrosion non-flowing, amorphous polypropylene flooding compound
<b>Moisture Blocking</b>	Migra-Heal®	flowing floodant compound that inhibits moisture migration



Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

Mechanical Data	F650 TCU HDC	F650TS TCU HDC	F6TS TCU HDC
<b>Center Conductor</b>	CU	CU	CU
nominal dia. mm	1,02	1,02	1,02
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	4,57	4,57	4,57
<b>Screen</b>			
Foil	ALT*	ALT*	ALT*
Foil Coverage %	100	100	100
Braid	T/CU	T/CU	T/CU
nominal dia. mm	0,10	0,10	0,10
Braid Coverage %	50	50	60
2nd Foil		ALT*	ALT*
Foil Coverage %		100	100
<b>Jacket</b>			
available in	PVC	PVC	PVC
nominal dia. mm	6,91	6,91	6,91

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F650 TCU HDC	F650TS TCU HDC	F6TS TCU HDC
<b>Impedance</b> Ω	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53	53
<b>Velocity of Propagation</b> % nominal	84	84	84
<b>Maximum Attenuation (@ 20°C)</b>			
5 MHz dB/100m	1,8	1,8	1,8
50 MHz dB/100m	4,9	4,9	4,9
200 MHz dB/100m	9,6	9,6	9,6
400 MHz dB/100m	13,6	13,6	13,6
800 MHz dB/100m	19,2	19,2	19,2
1000 MHz dB/100m	21,5	21,5	21,5
2150 MHz dB/100m	31,4	31,4	31,4
2400 MHz dB/100m	33,1	33,1	33,1
3000 MHz dB/100m	37,0	37,0	37,0
<b>Nominal DC Resistance (@20°C)</b>			
Inner Conductor Ω/km	22	22	22
Outer Conductor Ω/km	22	18	15
Loop Ω/km	44	40	37
<b>Structural Return Loss (SRL)**</b>			
5 - 470 MHz dB	≥ 23	≥ 23	≥ 23
470 - 1000 MHz dB	≥ 20	≥ 20	≥ 20
1000 - 2000 MHz dB	≥ 18	≥ 18	≥ 18
2000 - 3000 MHz dB	≥ 16	≥ 16	≥ 16
<b>Screening Effectiveness**</b>			
Class	—	A	B
(As) 30-1000 MHz dB	80	100	100
(As) 1000 - 2000 MHz dB	90	100	100
(As) 2000 - 3000 MHz dB	90	95	95
<b>Transfer Impedance (Zt)**</b> mΩ/m	19	5	6

\*\*In accordance with EN 50117

## F11 Copper Series

Mechanical Data	F1150 TCU HDC	F1150TS TCU HDC
<b>Center Conductor</b>	CU	CU
nominal dia. mm	1,63	1,63
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	7,11	7,11
<b>Screen</b>		
Foil	ALT*	ALT*
Foil Coverage %	100	100
Braid	T/CU	T/CU
nominal dia mm	0,10	0,10
Braid Coverage %	50	50
2nd Foil		ALT*
Foil Coverage %		100
2nd Braid		
nominal dia. mm		
Braid Coverage %		
<b>Jacket</b> available in	PVC/PE	PVC/PE
nominal dia. mm	10,03	10,03



\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F1150 TCU HDC	F1150TS TCU HDC
<b>Impedance</b> $\Omega$	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53
<b>Velocity of Propagation</b> % nominal	84	84
<b>Maximum Attenuation (@ 20°C)</b>		
5 MHz dB/100m	1,3	1,3
50 MHz dB/100m	3,0	3,0
200 MHz dB/100m	6,0	6,0
400 MHz dB/100m	8,5	8,5
800 MHz dB/100m	12,5	12,5
1000 MHz dB/100m	14,3	14,3
2150 MHz dB/100m	20,7	20,7
2400 MHz dB/100m	22,00	22,00
3000 MHz dB/100m	24,94	24,94
<b>Nominal DC Resistance (@20°C)</b>		
Inner Conductor $\Omega$ /km	9	9
Outer Conductor $\Omega$ /km	16	13
Loop $\Omega$ /km	25	22
<b>Structural Return Loss (SRL)**</b>		
5 - 470 MHz dB	$\geq 23$	$\geq 23$
470 - 1000 MHz dB	$\geq 20$	$\geq 20$
1000 - 2000 MHz dB	$\geq 18$	$\geq 18$
2000 - 3000 MHz dB	$\geq 16$	$\geq 16$
<b>Screening Effectiveness**</b> Class	B	A
(As) 30-1000 MHz dB	80	95
(As) 1000 - 2000 MHz dB	85	85
(As) 2000 - 3000 MHz dB	75	80
<b>Transfer Impedance (Zt)**</b> m $\Omega$ /m	8	5

\*\*In accordance with EN 50117

Mechanical Data	F11350 TCU HDC	F11378 TCU HDC	F11350TS TCU HDC
<b>Center Conductor</b>	CU	CU	CU
nominal dia. mm	1,13	1,13	1,13
<b>Dielectric</b>	Gas Expanded PE	Gas Expanded PE	Gas Expanded PE
nominal dia. mm	4,80	4,80	4,80
<b>Screen</b>			
Foil	ALT*	ALT*	ALT*
Foil Coverage %	100	100	100
Braid	T/CU	T/CU	T/CU
nominal dia. mm	0,10	0,10	0,10
Braid Coverage %	50	78	50
2nd Foil			ALT*
Foil Coverage			100
<b>Jacket</b>			
available in	PVC/PE	PVC/PE	PVC/PE
nominal dia. mm	6,60	6,60	6,91

\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	F11350 TCU HDC	F11378 TCU HDC	F11350TS TCU HDC
<b>Impedance</b> Ω	75 +/-3	75 +/-3	75 +/-3
<b>Capacitance</b> pF/m	53	53	53
<b>Velocity of Propagation</b> % nominal	84	84	84
<b>Maximum Attenuation (@ 20°C)</b>			
5 MHz dB/100m	1,5	1,5	1,5
50 MHz dB/100m	4,2	4,2	4,2
200 MHz dB/100m	8,6	8,6	8,6
400 MHz dB/100m	12,4	12,4	12,4
800 MHz dB/100m	17,9	17,9	17,9
1000 MHz dB/100m	20,0	20,0	20,0
2150 MHz dB/100m	29,8	29,8	29,8
2400 MHz dB/100m	31,6	31,6	31,6
3000 MHz dB/100m	35,5	35,5	35,5
<b>Nominal DC Resistance (@20°C)</b>			
Inner Conductor Ω/km	17	17	17
Outer Conductor Ω/km	20	13	16
Loop Ω/km	37	30	33
<b>Structural Return Loss (SRL)**</b>			
5 - 470 MHz dB	≥ 27	≥ 27	≥ 27
470 - 1000 MHz dB	≥ 24	≥ 24	≥ 24
1000 - 2000 MHz dB	≥ 22	≥ 22	≥ 22
2000 - 3000 MHz dB	≥ 20	≥ 20	≥ 20
<b>Screening Effectiveness **</b> Class	—	A	A
(As) 30-1000 MHz dB	80	95	110
(As) 1000 - 2000 MHz dB	80	90	110
(As) 2000 - 3000 MHz dB	70	80	100
<b>Transfer Impedance (Zt)**</b> mΩ/m	20	4,5	4

\*\*In accordance with EN 50117

## F59 Copper Digital Headend Series

Mechanical Data		F59HEC TCU
<b>Center Conductor</b>		Silver-Plated CCS
	nominal dia. mm	0,81
<b>Dielectric</b>		Gas Expanded PE
	nominal dia. mm	3,66
<b>Screen</b>		
	Foil	ALT*
	Foil Coverage %	100
	Braid	T/CU
	nominal dia. mm	0,16
	Braid Coverage %	95
	2nd Foil	ALT*
	Foil Coverage %	100
	2nd Braid	T/CU
	nominal dia. mm	0,16
	Braid Coverage %	95
<b>Jacket</b>		PVC
	available in	
	nominal dia. mm	6,86



\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data		F59HEC TCU
<b>Impedance</b>	$\Omega$	75 +/-3
<b>Capacitance</b>	pF/m	54
<b>Velocity of Propagation</b>	% nominal	82
<b>Maximum Attenuation (@ 20°C)</b>		
5 MHz	dB/100m	2,82
55 MHz	dB/100m	6,73
250 MHz	dB/100m	13,45
450 MHz	dB/100m	17,72
550 MHz	dB/100m	19,52
750 MHz	dB/100m	22,87
865 MHz	dB/100m	24,67
1000 MHz	dB/100m	26,64
<b>Nominal DC Resistance (@20°C)</b>		
Inner Conductor	$\Omega$ /km	76
Outer Conductor	$\Omega$ /km	5
Loop	$\Omega$ /km	81
<b>Structural Return Loss (SRL)**</b>		
5 - 470 MHz	dB	$\geq 23$
470 - 1000 MHz	dB	$\geq 20$
<b>Screening Effectiveness**</b>		Class
(As) 30-1000 MHz	dB	100
<b>Transfer Impedance (Zt)**</b>		m $\Omega$ /m
		1,5

\*\*In accordance with EN 50117

Mechanical Data	HF75TS	
<b>Center Conductor</b>		CU
nominal dia. mm		2,00
<b>Dielectric</b>		Gas Expanded PE
nominal dia. mm		9,1
<b>Screen</b>		
Foil		ALT*
Foil Coverage %		100
Braid		T/CU
nominal dia. mm		0,13
Braid Coverage %		62
2nd Foil		ALT*
Foil Coverage %		100
<b>Jacket</b>	available in	PE
nominal dia. mm		12,50



\*ALT = Aluminium-Polymeric Laminated Tape

Electrical Data	HF75TS	
<b>Impedance</b> Ω		75 +/-2
<b>Capacitance</b> pF/m		54
<b>Velocity of Propagation</b> % nominal		82
<b>Maximum Attenuation (@ 20°C)</b>		
50 MHz dB/100m		2,49
100 MHz dB/100m		3,35
200 MHz dB/100m		4,66
300 MHz dB/100m		5,74
450 MHz dB/100m		7,15
600 MHz dB/100m		8,40
860 MHz dB/100m		10,30
<b>Nominal DC Resistance (@20°C)</b>		
Inner Conductor Ω/km		5
Outer Conductor Ω/km		6
Loop Ω/km		11
<b>Structural Return Loss (SRL)**</b>		
10 - 470 MHz dB		≥ 23
470 - 862 MHz dB		≥ 20
<b>Screening Effectiveness**</b>	Class	A+
(As) 30-1000 MHz dB		100
<b>Transfer Impedance (Zt)**</b>	mΩ/m	1

\*\*In accordance with EN 50117

# MultiReach® Drop Cable Series

For Underground, Indoor/Outdoor and Aerial Installations



F Series 6, 7, or 11 coaxial with one (1) thru six (6) 22, 24, or 26 AWG solid copper twisted pair conductors. MultiReach® products are available in underground, indoor/outdoor, and aerial designs.

<p><b>Underground MultiReach®</b> (flooded, 1 pair version shown)</p> <p>The Underground MultiReach® design includes a flooded polyethylene jacketed product with coaxial and twisted pair members</p> 	<p><b>Indoor/Outdoor MultiReach®</b> (non-flooded, one pair version shown)</p> <p>The Indoor/Outdoor MultiReach® design includes a flooded or non-flooded polyvinylchloride (PVC) jacketed product with coaxial and twisted pair members</p> 	<p><b>Aerial MultiReach®</b> (messengered, five pair version shown)</p> <p>The aerial MultiReach® design includes a flooded or non-flooded polyvinylchloride (PVC) jacketed product with twisted pair, coaxial, and messenger members</p> 
--	--	---

## Nominal Diameter Over Outer Jacket

Pairs (mm)			Web Width (mm)	Coaxial Cable (mm)	Messengers for Aerial Products (mm)
<b>22 AWG</b>	<b>24 AWG</b>	<b>26 AWG</b>	1,14 for Underground	F6.....6,91	0,051 Steel.....1,30
1 - 3,86	1 - 3,66	1 - 3,30		F7.....8,13	0,072 Steel.....1,83
2 - 4,83	2 - 4,95	2 - 4,50		F11.....10,03	0,083 Steel.....2,11
3 - 5,33	3 - 5,31	3 - 4,93		F6TS.....7,06	0,109 Steel.....2,77
4 - 5,97	4 - 5,44	4 - 5,21		F7TS.....8,20	Note: Two (2) Webs are used when Messenger is used
5 - 6,60	5 - 6,76	5 - 5,82		F11TS.....10,16	
6 - 7,87	6 - 7,49	6 - 5,97	F6SS.....7,54		
			0,89 for Indoor/Outdoor and Aerial	F7SS.....8,64	
				F11SS.....10,34	

## Pairs

**Description**  
Solid copper conductor, polyethylene (PE) insulation, unshielded twisted pair with a rip cord

Solid Conductor	mm
22 AWG	0,643
24 AWG	0,511
26 AWG	0,404

**Number of Pairs Available**  
1 - 6

**Standard Length**  
305 Meters/Reel

Pair Number	Color Combination
1	Blue + White/Blue Stripe
2	Orange + White/Orange Stripe
3	Green + White/Green Stripe
4	Brown + White/Brown Stripe
5	Gray + Gray/White Stripe
6	Blue + Red/Blue Stripe

## Calculating Overall Cable Width

**Non-Messenger MultiReach®**  
Add: Coaxial and pair jacket diameters plus one (1) web

Specifications are subject to change without notice.

## Coaxial Trunk & Distribution Cable Products

The convergence of voice, video and data technologies into Broadband digital networks has raised the requirements of performance for the components of these exciting new networks. Signal integrity has become a focal point for service providers in ensuring that customer satisfaction can be guaranteed. CommScope meets these demands with cable renowned in the cable television and telecommunication industries. ***Our Cables have been installed for more than 30 years, every-day, everywhere.***



## CommScope ACT® Advantage

As an enhancement to our P3 and QR product line, we have developed ACT (Advanced Coring Technology), a patent-pending bonding technology to greatly simplify the cleaning of the center conductor. ACT ensures that the dielectric bond to the central conductor will cleanly break away without sacrificing the mechanical performance of the cable. ACT also eliminates performance risks associated with center conductor dielectric removal. ***Reduce cable preparation time, every time.***

## CommScope MC<sup>2</sup>®

Through acquisition, CommScope has recently added MC<sup>2</sup> to its product offering. It's constructed of air dielectric and aluminium tube.

## CommScope QR®, P3®, CA & CL Cable

Our patented QR cable is a time-tested design with superior reliability and flexibility. We are so certain of this claim that we offer an unprecedented 10-year warranty on QR. CommScope relies on proven technology and advanced design and development. The end result is a trunk and distribution cable that easily integrates with existing cable plant, but offers the latest advances in performance and reliability.

P3 has proven robust and reliable through years of successful coaxial installations. Low attenuation and inherent strength make it a good choice for distribution applications. CommScope also offers a large array of Copper T&D cable designs, the CA and CL-series. Our Copper CL and CA cables comply with the stringent specific regional EMEA requirements with a large installed base over several decades.

When performance and reliability is most important, CommScope cables are the preferred choice. ***We provide cables that exceed industry standards.***

## Applications & Construction Manual — Trunk & Distribution Cable




Request your Trunk & Distribution Cable Applications and Construction Manual. These manuals assist and teach you how to protect your Broadband plant and give recommended construction and installation practices.

CommScope Construction Manuals are simply a "must-have" for anyone upgrading or maintaining broadband networks. ***Download a PDF from [commscope.com](http://commscope.com) or ask for your own copy!***



**Standard QR Construction**

A precision aluminium strip is formed and continuously RF welded around a high compression micro-cellular foam dielectric core, minimizing RF egress and ingress, and the rigidity common in traditional coaxial products. The shield is fully bonded to the dielectric core, as in the copper clad aluminium center conductor. A tough polyethylene jacket is applied standard, which enhances cable reliability and allows QR's unique connector technology to form an environmental seal.

Catalog Number		QR 320 JCA	QR 320 JCAM 109	QR 320 JCASS
<b>Description</b>		Offers all of QR's standard construction features 	Integrated Figure 8 galvanized solid steel messenger 	Features CommScope's Migra-Heal® floodant that seals jacket damage to inhibit corrosion 
<b>Cable Weight</b>	kg/km	70	131	70
<b>Shipping Weight</b>	kg	119	188	119
<b>Standard Length</b>	m	1128	1128	1128

Mechanical Data		QR 320 JCA	QR 320 JCAM 109	QR 320 JCASS
Center Conductor	nominal dia. mm	1,80	1,80	1,80
Dielectric	nominal dia. mm	7,47	7,47	7,47
Outer Conductor	nominal dia. mm	8,13	8,13	8,13
Outer Conductor Thickness	nominal mm	0,34	0,34	0,34
Jacket	nominal dia. mm	10,03	10,03	10,03
Jacket Wall Thickness	nominal mm	0,89	0,89	0,89
Steel Messenger	nominal dia. mm		2,77	
Minimum Bending Radius	mm	50,8	50,8	50,8
Maximum Pulling Tension	daN	53	53	53
Minimum Breaking Strength of Messenger	daN		801	

Electrical Data		QR 320 JCA	QR 320 JCAM 109	QR 320 JCASS
<b>Impedance</b>	Ω	75 ± 3	75 ± 3	75 ± 3
<b>Capacitance</b>	pF/m	50 ±3,0	50 ±3,0	50 ±3,0
<b>Velocity of Propagation</b>	% nominal	87	87	87
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,79	0,79	0,79
55 MHz	dB/100m	2,76	2,76	2,76
250 MHz	dB/100m	6,10	6,10	6,10
450 MHz	dB/100m	8,27	8,27	8,27
550 MHz	dB/100m	9,35	9,35	9,35
750 MHz	dB/100m	10,96	10,96	10,96
865 MHz	dB/100m	11,87	11,87	11,87
1000 MHz	dB/100m	12,76	12,76	12,76
<b>Nominal DC Resistance (@20°C)</b>				
<b>Copper Clad</b>	Inner Conductor	Ω/km	10,76	10,76
	Outer Conductor	Ω/km	3,25	3,25
	Loop	Ω/km	14,01	14,01
<b>Solid Copper</b>	Inner Conductor	Ω/km	6,96	6,96
	Outer Conductor	Ω/km	3,25	3,25
	Loop	Ω/km	10,21	10,21
<b>Structural Return Loss (SRL)**</b>				
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



**Setting a New Standard in Cable Technology!**

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

**Standard QR Construction**

A precision aluminium strip is formed and continuously RF welded around a high compression micro-cellular foam dielectric core, minimizing RF egress and ingress, and the rigidity common in traditional coaxial products. The shield is fully bonded to the dielectric core, as in the copper clad aluminium center conductor. A tough polyethylene jacket is applied standard, which enhances cable reliability and allows QR's unique connector technology to form an environmental seal.

Catalog Number		QR 540 JCA	QR 540 JCAM	QR 540 JCASS
<b>Description</b>		Offers all of QR's standard construction features	Integrated Figure 8 galvanized solid steel messenger <i>(weights and lengths for standard version QR 540 JCAM 109 are shown below)</i>	Features CommScope's Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	136	197	136
<b>Shipping Weight</b>	kg	223	291	226
<b>Standard Length</b>	m	1128	1128	1128

Mechanical Data		QR 540 JCA	QR 540 JCAM	QR 540 JCASS
Center Conductor	nominal dia. mm	3,15	3,15	3,15
Dielectric	nominal dia. mm	13,03	13,03	13,03
Outer Conductor	nominal dia. mm	13,72	13,72	13,72
Outer Conductor Thickness	nominal mm	0,343	0,343	0,343
Jacket	nominal dia. mm	15,49	15,49	15,49
Jacket Wall Thickness	nominal mm	0,89	0,89	0,89
Steel Messenger	nominal dia. mm		(109 msg) 2,77 (188 msg) 7x1,6	
Minimum Bending Radius	cm	10,2	10,2	10,2
Maximum Pulling Tension	daN	98	98	98
Minimum Breaking Strength of Messenger	daN		(109 msg) 801 (188 msg) 1734	

Electrical Data		QR 540 JCA	QR 540 JCAM	QR 540 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,46	0,46	0,46
55 MHz	dB/100m	1,54	1,54	1,54
250 MHz	dB/100m	3,38	3,38	3,38
450 MHz	dB/100m	4,59	4,59	4,59
550 MHz	dB/100m	5,12	5,12	5,12
750 MHz	dB/100m	6,07	6,07	6,07
865 MHz	dB/100m	6,56	6,56	6,56
1000 MHz	dB/100m	7,12	7,12	7,12
<b>Nominal DC Resistance (@20°C)</b>				
<b>Copper Clad</b>	Inner Conductor	Ω/km	3,34	3,34
	Outer Conductor	Ω/km	1,94	1,94
	Loop	Ω/km	5,28	5,28
<b>Solid Copper</b>	Inner Conductor	Ω/km	2,20	2,20
	Outer Conductor	Ω/km	1,94	1,94
	Loop	Ω/km	4,14	4,14
<b>Structural Return Loss (SRL)**</b>				
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	> 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



**Setting a New Standard in Cable Technology!**

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

**Standard QR Construction**

A precision aluminium strip is formed and continuously RF welded around a high compression micro-cellular foam dielectric core, minimizing RF egress and ingress, and the rigidity common in traditional coaxial products. The shield is fully bonded to the dielectric core, as in the copper clad aluminium center conductor. A tough polyethylene jacket is applied standard, which enhances cable reliability and allows QR's unique connector technology to form an environmental seal.

Catalog Number		QR 715 JCA	QR 715 JCAM 188	QR 715 JCASS
<b>Description</b>		Offers all of QR's standard construction features	Integrated Figure 8 stranded galvanized steel messenger	Features CommScope's Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	215	346	215
<b>Shipping Weight</b>	kg	267	407	267
<b>Standard Length</b>	m	914	914	914

Mechanical Data		QR 715 JCA	QR 715 JCAM 188	QR 715 JCASS
Center Conductor	nominal dia. mm	4,22	4,22	4,22
Dielectric	nominal dia. mm	17,42	17,42	17,42
Outer Conductor	nominal dia. mm	18,16	18,16	18,16
Outer Conductor Thickness	nominal mm	0,37	0,37	0,37
Jacket	nominal dia. mm	19,94	19,94	19,94
Jacket Wall Thickness	nominal mm	0,89	0,89	0,89
Steel Messenger	nominal dia. mm		7x1,6	
Minimum Bending Radius	cm	12,7	12,7	12,7
Maximum Pulling Tension	daN	151	151	151
Minimum Breaking Strength of Messenger	daN		1734	

Electrical Data		QR 715 JCA	QR 715 JCAM 188	QR 715 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,36	0,36	0,36
55 MHz	dB/100m	1,18	1,18	1,18
250MHz	dB/100m	2,66	2,66	2,66
450 MHz	dB/100m	3,67	3,67	3,67
550 MHz	dB/100m	4,10	4,10	4,10
750 MHz	dB/100m	4,89	4,89	4,89
865 MHz	dB/100m	5,31	5,31	5,31
1000 MHz	dB/100m	5,74	5,74	5,74
<b>Nominal DC Resistance (@20°C)</b>				
<b>Copper Clad</b>	Inner Conductor	Ω/km	1,90	1,90
	Outer Conductor	Ω/km	1,37	1,37
	Loop	Ω/km	3,27	3,27
<b>Solid Copper</b>	Inner Conductor	Ω/km	1,25	1,25
	Outer Conductor	Ω/km	1,37	1,37
	Loop	Ω/km	2,61	2,61
<b>Structural Return Loss (SRL)**</b>				
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



**Setting a New Standard  
in Cable Technology!**

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

## Standard QR Construction

A precision aluminium strip is formed and continuously RF welded around a high compression micro-cellular foam dielectric core, minimizing RF egress and ingress, and the rigidity common in traditional coaxial products. The shield is fully bonded to the dielectric core, as in the copper clad aluminium center conductor. A tough polyethylene jacket is applied standard, which enhances cable reliability and allows QR's unique connector technology to form an environmental seal.

Catalog Number		QR 860 JCA	QR 860 JCAM 188	QR 860 JCASS
<b>Description</b>		Offers all of QR's standard construction features	Integrated Figure 8 stranded galvanized steel messenger	Features CommScope's Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	316	459	318
<b>Shipping Weight</b>	kg	355	496	357
<b>Standard Length</b>	m	823	823	823

Mechanical Data		QR 860 JCA	QR 860 JCAM 188	QR 860 JCASS
Center Conductor	nominal dia. mm	5,16	5,16	5,16
Dielectric	nominal dia. mm	21,03	21,03	21,03
Outer Conductor	nominal dia. mm	21,84	21,84	21,84
Outer Conductor Thickness	nominal mm	0,41	0,41	0,41
Jacket	nominal dia. mm	24,38	24,38	24,38
Jacket Wall Thickness	nominal mm	1,27	1,27	1,27
Steel Messenger	nominal dia. mm		7x1,6	
Minimum Bending Radius	cm	17,8	17,8	17,8
Maximum Pulling Tension	daN	200	200	200
Minimum Breaking Strength of Messenger	daN		1734	

Electrical Data		QR 860 JCA	QR 860 JCAM 188	QR 860 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,30	0,30	0,30
55 MHz	dB/100m	1,05	1,05	1,05
250 MHz	dB/100m	2,30	2,30	2,30
450 MHz	dB/100m	3,12	3,12	3,12
550 MHz	dB/100m	3,48	3,48	3,48
750 MHz	dB/100m	4,07	4,07	4,07
865 MHz	dB/100m	4,36	4,36	4,36
1000 MHz	dB/100m	4,72	4,72	4,72
<b>Nominal DC Resistance (@20°C)</b>				
<b>Copper Clad</b>	Inner Conductor	Ω/km	1,33	1,33
	Outer Conductor	Ω/km	1,04	1,04
	Loop	Ω/km	2,37	2,37
<b>Solid Copper</b>	Inner Conductor	Ω/km	0,82	0,82
	Outer Conductor	Ω/km	1,04	1,04
	Loop	Ω/km	1,86	1,86
<b>Structural Return Loss (SRL)**</b>				
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



### Setting a New Standard in Cable Technology!





A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

**Standard P3 Construction**

A high precision aluminium outer conductor surrounds a high compression, micro-cellular foam dielectric core. The core contains a fully bonded copper clad center conductor.

Catalog Number		P3 500 CA	P3 500 JCA	P3 500 JCAM 109	P3 500 JCASS
<b>Description</b>		Offers all of P3's standard construction features (without jacket) 	Offers all of P3's standard construction features 	Integrated Figure 8 design with a solid or stranded messenger <i>(weights and lengths for standard version P3 500 JCAM 109 are shown below)</i> 	Features Migra-Heal® floodant that seals jacket damage to inhibit corrosion 
<b>Cable Weight</b>	kg/km	108	141	199	146
<b>Shipping Weight</b>	kg	118	143	214	147
<b>Standard Length</b>	m	732	732	732	732

Mechanical Data		P3 500 CA	P3 500 JCA	P3 500 JCAM	P3 500 JCASS
Center Conductor	nominal dia. mm	2,77	2,77	2,77	2,77
Dielectric	nominal dia. mm	11,43	11,43	11,43	11,43
Outer Conductor	nominal dia. mm	12,70	12,70	12,70	12,70
Outer Conductor Thickness	nominal mm	0,61	0,61	0,61	0,61
Jacket	nominal dia. mm		14,22	14,22	14,48
Jacket Wall Thickness	nominal mm		0,76	0,76	0,76
Messenger	nominal dia. mm			(109 msg) 2,77 (490 S msg) 7x1,7	
Minimum Bending Radius	cm	16,5	8,9	8,9	8,9
Maximum Pulling Tension	daN	133	133	133	133
Minimum Breaking Strength of Messenger	daN			(109 msg) 801 (490 S msg) 500	

Electrical Data		P3 500 CA	P3 500 JCA	P3 500 JCAM	P3 500 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	87	87	87	87
<b>Maximum Attenuation (@20°C)</b>					
5 MHz	dB/100m	0,52	0,52	0,52	0,52
55 MHz	dB/100m	1,77	1,77	1,77	1,77
250 MHz	dB/100m	3,94	3,94	3,94	3,94
450 MHz	dB/100m	5,35	5,35	5,35	5,35
550 MHz	dB/100m	5,97	5,97	5,97	5,97
750 MHz	dB/100m	7,09	7,09	7,09	7,09
865 MHz	dB/100m	7,68	7,68	7,68	7,68
1000 MHz	dB/100m	8,27	8,27	8,27	8,27
<b>Nominal DC Resistance (@20°C)</b>					
<b>Copper Clad</b>	Inner Conductor Ω/km	4,43	4,43	4,43	4,43
	Outer Conductor Ω/km	1,21	1,21	1,21	1,21
	Loop Ω/km	5,64	5,64	5,64	5,64
<b>Solid Copper</b>	Inner Conductor Ω/km	2,72	2,72	2,72	2,72
	Outer Conductor Ω/km	1,21	1,21	1,21	1,21
	Loop Ω/km	3,94	3,94	3,94	3,94
<b>Structural Return Loss (SRL)**</b>					
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>					
(As) 30-1000 MHz	dB	135	135	135	135
<b>Transfer Impedance (Zt)**</b>					
	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



**Setting a New Standard  
in Cable Technology!**

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

## Standard P3 Construction

A high precision aluminium outer conductor surrounds a high compression, micro-cellular foam dielectric core. The core contains a fully bonded copper clad center conductor.

Catalog Number		P3 625 CA	P3 625 JCA	P3 625 JCAM 109	P3 625 JCASS
<b>Description</b>		Offers all of P3's standard construction features (without jacket)	Offers all of P3's standard construction features	Integrated Figure 8 design with galvanized solid steel messenger	Features Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	173	209	268	216
<b>Shipping Weight</b>	kg	195	222	266	226
<b>Standard Length</b>	m	732	732	732	732

Mechanical Data		P3 625 CA	P3 625 JCA	P3 625 JCAM 109	P3 625 JCASS
Center Conductor	nominal dia. mm	3,48	3,48	3,48	3,48
Dielectric	nominal dia. mm	14,35	14,35	14,35	14,35
Outer Conductor	nominal dia. mm	15,88	15,88	15,88	15,88
Outer Conductor Thickness	nominal mm	0,76	0,76	0,76	0,76
Jacket	nominal dia. mm		17,40	17,40	17,40
Jacket Wall Thickness	nominal mm		0,76	0,76	0,76
Steel Messenger	nominal dia. mm			2,77	
Minimum Bending Radius	cm	19,1	11,4	11,4	11,4
Maximum Pulling Tension	daN	211	211	211	211
Minimum Breaking Strength of Msg.	daN			801	

Electrical Data		P3 625 CA	P3 625 JCA	P3 625 JCAM 109	P3 625 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	87	87	87	87
<b>Maximum Attenuation (@20°C)</b>					
5 MHz	dB/100m	0,43	0,43	0,43	0,43
55 MHz	dB/100m	1,51	1,51	1,51	1,51
250 MHz	dB/100m	3,28	3,28	3,28	3,28
450 MHz	dB/100m	4,43	4,43	4,43	4,43
550 MHz	dB/100m	4,92	4,92	4,92	4,92
750 MHz	dB/100m	5,84	5,84	5,84	5,84
865 MHz	dB/100m	6,33	6,33	6,33	6,33
1000 MHz	dB/100m	6,79	6,79	6,79	6,79
<b>Nominal DC Resistance (@20°C)</b>					
<b>Copper Clad</b>	Inner Conductor Ω/km	2,76	2,76	2,76	2,76
	Outer Conductor Ω/km	0,85	0,85	0,85	0,85
	Loop Ω/km	3,61	3,61	3,61	3,61
<b>Solid Copper</b>	Inner Conductor Ω/km	1,84	1,84	1,84	1,84
	Outer Conductor Ω/km	0,85	0,85	0,85	0,85
	Loop Ω/km	2,69	2,69	2,69	2,69
<b>Structural Return Loss (SRL)**</b>					
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>	Class	A++	A++	A++	A++
	(As) 30-1000 MHz	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



### Setting a New Standard in Cable Technology!

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

# P3® 750 Digital Series



## Standard P3 Construction

A high precision aluminium outer conductor surrounds a high compression, micro-cellular foam dielectric core. The core contains a fully bonded copper clad center conductor.

Catalog Number		P3 750 CA	P3 750 JCA	P3 750 JCAM	P3 750 JCASS
<b>Description</b>		Offers all of P3's standard construction features (without jacket)	Offers all of P3's standard construction features	Integrated Figure 8 design with solid or stranded messenger <i>(weights and lengths for standard version P3 750 JCAM 188 are shown below)</i>	Features Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	244	296	434	304
<b>Shipping Weight</b>	kg	256	296	425	302
<b>Standard Length</b>	m	762	762	762	762

Mechanical Data		P3 750 CA	P3 750 JCA	P3 750 JCAM	P3 750 JCASS
Center Conductor	nominal dia. mm	4,24	4,24	4,24	4,24
Dielectric	nominal dia. mm	17,27	17,27	17,27	17,27
Outer Conductor	nominal dia. mm	19,05	19,05	19,05	19,05
Outer Conductor Thickness	nominal mm	0,89	0,89	0,89	0,89
Jacket	nominal dia. mm		20,83	20,83	21,08
Jacket Wall Thickness	nominal mm		0,89	0,89	0,89
Steel Messenger	nominal dia. mm			(188 msg) 7x1,6 (595 S msg) 7x2,0	
Minimum Bending Radius	cm	22,9	15,2	15,2	15,2
Maximum Pulling Tension	daN	300	300	300	300
Minimum Breaking Strength of Messenger	daN			(188 msg) 1734 (595 S msg) 701	

Electrical Data		P3 750 CA	P3 750 JCA	P3 750 JCAM	P3 750 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	87	87	87	87
<b>Maximum Attenuation (@20°C)</b>					
5 MHz	dB/100m	0,36	0,36	0,36	0,36
55 MHz	dB/100m	1,21	1,21	1,21	1,21
250 MHz	dB/100m	2,66	2,66	2,66	2,66
450 MHz	dB/100m	3,67	3,67	3,67	3,67
550 MHz	dB/100m	4,07	4,07	4,07	4,07
750 MHz	dB/100m	4,86	4,86	4,86	4,86
865 MHz	dB/100m	5,28	5,28	5,28	5,28
1000 MHz	dB/100m	5,71	5,71	5,71	5,71
<b>Nominal DC Resistance (@20°C)</b>					
<b>Copper Clad</b>	Inner Conductor	Ω/km	1,87	1,87	1,87
	Outer Conductor	Ω/km	0,62	0,62	0,62
	Loop	Ω/km	2,49	2,49	2,49
<b>Solid Copper</b>	Inner Conductor	Ω/km	1,21	1,21	1,21
	Outer Conductor	Ω/km	0,62	0,62	0,62
	Loop	Ω/km	1,84	1,84	1,84
<b>Structural Return Loss (SRL)**</b>					
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>					
(As) 30-1000 MHz	Class	A++	A++	A++	A++
	dB	135	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



### Setting a New Standard in Cable Technology!

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

For Customer Service, call +32-6452 1911 or +1-828 324 2200

## Standard P3 Construction

A high precision aluminium outer conductor surrounds a high compression, micro-cellular foam dielectric core. The core contains a fully bonded copper clad center conductor.

Catalog Number		P3 875 CA	P3 875 JCA	P3 875 JCAM 250	P3 875 JCASS
<b>Description</b>		Offers all of P3's standard construction features (without jacket)	Offers all of P3's standard construction features	Integrated Figure 8 design with a galvanized stranded steel messenger	Features Migra-Heal® floodant that seals jacket damage to inhibit corrosion
<b>Cable Weight</b>	kg/km	321	382	549	391
<b>Shipping Weight</b>	kg	340	386	537	393
<b>Standard Length</b>	m	762	762	762	762

Mechanical Data		P3 875 CA	P3 875 JCA	P3 875 JCAM 250	P3 875 JCASS
Center Conductor	nominal dia. mm	4,93	4,93	4,93	4,93
Dielectric	nominal dia. mm	20,24	20,24	20,24	20,24
Outer Conductor	nominal dia. mm	22,23	22,23	22,23	22,23
Outer Conductor Thickness	nominal mm	0,99	0,99	0,99	0,99
Jacket	nominal dia. mm		24,00	24,00	24,00
Jacket Wall Thickness	nominal mm		0,89	0,89	0,89
Steel Messenger	nominal dia. mm			7x2,116	
Minimum Bending Radius	cm	25,4	17,8	17,8	17,8
Maximum Pulling Tension	daN	389	389	389	389
Minimum Breaking Strength of Msg.	daN			2958	

Electrical Data		P3 875 CA	P3 875 JCA	P3 875 JCAM 250	P3 875 JCASS
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50 ± 3,0	50 ± 3,0	50 ± 3,0	50 ± 3,0
<b>Velocity of Propagation</b>	% nominal	87	87	87	87
<b>Maximum Attenuation (@20°C)</b>					
5 MHz	dB/100m	0,30	0,30	0,30	0,30
55 MHz	dB/100m	1,08	1,08	1,08	1,08
250 MHz	dB/100m	2,36	2,36	2,36	2,36
450 MHz	dB/100m	3,18	3,18	3,18	3,18
550 MHz	dB/100m	3,54	3,54	3,54	3,54
750 MHz	dB/100m	4,23	4,23	4,23	4,23
865 MHz	dB/100m	4,63	4,63	4,63	4,63
1000 MHz	dB/100m	5,02	5,02	5,02	5,02
<b>Nominal DC Resistance (@20°C)</b>					
<b>Copper Clad</b>	Inner Conductor Ω/km	1,38	1,38	1,38	1,38
	Outer Conductor Ω/km	0,43	0,43	0,43	0,43
	Loop Ω/km	1,80	1,80	1,80	1,80
<b>Solid Copper</b>	Inner Conductor Ω/km	0,92	0,92	0,92	0,92
	Outer Conductor Ω/km	0,43	0,43	0,43	0,43
	Loop Ω/km	1,35	1,35	1,35	1,35
<b>Structural Return Loss (SRL)**</b>					
5 - 30 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
30 - 470 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
470 - 1000 MHz	dB	≥ 30	≥ 30	≥ 30	≥ 30
<b>Screening Effectiveness**</b>	Class	A++	A++	A++	A++
(As) 30-1000 MHz	dB	135	135	135	135
<b>Transfer Impedance (Zt)**</b>	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9	≤ 0,9

\*\*In accordance with EN 50117



### Setting a New Standard in Cable Technology!

A clean center conductor after coring is a feature of this product and should be considered normal.

Specifications are subject to change without notice.

## CL 1,7/7,0 Series



CommScope CL product line is the industry standard by which all copper coaxial cables are compared. CL has been proven robust and reliable by years of successful installations. CL Series complies with EN 50117. CL 1,7/7,0 is optimized for use in MDU and feeder applications where high performance and reduced diameter are requested. Its small size and low attenuation have made it an industry standard.

Catalog Number	CL 1,7/7,0 J	CL 1,7/7,0 JM	CL 1,7/7,0 J/T32	
<b>Description</b>	High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded with a tough HD black polyethylene jacket	For self-supporting aerial applications, an integrated galvanized steel messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provides strong and flexible protection	
<b>Cable Weight</b>	kg/km	120	195	410
<b>Shipping Weight*</b>	kg	92/152	130/235	290
<b>Standard Length</b>	m	500/1000	500/1000	500

\*Shipping Weight = Standard Length/Reel + Lagged Drum.

Mechanical Data	CL 1,7/7,0 J	CL 1,7/7,0 JM	CL 1,7/7,0 J/T32	
Center Conductor	nominal dia. mm	1,70	1,70	1,70
Dielectric	nominal dia. mm	7,00	7,00	7,00
Outer Conductor	nominal dia. mm	7,50	7,50	7,50
Outer Conductor Thickness	nominal mm	0,25	0,25	0,25
Jacket	nominal dia. mm	10,40	10,40	10,40
Jacket Nominal Thickness	mm	1,45	1,45	1,45
Jacketed Messenger	nominal dia. mm		6,00	
Size Bare Messenger in Galvanized Steel	mm		7 x 1,00	
Outer Jacket Height	nominal mm		18,90	
Outer Jacket Width	nominal mm		10,40	
PE Tube	outer diameter mm			32
Minimum Bending Radius	1 single bend mm	90	90	
	10 bends mm	200	200	
Maximum Pulling Tension	daN	40	40	40
Minimum Breaking Strength of Messenger	daN		716	
Modulus of Elasticity	daN/sq mm	1950	1950	1950
Thermal Coefficient of Linear Expansion	per °C	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>

Electrical Data	CL 1,7/7,0 J	CL 1,7/7,0 JM	CL 1,7/7,0 J/T32	
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	12	12	12
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	8	8	8
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,85	0,85	0,85
50 MHz	dB/100m	2,70	2,70	2,70
250 MHz	dB/100m	6,16	6,16	6,16
400 MHz	dB/100m	7,87	7,87	7,87
550 MHz	dB/100m	9,30	9,30	9,30
750 MHz	dB/100m	10,95	10,95	10,95
862 MHz	dB/100m	11,79	11,79	11,79
1000 MHz	dB/100m	12,76	12,76	12,76
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	7,62	7,62	7,62
Outer Conductor	Ω/km	3,01	3,01	3,01
Loop	Ω/km	10,63	10,63	10,63
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz dB	≥ 26	≥ 26	≥ 26
	30 - 470 MHz dB	≥ 26	≥ 26	≥ 26
	470 - 1000 MHz dB	≥ 23	≥ 23	≥ 23
<b>Screening Effectiveness**</b>	Class	A++	A++	A++
(As) 30-1000 MHz	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

CommScope CL product line is the industry standard by which all copper coaxial cables are compared. CL has been proven robust and reliable by years of successful installations. CL Series complies with EN 50117. CL 2,1/8,8 is optimized for use in MDU and feeder applications. Its small size and low attenuation have made it an industry standard.

Catalog Number		CL 2,1/8,8 J	CL 2,1/8,8 JM	CL 2,1/8,8 J/T32
<b>Description</b>		High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded with a tough HD black polyethylene jacket	For self-supporting aerial applications, an integrated galvanized steel messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection
<b>Cable Weight</b>	kg/km	151	220	441
<b>Shipping Weight*</b>	kg	108/191	150/290	306
<b>Standard Length</b>	m	500/1000	500/1000	500

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data		CL 2,1/8,8 J	CL 2,1/8,8 JM	CL 2,1/8,8 J/T32
Center Conductor	nominal dia. mm	2,10	2,10	2,10
Dielectric	nominal dia. mm	8,92	8,92	8,92
Outer Conductor	nominal dia. mm	9,35	9,35	9,35
Outer Conductor Thickness	nominal mm	0,22	0,22	0,22
Jacket	nominal dia. mm	12,40	12,40	12,40
Jacket Nominal Thickness	mm	1,53	1,53	1,53
Jacketed Messenger	nominal dia. mm		6,00	
Size Bare Messenger in Galvanized Steel	mm		7 x 1,00	
Outer Jacket Height	nominal mm		20,65	
Outer Jacket Width	nominal mm		12,40	
PE Tube	outer diameter mm			32
Minimum Bending Radius	1 single bend mm	150	150	
	10 bends mm	300	300	
Maximum Pulling Tension	daN	50	50	50
Minimum Breaking Strength of Messenger	daN		716	
Modulus of Elasticity	daN/sq mm	1950	1950	1950
Thermal Coefficient of Linear Expansion	per °C	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>

Electrical Data		CL 2,1/8,8 J	CL 2,1/8,8 JM	CL 2,1/8,8 J/T32
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	13	13	13
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	8	8	8
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,66	0,66	0,66
50 MHz	dB/100m	2,11	2,11	2,11
250 MHz	dB/100m	4,84	4,84	4,84
400 MHz	dB/100m	6,20	6,20	6,20
550 MHz	dB/100m	7,34	7,34	7,34
750 MHz	dB/100m	8,66	8,66	8,66
862 MHz	dB/100m	9,34	9,34	9,34
1000 MHz	dB/100m	10,12	10,12	10,12
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	4,96	4,96	4,96
Outer Conductor	Ω/km	2,77	2,77	2,77
Loop	Ω/km	7,73	7,73	7,73
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz	dB	≥ 26	≥ 26
	30 - 470 MHz	dB	≥ 26	≥ 26
	470 - 1000 MHz	dB	≥ 23	≥ 23
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>				
	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

## CL 3,3/13,5 Series



CommScope CL product line is the industry standard by which all copper coaxial cables are compared. CL has been proven robust and reliable by years of successful installations. CL Series complies with EN 50117. CL 3,3/13,5 is optimized for use in broadband feeder plants. Its low attenuation has made it an industry standard.

Catalog Number		CL 3,3/13,5 J	CL 3,3/13,5 JM	CL 3,3/13,5 J/T40
<b>Description</b>		High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded with a tough HD black polyethylene jacket	For self-supporting aerial applications, an integrated galvanized steel messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection
<b>Cable Weight</b>	kg/km	265	384	645
<b>Shipping Weight*</b>	kg	203/335	262/478	548
<b>Standard Length</b>	m	500/1000	500/1000	500

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data		CL 3,3/13,5 J	CL 3,3/13,5 JM	CL 3,3/13,5 J/T40
Center Conductor	nominal dia. mm	3,30	3,30	3,30
Dielectric	nominal dia. mm	13,62	13,62	13,62
Outer Conductor	nominal dia. mm	14,05	14,05	14,05
Outer Conductor Thickness	nominal mm	0,22	0,22	0,22
Jacket	nominal dia. mm	17,00	17,00	17,00
Jacket Nominal Thickness	mm	1,48	1,48	1,48
Jacketed Messenger	nominal dia. mm		7,80	
Size Bare Messenger in Galvanized Steel	mm		19 x 0,80	
Outer Jacket Height	nominal mm		28,00	
Outer Jacket Width	nominal mm		17,00	
PE Tube	outer diameter mm			40
Minimum Bending Radius	1 single bend mm	200	200	
	10 bends mm	400	400	
Maximum Pulling Tension	daN	100	100	100
Minimum Breaking Strength of Messenger	daN		1225	
Modulus of Elasticity	daN/sq mm	1950	1950	1950
Thermal Coefficient of Linear Expansion	per °C	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>

Electrical Data		CL 3,3/13,5 J	CL 3,3/13,5 JM	CL 3,3/13,5 J/T40
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	20	20	20
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	8	8	8
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,42	0,42	0,42
50 MHz	dB/100m	1,35	1,35	1,35
250 MHz	dB/100m	3,14	3,14	3,14
400 MHz	dB/100m	4,04	4,04	4,04
550 MHz	dB/100m	4,81	4,81	4,81
750 MHz	dB/100m	5,70	5,70	5,70
862 MHz	dB/100m	6,16	6,16	6,16
1000 MHz	dB/100m	6,70	6,70	6,70
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	1,99	1,99	1,99
Outer Conductor	Ω/km	1,83	1,83	1,83
Loop	Ω/km	3,82	3,82	3,82
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz dB	≥ 28	≥ 28	≥ 28
	30 - 470 MHz dB	≥ 28	≥ 28	≥ 28
	470 - 1000 MHz dB	≥ 25	≥ 25	≥ 25
<b>Screening Effectiveness**</b>				
(As) 30-1000 MHz	Class	A++	A++	A++
	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>				
	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

CommScope CL product line is the industry standard by which all copper coaxial cables are compared. CL has been proven robust and reliable by years of successful installations. CL Series complies with EN 50117. CL 4,75/19,4 is optimized for use in broadband trunk and feeder plants. Its low attenuation has made it an industry standard.

Catalog Number		CL 4,75/19,4 J	CL 4,75/19,4 JM	CL 4,75/19,4 J/T40
<b>Description</b>		High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded with a tough HD black polyethylene jacket	For self-supporting aerial applications, an integrated galvanized steel messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection
<b>Cable Weight</b>	kg/km	507	681	887
<b>Shipping Weight*</b>	kg	347/626	435	669
<b>Standard Length</b>	m	500/1000	500	500

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data		CL 4,75/19,4 J	CL 4,75/19,4 JM	CL 4,75/19,4 J/T40
Center Conductor	nominal dia. mm	4,75	4,75	4,75
Dielectric	nominal dia. mm	19,40	19,40	19,40
Outer Conductor	nominal dia. mm	20,00	20,00	20,00
Outer Conductor Thickness	nominal mm	0,25	0,25	0,25
Jacket	nominal dia. mm	24,40	24,40	24,40
Jacket Nominal Thickness	mm	2,20	2,20	2,20
Jacketed Messenger	nominal dia. mm		8,60	
Size Bare Messenger in Galvanized Steel	mm		19 x 1,00	
Outer Jacket Height	nominal mm		36,20	
Outer Jacket Width	nominal mm		24,40	
PE Tube	outer diameter mm			40
Minimum Bending Radius	1 single bend mm	250	250	
	10 bends mm	500	500	
Maximum Pulling Tension	daN	180	180	180
Minimum Breaking Strength of Messenger	daN		1860	
Modulus of Elasticity	daN/sq mm	1950	1950	1950
Thermal Coefficient of Linear Expansion	per °C	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>	12x10 <sup>-6</sup>

Electrical Data		CL 4,75/19,4 J	CL 4,75/19,4 JM	CL 4,75/19,4 J/T40
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	32	32	32
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	8	8	8
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,29	0,29	0,29
50 MHz	dB/100m	0,95	0,95	0,95
250 MHz	dB/100m	2,22	2,22	2,22
400 MHz	dB/100m	2,87	2,87	2,87
550 MHz	dB/100m	3,41	3,41	3,41
750 MHz	dB/100m	4,06	4,06	4,06
862 MHz	dB/100m	4,39	4,39	4,39
1000 MHz	dB/100m	4,77	4,77	4,77
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	0,95	0,95	0,95
Outer Conductor	Ω/km	1,14	1,14	1,14
Loop	Ω/km	2,09	2,09	2,09
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz dB	≥ 30	≥ 30	≥ 30
	30 - 470 MHz dB	≥ 30	≥ 30	≥ 30
	470 - 1000 MHz dB	≥ 26	≥ 26	≥ 26
<b>Screening Effectiveness**</b>	Class	A++	A++	A++
(As) 30-1000 MHz	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

## CA 511 Series



CommScope CA 500 product line sets an industry standard by which all copper coaxial cables are compared. CA 500 Series offers exceptional reliability and flexibility. CA 500 has been proven robust and reliable by years of successful installations. CA Series complies with EN 50117. CA 511 is optimized for use in MDU and feeder applications. Its small size and low attenuation sets an industry standard.

Catalog Number		CA 511 J	CA 511 JM	CA 511 J/T32
<b>Description</b>		High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded and corrugated with a tough MD polyethylene jacket	For self-supporting aerial applications, a stranded aluminium alloy messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection
<b>Cable Weight</b>	kg/km	142	201	429
<b>Shipping Weight*</b>	kg	103	141	300
<b>Standard Length</b>	m	500	500	500

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data		CA 511 J	CA 511 JM	CA 511 J/T32
Center Conductor	nominal dia. mm	2,00	2,00	2,00
Dielectric	nominal dia. mm	8,25	8,25	8,25
Outer Conductor	nominal dia. mm	9,30	9,30	9,30
Outer Conductor Thickness	nominal mm	0,25	0,25	0,25
Jacket	nominal dia. mm	11,40	11,40	11,40
Jacket Nominal Thickness	mm	1,05	1,05	1,05
Jacketed Messenger	nominal dia. mm		7,05	
Size Bare Msg. in Stranded Aluminium Alloy	mm		7 x 1,52	
Outer Jacket Height	nominal mm		21,50	
Outer Jacket Width	nominal mm		11,40	
PE Tube	outer diameter mm			32
Minimum Bending Radius	1 single bend mm	80	150	
	10 bends mm	145	365	
Maximum Pulling Tension	daN	40	40	40
Minimum Breaking Strength of Messenger	daN		380	
Modulus of Elasticity	daN/sq mm	6200	6200	6200
Thermal Coefficient of Linear Expansion	per °C	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>

Electrical Data		CA 511 J	CA 511 JM	CA 511 J/T32
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	11	11	11
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	5	5	5
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,69	0,69	0,69
50 MHz	dB/100m	2,23	2,23	2,23
250 MHz	dB/100m	5,12	5,12	5,12
400 MHz	dB/100m	6,56	6,56	6,56
550 MHz	dB/100m	7,77	7,77	7,77
750 MHz	dB/100m	9,18	9,18	9,18
862 MHz	dB/100m	9,89	9,89	9,89
1000 MHz	dB/100m	10,73	10,73	10,73
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	5,32	5,32	5,32
Outer Conductor	Ω/km	2,76	2,76	2,76
Loop	Ω/km	8,08	8,08	8,08
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz dB	≥ 27	≥ 27	≥ 27
	30 - 470 MHz dB	≥ 27	≥ 27	≥ 27
	470 - 1000 MHz dB	≥ 24	≥ 24	≥ 24
<b>Screening Effectiveness**</b>	Class	A++	A++	A++
(As) 30-1000 MHz	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
from 5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

CommScope CA 500 product line sets an industry standard by which all copper coaxial cables are compared. CA 500 Series offers exceptional reliability and flexibility. CA 500 has been proven robust and reliable by years of successful installations. CA Series complies with EN 50117. CA 514 is optimized for use in MDU and for uses in broadband feeder plants. Its small size and low attenuation sets an industry standard.

Catalog Number	CA 514 J	CA 514 JM	CA 514 J/T32	
<b>Description</b>	High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded and corrugated with a tough MD polyethylene jacket	For self-supporting aerial applications, a stranded aluminium alloy messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection	
<b>Cable Weight</b>	kg/km	204	273	492
<b>Shipping Weight*</b>	km	142	205	331/717
<b>Standard Length</b>	m	500	500	500/1000

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data	CA 514 J	CA 514 JM	CA 514 J/T32	
Center Conductor	nominal dia. mm	2,65	2,65	2,65
Dielectric	nominal dia. mm	10,85	10,85	10,85
Outer Conductor	nominal dia. mm	12,00	12,00	12,00
Outer Conductor Thickness	nominal mm	0,25	0,25	0,25
Jacket	nominal dia. mm	14,30	14,30	14,30
Jacket Nominal Thickness	mm	1,15	1,15	1,15
Jacketed Messenger	nominal dia. mm		7,25	
Size Bare Msg. Stranded Aluminium Alloy	mm		7 x 1,70	
Outer Jacket Height	nominal mm		23,60	
Outer Jacket Width	nominal mm		14,30	
PE Tube	outer diameter mm			32
Minimum Bending Radius	1 single bend mm	115	185	
	10 bends mm	185	450	
Maximum Pulling Tension	daN	70	70	70
Minimum Breaking Strength of Messenger	daN		500	
Modulus of Elasticity	daN/sq mm	6200	6200	6200
Thermal Coefficient of Linear Expansion	per °C	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>

Electrical Data	CA 514 J	CA 514 JM	CA 514 J/T32	
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	20	20	20
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	5	5	5
<b>Maximum Attenuation (@20°C)</b>				
5 MHz	dB/100m	0,53	0,53	0,53
50 MHz	dB/100m	1,71	1,71	1,71
250 MHz	dB/100m	3,97	3,97	3,97
400 MHz	dB/100m	5,11	5,11	5,11
550 MHz	dB/100m	6,08	6,08	6,08
750 MHz	dB/100m	7,22	7,22	7,22
862 MHz	dB/100m	7,80	7,80	7,80
1000 MHz	dB/100m	8,48	8,48	8,48
<b>Nominal DC Resistance (@20°C)</b>				
Inner Conductor	Ω/km	3,04	3,04	3,04
Outer Conductor	Ω/km	2,09	2,09	2,09
Loop	Ω/km	5,13	5,13	5,13
<b>Structural Return Loss (SRL)**</b>				
Frequency Bandwidth	5 - 30 MHz dB	≥ 27	≥ 27	≥ 27
	30 - 470 MHz dB	≥ 27	≥ 27	≥ 27
	470 - 1000 MHz dB	≥ 24	≥ 24	≥ 24
<b>Screening Effectiveness**</b>	Class	A++	A++	A++
(As) 30-1000 MHz	dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
from 5 - 30 MHz	mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

CommScope CA 500 product line sets an industry standard by which all copper coaxial cables are compared. CA 500 Series offers exceptional reliability and flexibility. CA 500 has been proven robust and reliable by years of successful installations. CA Series complies with EN 50117. CA 516 is optimized for use in broadband feeder plants. Its low attenuation sets an industry standard.

Catalog Number		CA 516 J	CA 516 JM	CA 516 J/T40
<b>Description</b>		High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded and corrugated with a tough MD polyethylene jacket	For self-supporting aerial applications, a stranded aluminium alloy messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, the cable is pre-installed in a medium density PE tube to provide strong and flexible protection
<b>Cable Weight</b>	kg/km	247	318	625
<b>Shipping Weight*</b>	kg	164	227	538
<b>Standard Length</b>	m	500	500	500

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data		CA 516 J	CA 516 JM	CA 516 J/T40
Center Conductor	nominal dia. mm	3,10	3,10	3,10
Dielectric	nominal dia. mm	12,40	12,40	12,40
Outer Conductor	nominal dia. mm	13,70	13,70	13,70
Outer Conductor Thickness	nominal mm	0,25	0,25	0,25
Jacket	nominal dia. mm	16,00	16,00	16,00
Jacket Nominal Thickness	mm	1,15	1,15	1,15
Jacketed Messenger	nominal dia. mm		7,25	
Size Bare Msg. in Stranded Aluminium Alloy	mm		7 x 1,70	
Outer Jacket Height	nominal mm		25,30	
Outer Jacket Width	nominal mm		16,00	
PE Tube	outer diameter mm			40
Minimum Bending Radius	1 single bend mm	120	205	
	10 bends mm	215	500	
Maximum Pulling Tension	daN	95	95	95
Minimum Breaking Strength of Messenger	daN		500	
Modulus of Elasticity	daN/sq mm	6200	6200	6200
Thermal Coefficient of Linear Expansion	per °C	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>

Electrical Data		CA 516 J	CA 516 JM	CA 516 J/T40
<b>Impedance</b>	Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b>	pF/m	50	50	50
<b>Velocity of Propagation</b>	% nominal	88	88	88
<b>Max. Current Load at 50Hz</b>	Amp	25	25	25
<b>Voltage Test of Dielectric (1 min)</b>	kV rms	2	2	2
<b>Voltage Test Outer Sheath (Spark)</b>	kV rms	5	5	5
<b>Maximum Attenuation (@20°C)</b>				
	5 MHz dB/100m	0,46	0,46	0,46
	50 MHz dB/100m	1,50	1,50	1,50
	250 MHz dB/100m	3,46	3,46	3,46
	400 MHz dB/100m	4,45	4,45	4,45
	550 MHz dB/100m	5,28	5,28	5,28
	750 MHz dB/100m	6,25	6,25	6,25
	862 MHz dB/100m	6,75	6,75	6,75
	1000 MHz dB/100m	7,33	7,33	7,33
<b>Nominal DC Resistance (@20°C)</b>				
	Inner Conductor Ω/km	2,20	2,20	2,20
	Outer Conductor Ω/km	1,81	1,81	1,81
	Loop Ω/km	4,01	4,01	4,01
<b>Structural Return Loss (SRL)**</b>				
	Frequency Bandwidth 5 - 30 MHz dB	≥28	≥28	≥28
	30 - 470 MHz dB	≥28	≥28	≥28
	470 - 1000 MHz dB	≥25	≥25	≥25
<b>Screening Effectiveness**</b>	Class	A++	A++	A++
	(As) 30-1000 MHz dB	135	135	135
<b>Transfer Impedance (Zt)**</b>				
	from 5 - 30 MHz mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>	dB	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

CommScope CA 500 product line sets an industry standard by which all copper coaxial cables are compared. CA 500 Series offers exceptional reliability and flexibility. CA 500 has been proven robust and reliable by years of successful installations. CA Series complies with EN 50117. CA 519 is optimized for use in broadband trunk and distribution plants. Its low attenuation sets an industry standard.

Catalog Number	CA 519 J	CA 519 JM	CA 519 J/T40	
<b>Description</b>	High density micro-cellular gas injected foam dielectric extruded and bonded to a solid copper center conductor, robust copper tape longitudinally welded and corrugated with a tough MD polyethylene jacket	For self-supporting aerial applications, a stranded aluminium alloy messenger is added alongside the cable in a figure-8 construction	For underground direct burial applications, this cable is pre-installed in a medium density PE tube to provide strong and flexible protection	
<b>Cable Weight</b>	kg/km	357	455	728
<b>Shipping Weight*</b>	kg	320	413	735
<b>Standard Length</b>	m	700	700	700

\*Shipping weight = Standard Length/Reel + Lagged Drum.

Mechanical Data	CA 519 J	CA 519 JM	CA 519 J/T40
Center Conductor nominal dia. mm	3,90	3,90	3,90
Dielectric nominal dia. mm	15,60	15,60	15,60
Outer Conductor nominal dia. mm	17,20	17,20	17,20
Outer Conductor Thickness nominal mm	0,25	0,25	0,25
Jacket nominal dia. mm	19,80	19,80	19,80
Jacket Nominal Thickness mm	1,30	1,30	1,30
Jacketed Messenger nominal dia. mm		8,60	
Size Bare Msg. Stranded Aluminium Alloy mm		7 x 2,00	
Outer Jacket Height nominal mm		30,65	
Outer Jacket Width nominal mm		19,80	
PE Tube outer diameter mm			40
Minimum Bending Radius 1 single bend mm	145	250	
10 bends mm	260	605	
Maximum Pulling Tension daN	150	150	150
Minimum Breaking Strength of Messenger daN		700	
Modulus of Elasticity daN/sq mm	6200	6200	6200
Thermal Coefficient of Linear Expansion per °C	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>	23x10 <sup>-6</sup>

Electrical Data	CA 519 J	CA 519 JM	CA 519 J/T40
<b>Impedance</b> Ω	75 ± 2	75 ± 2	75 ± 2
<b>Capacitance</b> pF/m	50	50	50
<b>Velocity of Propagation</b> % nominal	88	88	88
<b>Max. Current Load at 50Hz</b> Amp	34	34	34
<b>Voltage Test of Dielectric (1 min)</b> kV rms	3,5	3,5	3,5
<b>Voltage Test Outer Sheath (Spark)</b> kV rms	5	5	5
<b>Maximum Attenuation (@20°C)</b>			
5 MHz dB/100m	0,36	0,36	0,36
50 MHz dB/100m	1,17	1,17	1,17
250 MHz dB/100m	2,73	2,73	2,73
400 MHz dB/100m	3,52	3,52	3,52
550 MHz dB/100m	4,19	4,19	4,19
750 MHz dB/100m	4,98	4,98	4,98
862 MHz dB/100m	5,39	5,39	5,39
1000 MHz dB/100m	5,86	5,86	5,86
<b>Nominal DC Resistance (@20°C)</b>			
Inner Conductor Ω/km	1,41	1,41	1,41
Outer Conductor Ω/km	1,47	1,47	1,47
Loop Ω/km	2,88	2,88	2,88
<b>Structural Return Loss (SRL)**</b>			
Frequency Bandwidth 5 - 30 MHz dB	≥30	≥30	≥30
30 - 470 MHz dB	≥30	≥30	≥30
470 - 1000 MHz dB	≥26	≥26	≥26
<b>Screening Effectiveness**</b>			
(As) 30-1000 MHz Class	A++	A++	A++
(As) 30-1000 MHz dB	135	135	135
<b>Transfer Impedance (Zt)**</b>			
from 5 - 30 MHz mΩ/m	≤ 0,9	≤ 0,9	≤ 0,9
<b>Regularity of Impedance**</b>			
	≥ 46	≥ 46	≥ 46

\*\*In accordance with EN 50117

Specifications are subject to change without notice.

### The Cable Industry's Fiber Supplier™

Better fiber equals better fiber optic cable. CommScope provides key optical and geometrical features in its standard single-mode fiber for fusion splice compatibility with other fiber manufacturers and legacy fiber. Our zero water peak (ZWP) standard single-mode optical fiber is CommScope ZWP™ which continues a CommScope tradition of innovation and performance-enhanced products for the cable industry. CommScope ZWP optical fiber cable makes available 30% more usable transmission spectrum, which can be used for return path, enhanced video services such as video on demand (VOD) or Dedicated Wavelength Services for business or other demanding applications.

CommScope has developed key families of fiber optic cables to meet your application needs. This catalog includes our most frequently requested products; however, we have a wide product portfolio. If you do not find a fiber optic cable that suits your application, please contact your local CommScope Customer Service Representative. Please also refer to our website at [www.commscope.com](http://www.commscope.com) for access to comprehensive product specifications for all of CommScope's fiber optic cables.

### Outside Plant Cables

All CommScope Outside Plant (OSP) cables are designed and manufactured to provide outstanding mechanical and optical performance. This cable family uses a loose tube construction to provide multiple levels of protection for the fiber strands. We manufacture all loose tube cables with appropriate Excess Fiber Length (EFL) to ensure, that when properly installed, the fiber strands will remain strain-free, which is essential to good optical performance and longevity.

For direct buried, underground tube, and aerial installations, CommScope offers a wide variety of fiber optic cable alternatives. Our Loose Tube family includes all-dielectric, armored, ADSS (all-dielectric self-supporting), multiple jackets and armor designs. Our central tube family includes all-dielectric and armored designs, along with a complete line of drop cables. Our Drop Cable family includes an armored design, messengered drop, mini-drop cables with a solid messenger wire, mini-drop cables with a stranded messenger wire, and an all-dielectric flat drop design. CommScope's broad product portfolio provides solutions for even your most stringent applications.

### Arid-Core® Fiber Cables

CommScope defeats moisture with a unique multi-level approach. In addition to tough outer jacketing and gel filling within the buffer tube, we employ Arid-Core, a super-absorbent polymer technology. Arid-Core is applied between the jacket and the buffer tubes in stranded loose tube cables, and coats the central tubes of drop armored and central tube cables. When moisture meets Arid-Core, the polymer swells to prevent moisture migration - it acts as a mechanical block to prevent further water penetration.



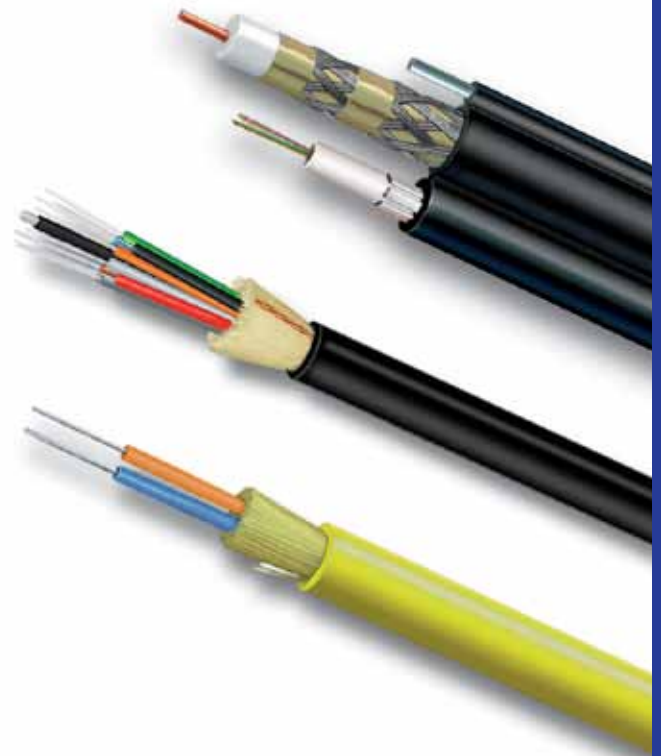
CommScope ZWP™

### Dry (Gel-free) Fiber Cables

CommScope recently introduced outside plant cable designs using all-dry water blocking technology. The cables are completely gel-free yet they provide full water-blocking protection for outside plant applications. They are also a performance-equivalent alternative to standard, gel-filled cables and meet the requirements of the same industry standards.

### Custom Hybrids

CommScope's vast experience in the design and manufacturing of twisted pair, coaxial, and fiber optic cable puts us in the unique position of being able to combine these proficiencies and offer state-of-the-art combinations of these transmission mediums. Hybrid cable designs allow you to support the traditional telephone or analog video cable system, while future-proofing your system with fiber optics to allow for higher bandwidth needs. Hybrids can be separated into individual legs for ease of termination. When you can't find a cable that fits your application, ask the CommScope product management team to support your unique application. Together, we can combine available options to allow flexibility in creating the ultimate environment for advanced services.



### Indoor/Outdoor Cables (Including Low Smoke/Zero-Halogen Types)

CommScope's design for these indoor/outdoor application cables offer construction and jacketing suitable for outside usage yet comply with UL, IEC and CSA indoor flame standards. This design allows you to run cable through the building entrance without having to terminate and splice different cables together which results in significant savings in time and labor. Cable types include dielectric central tube designs, dielectric stranded loose tube cables and Triathlon<sup>®</sup>, a specially designed low-smoke/zero halogen distribution and cordage cable construction.

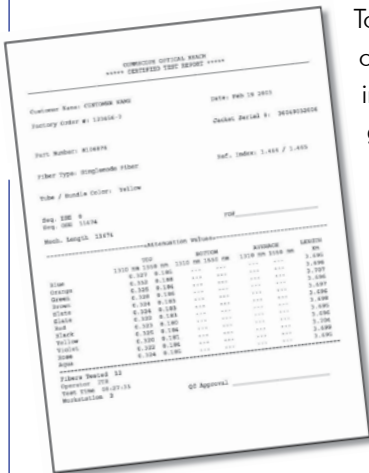
### Premise Cables

CommScope's premises cables are designed to handle the unique stresses of indoor applications. Design options include tight-buffered distribution and cordage cables.



**Test Reports -  
A Higher Standard for Higher Speeds**

Every reel of CommScope fiber optic cable is subjected to stringent testing throughout the entire manufacturing process. Our state-of-the-art process controls and testing systems ensure that every meter of CommScope cable consistently meets or exceeds our high standards.



To prove that our fiber optic cables exceed industry standards, we go to the extra step of attaching an individual cable test report to each reel. You get proof-positive that the cable you purchase will perform to the level you require. Remember, a network

is only as good as the cable that connects it. Specify the cables that make networks work — fiber optic cables from CommScope.

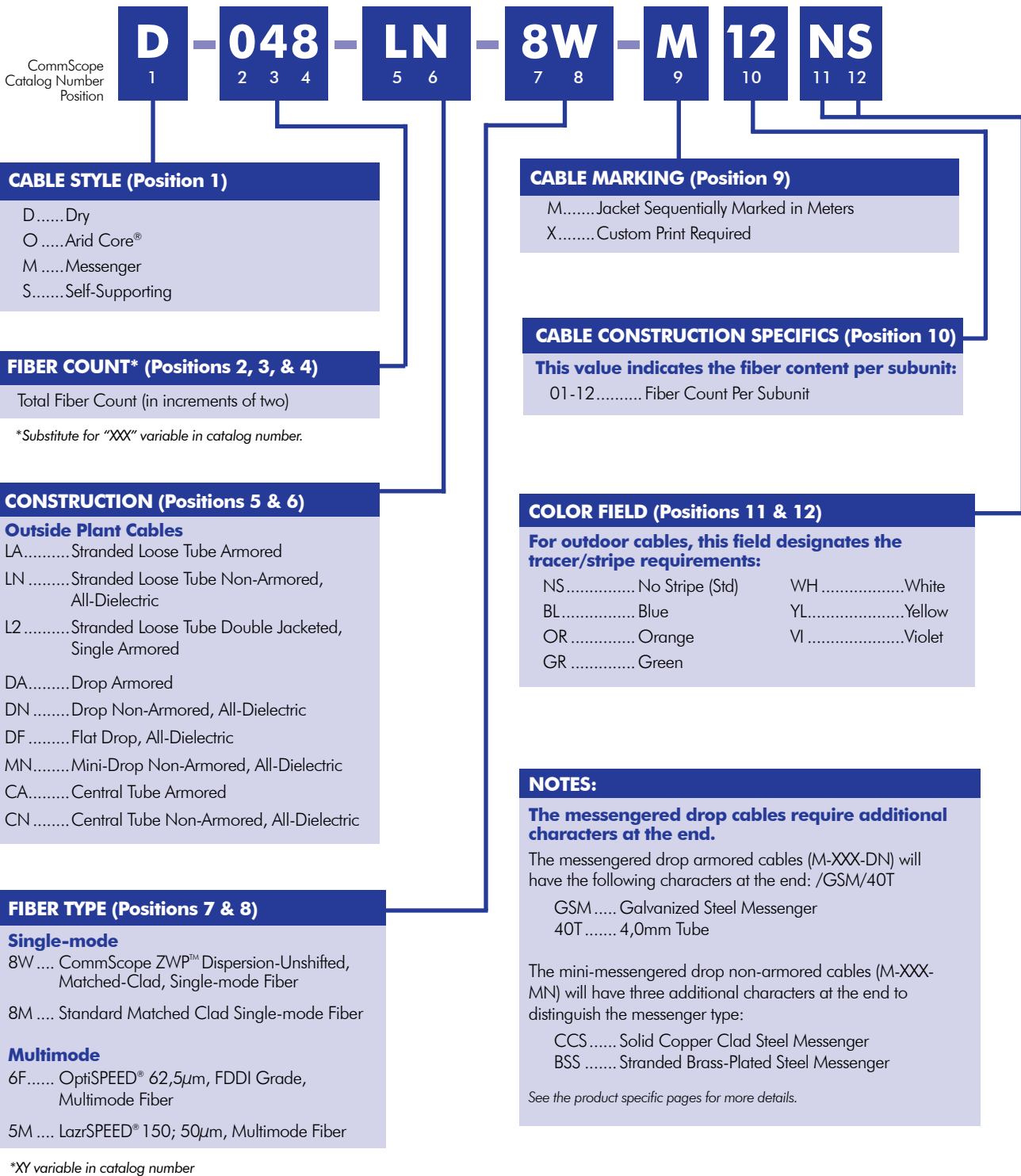


**Applications & Construction Manual —  
Fiber Optic Cable**

Request your Fiber Optic Cable Applications and Construction Manual. These manuals assist and teach you how to protect your Broadband plant and give recommended construction and installation practices. CommScope Construction Manuals are simply a “must-have” for anyone upgrading or maintaining broadband networks.

**Download a PDF from [commscope.com](http://commscope.com) or ask for your own copy!**





Product Description	Unit of Measure	CommScope ZWP, Type 8W Optical Fiber Dispersion-Unshifted, Matched Clad	Type 8M Optical Single-mode Fiber Dispersion-Unshifted, Matched Clad
---------------------	-----------------	---	--

### Physical Characteristics

Cladding Diameter	μm	125,0 ± 0,7	125,0 ± 1,0
Core/Clad Offset	μm	≤ 0,5	≤ 0,5
Coating Diameter - Uncolored	μm	245 ± 10	245 ± 10
Coating Diameter - Colored	μm	254 ± 7	254 ± 7
Coating/Cladding Concentricity Error, max	μm	12	12
Clad Non-Circularity	%	≤ 1	≤ 1

### Mechanical Characteristics

Proof Test	Gpa	0,69	0,69
Coating Strip Force	N	1,3 - 8,9	1,3 - 8,9
Fiber Curl	m	≥ 4	≥ 2
Dynamic Fatigue Parameter	nd	≥ 18	≥ 18
Macrobending - Maximum (100 turns)	dB	0,05 (1310/1550nm @ 50mm)	0,10 (1550nm @ 50mm)
	dB	0,05 (1625nm @ 60mm)	
Macrobending - Maximum (1 turn @ 32mm mandrel)	dB	0,05 @ 1550nm	0,50 (1550nm @ 32mm)

### Optical Characteristics, Wavelength Specific

#### Maximum Attenuation - Loose Tube Cable

1310nm	dB/km	0,35	0,35
1385nm	dB/km	0,32	1,0
1550nm	dB/km	0,25	0,25

#### Mode Field Diameter

1310nm	μm	9,2 ± 0,3	9,2 ± 0,3
1385nm	μm	9,6 ± 0,6	
1550nm	μm	10,4 ± 0,5	10,5 ± 1,0

#### Group Refractive Index

1310nm		1,466	1,466
1385nm		1,466	
1550nm		1,467	1,467

#### Dispersion - Maximum

1310nm	ps/(nm-km)	3,5 from 1285 to 1330nm	3,2 from 1285 to 1330nm
1550nm	ps/(nm-km)	18	18

### Optical Characteristics, General

Point Defects - Maximum	dB	0,1	0,1
Cutoff Wavelength	nm	≤ 1260	≤ 1260
Zero Dispersion Wavelength	nm	1302 - 1322	1300 - 1322
Zero Dispersion Slope - Maximum	ps/(km-nm-nm)	0,09	0,092
Polarization Mode Dispersion Link Design Value	ps/sqrt(km)	≤ 0,06	≤ 0,1

### Environmental Characteristics

Temperature Dependence (-60°C to +85°C)	dB	≤ 0,05	≤ 0,05
Temperature Humidity Cycling (-10°C to +85°C up to 95% RH)	dB	≤ 0,05	≤ 0,05
Water Immersion (23 + 2°C)	dB	≤ 0,05	≤ 0,05
Heat Aging (85 + 2°C)	dB	≤ 0,05	≤ 0,05

\*Additional fiber types available upon request

# Multimode Fiber Specifications

Available in All CommScope Cable Types



Product Description	Unit of Measure	Type 6F OptiSPEED® Optical Fiber 62,5µm, FDDI Grade Multimode Fiber	Type 5M LazrSPEED® 150 Optical Fiber 50µm Multimode Fiber
<b>Physical Characteristics</b>			
Core Diameter	µm	62,5 ± 2,5	50 ± 2,5
Cladding Diameter	µm	125,0 ± 1,0	125,0 ± 1,0
Core/Clad Offset	µm	< 1,5	< 1,5
Coating Diameter - Uncolored	µm	245 ± 10	245 ± 10
Coating Diameter - Colored	µm	254 ± 7	255 ± 7
Coating/Cladding Concentricity Error, max	µm	6	6
Clad Non-Circularity	%	< 1	< 1

## Mechanical Characteristics

Proof Test	Gpa	0,69	0,69
Coating Strip Force	N	1,3 - 8,9	1,3 - 8,9
Dynamic Fatigue Parameter	nd	> 18	> 18
Macrobending - Maximum (100 turn @ 75mm mandrel)	dB	0,50 @ 850nm and 1300nm	0,50 @ 850nm and 1300nm

## Optical Characteristics, Wavelength Specific

Maximum Attenuation - Loose Tube Cable			
850nm	dB/km	3,0	3,0
1300nm	dB/km	1,0	1,0
Bandwidth, OFL			
850nm	MHz-km	200	700
1300nm	MHz-km	500	500
Bandwidth, Laser			
850nm	MHz-km	N/A	950
1300nm	MHz-km	N/A	500
Differential Mode Delay			
850nm	ps/m	N/A	0,70
1300nm	ps/m	N/A	0,88
Group Refractive Index			
850nm		1,496	1,483
1300nm		1,491	1,479
1 Gb Ethernet Distance			
850nm	m	300	800
1300nm	m	550	600
10 Gb Ethernet Distance			
850nm	m	N/A	150

## Optical Characteristics, General

Numerical Aperature		0,275 ± 0,015	0,200 ± 0,015
Point Defects - Maximum	dB	0,15	0,15
Zero Dispersion Wavelength	nm	1320 - 1365	1297 - 1316
Zero Dispersion Slope	ps/(km-nm-nm)	0,097	0,105

## Environmental Characteristics

Temperature Dependence (-60°C to +85°C)	dB	< 0,20	< 0,10
Temperature Humidity Cycling (-10°C to +85°C up to 95% RH)	dB	< 0,20	< 0,10
Water Immersion (23 + 2°C)	dB	< 0,20	< 0,20
Heat Aging (85 + 2°C)	dB	< 0,20	< 0,20

\*Additional fiber types available upon request

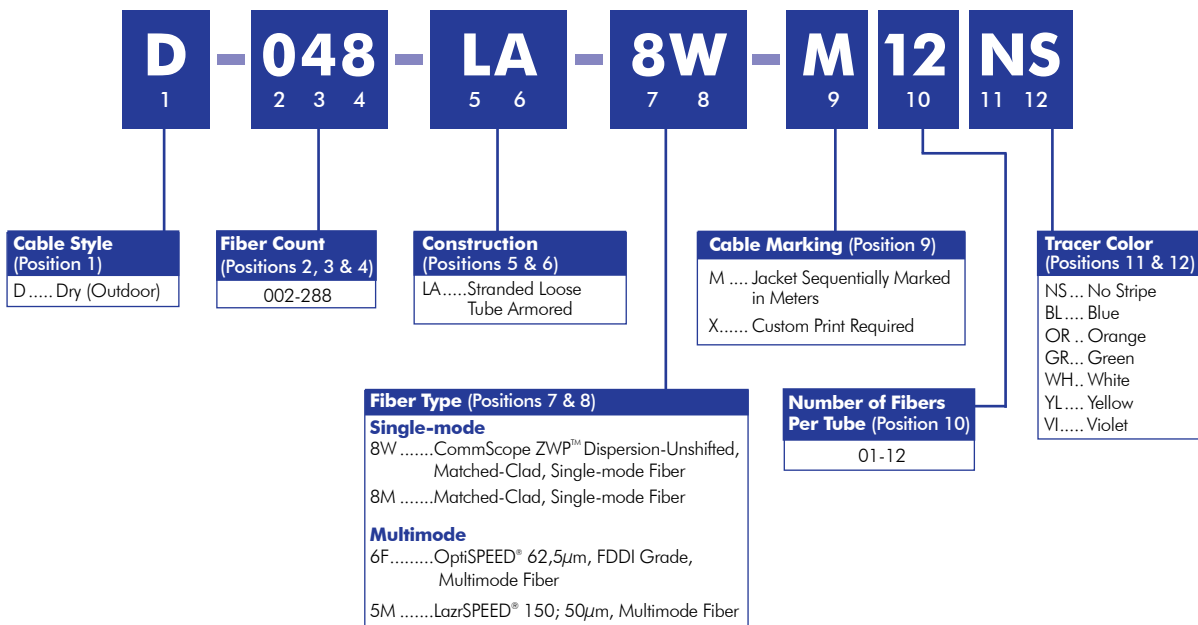
# Outside Plant Gel-Free Stranded Loose Tube Cable



Armored

The Dry Loose Tube cable design is suitable for buried, underground, or aerial applications. This family of gel-free stranded loose tube cables uses all-dry water-blocking technology and reduced diameter buffer tubes. The design is completely gel-free, yet it provides full water blocking protection for outside plant applications.

- 100% dry stranded loose tube cable reduces cable prep time and keeps gel from getting on clothes, workbenches, or in splicing equipment
- Lightweight, small design is installer-preferred due to ease of handling
- Flexible 2,5mm buffer tubes improve kink resistance, reduce bend sensitivity, and facilitate route management in closures
- Medium Density Polyethylene jacket is rugged, durable, and easy to strip
- Corrugated steel tape armor is strong yet flexible providing additional crush and rodent protection



## Product Description

Physical Specifications		D-XXX-LA-XY-M12NS						
Fiber Count		002-060	062-072	074-096	098-120	122-144	146-216	218-288
Subunits		5	6	8	10	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12
Outer Diameter	mm	12,0	12,4	13,9	15,5	17,6	17,6	20,0
Weight	kg/km	127	134	167	203	248	222	283
Minimum Bend Radius								
Loaded	cm	24,0	24,8	27,8	31,0	35,2	35,2	40,0
Unloaded	cm	12,0	12,4	13,9	15,5	17,6	17,6	20,0
Maximum Tensile Load								
Short Term	N	2700	2700	2700	2700	2700	2700	2700
Long Term	N	800	800	800	800	800	800	800
Maximum Vertical Rise	m	645	611	490	403	330	369	284

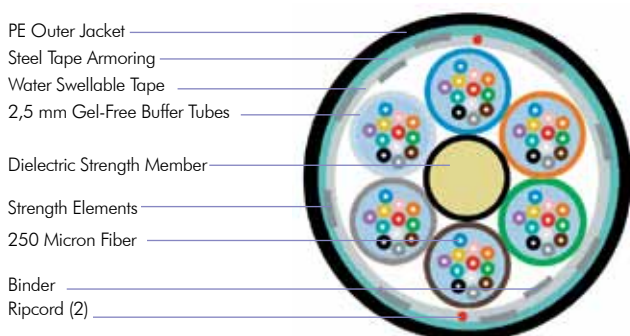


Environmental and Mechanical	Specification (Test Method)
Operating Temperature	°C -40° to +70° (FOTP-3)
Installation Temperature	°C -30° to +60°
Storage Temperature	°C -40° to +75°
Crush Resistance	N/mm 44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

## Gel-Free Stranded Loose Tube Armored Cable

(72 Fiber Version Shown)



Specifications are subject to change without notice.

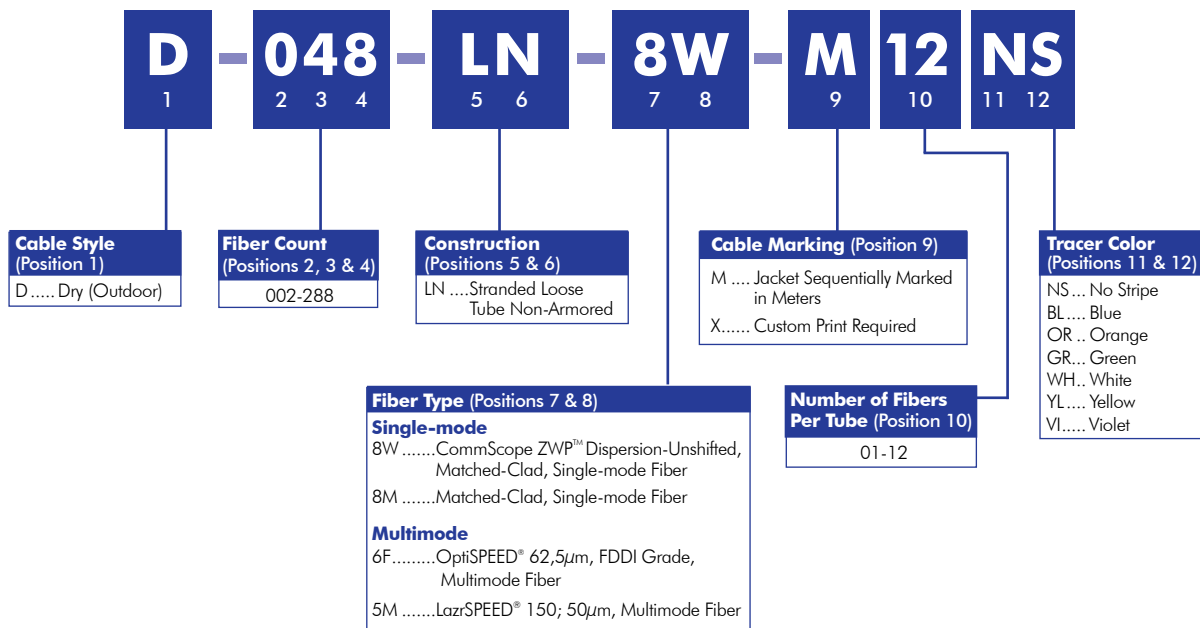
# Outside Plant Gel-Free Stranded Loose Tube Cable

## Non-Armored, All-Dielectric



The Dry Loose Tube cable design is suitable for buried, underground, or aerial applications. This family of gel-free stranded loose tube cables uses all-dry water-blocking technology and reduced diameter buffer tubes. The design is completely gel-free, yet it provides full water blocking protection for outside plant applications.

- 100% dry stranded loose tube cable reduces cable prep time and keeps gel from getting on clothes, workbenches, or in splicing equipment
- Lightweight, small design is installer-preferred due to ease of handling
- Flexible 2,5mm buffer tubes improve kink resistance, reduce bend sensitivity, and facilitate route management in closures
- Medium Density Polyethylene jacket is rugged, durable, and easy to strip



# Outside Plant Gel-Free Stranded Loose Tube Cable

## Non-Armored, All-Dielectric



### Product Description

Physical Specifications		D-XXX-LN-XY-M12NS						
Fiber Count		002-060	062-072	074-096	098-120	122-144	146-216	218-288
Subunits		5	6	8	10	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12
Outer Diameter	mm	10,5	10,9	12,5	14,1	16,1	16,1	18,5
Weight	kg/km	71	77	101	129	166	140	189
Minimum Bend Radius								
Loaded	cm	21,0	21,8	25,0	28,2	32,2	32,2	37,0
Unloaded	cm	10,5	10,9	12,5	14,1	16,1	16,1	18,5
Maximum Tensile Load								
Short Term	N	2700	2700	2700	2700	2700	2700	2700
Long Term	N	800	800	800	800	800	800	800
Maximum Vertical Rise	m	1153	1063	810	634	493	584	433



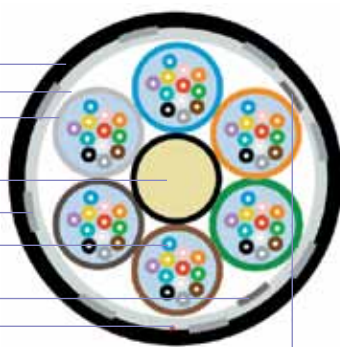
Environmental and Mechanical	Specification (Test Method)
Operating Temperature	°C -40° to +70° (FOTP-3)
Installation Temperature	°C -30° to +60°
Storage Temperature	°C -40° to +75°
Crush Resistance	N/mm 44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

### Gel-Free Stranded Loose Tube Non-Armored, All-Dielectric Cable

(72 Fiber Version Shown)

- PE Outer Jacket
- Water Swellable Tape
- 2,5mm Gel-Free Buffer Tubes
- Dielectric Strength Member
- Strength Elements
- 250 Micron Fibers
- Binder
- Ripcord (1)
- Binder



Specifications are subject to change without notice.

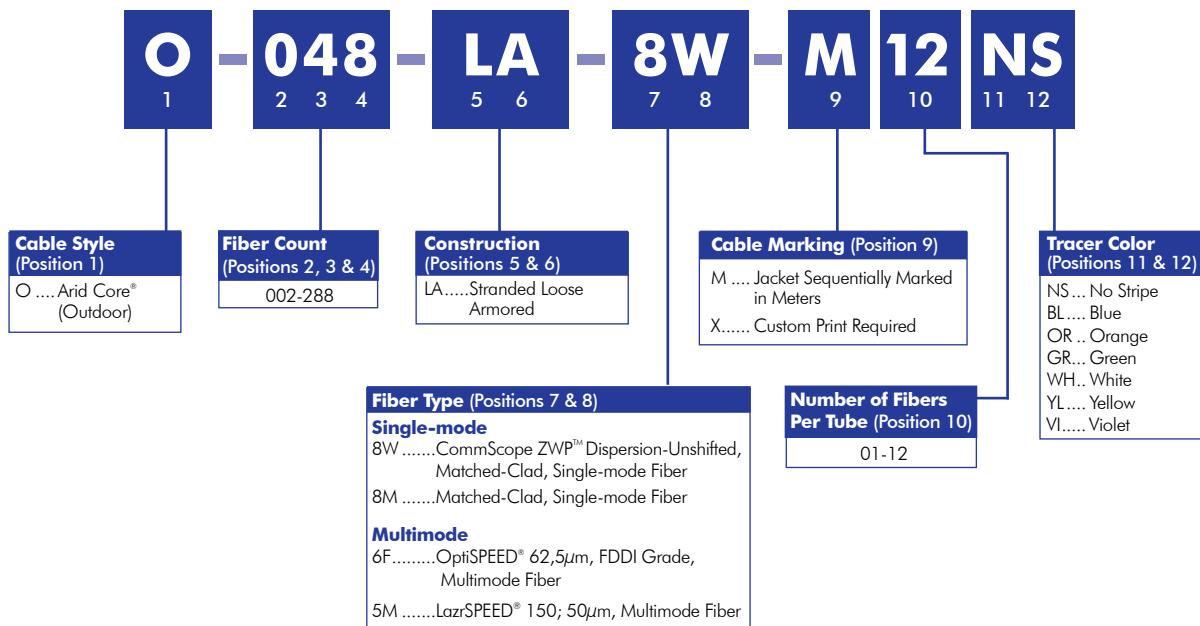
# Outside Plant Arid-Core® Stranded Loose Tube Cable

Armored



The Arid-Core® Loose tube cable design is suitable for buried, underground, or aerial applications. This family of stranded loose tube cables eliminates the greasy flooding compound around the buffer tubes. The tough outer jacketing and gel filling within the buffer tubes, combined with our Arid-Core® moisture barrier around the buffer tubes, provides full water blocking protection for outside plant applications.

- Corrugated steel tape armor is strong yet flexible providing additional crush and rodent protection
- Arid-Core water blocking technology helps protect fibers from moisture and reduces termination effort
- Standard color-coding on fibers and buffer tubes helps ease installation
- All buffer tubes are constructed to a nominal OD of 3mm reducing the number of tools required in the field
- Flexible buffer tubes improve kink-resistance, reduce bend sensitivity and facilitates route management in closures
- Medium density polyethylene jacket is rugged, durable and easy to strip



## Product Description

Physical Specifications		O-XXX-LA-XY-M12NS						
Fiber Count		002-060	062-072	074-096	098-120	122-144	146-216	218-288
Subunits		5	6	8	10	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12
Outer Diameter	mm	13,1	14	16,1	18,2	20,3	20,3	23,3
Weight	kg/km	152	176	225	276	337	314	405
Minimum Bend Radius								
Loaded	cm	26,2	28,0	32,2	36,4	40,6	40,6	46,6
Unloaded	cm	13,1	14,0	16,1	18,2	20,3	20,3	23,3
Maximum Tensile Load								
Short Term	N	2700	2700	2700	2700	2700	2700	2700
Long Term	N	800	800	800	800	800	800	800
Maximum Vertical Rise	m	538	465	364	297	243	261	202

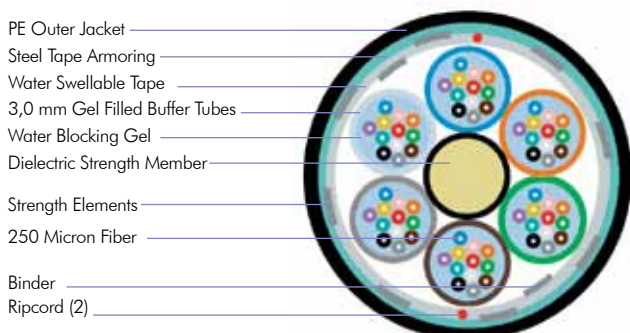


Environmental and Mechanical		Specification (Test Method)
Operating Temperature	°C	-40° to +70° (FOTP-3)
Installation Temperature	°C	-30° to +60°
Storage Temperature	°C	-40° to +75°
Crush Resistance	N/mm	44 (FOTP-41)
Impact Resistance		Exceeds (FOTP-25)
Flexing		25 cycles (FOTP-104)
Twist Bend		Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

## Arid-Core Stranded Loose Tube Armored Cable

(72 Fiber Version Shown)



Specifications are subject to change without notice.

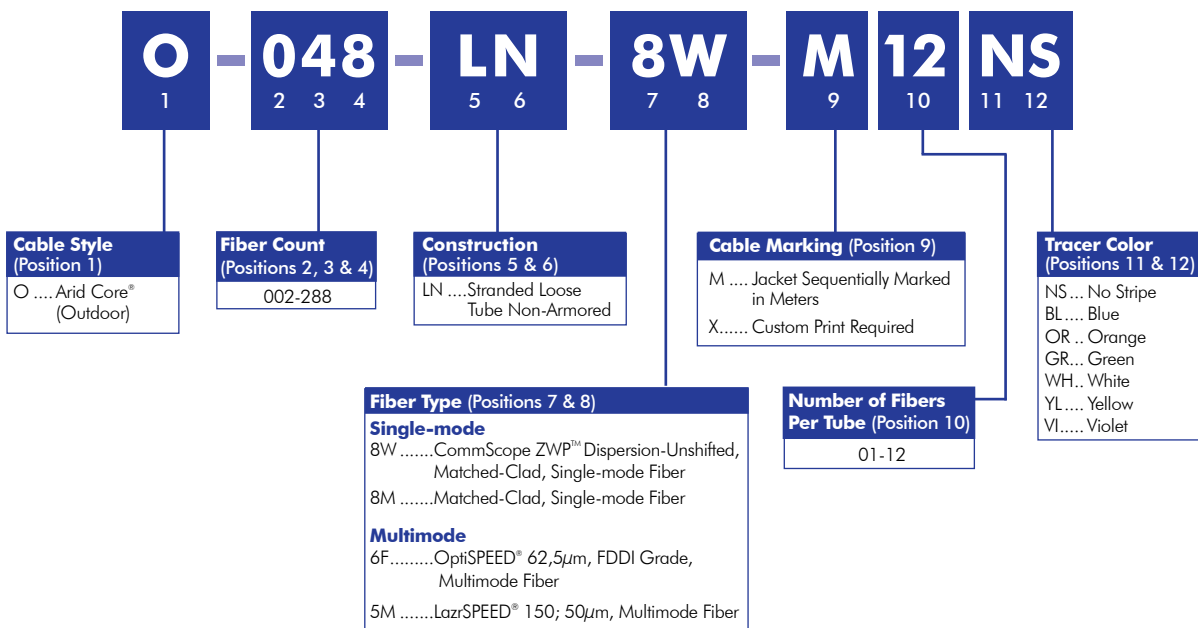
# Outside Plant Arid-Core® Stranded Loose Tube Cable

Non-Armored, All-Dielectric



The Arid-Core® Loose tube cable design is suitable for buried, underground, or aerial applications. This family of stranded loose tube cables eliminates the greasy flooding compound around the buffer tubes. The tough outer jacketing and gel filling within the buffer tubes, combined with our Arid-Core® moisture barrier around the buffer tubes, provides full water blocking protection for outside plant applications.

- Arid-Core water blocking technology helps protect fibers from moisture and reduces termination effort
- Standard color-coding on fibers and buffer tubes helps ease installation
- All buffer tubes are constructed to a nominal OD of 3mm reducing the number of tools required in the field
- Flexible buffer tubes improve kink-resistance, reduce bend sensitivity and facilitates route management in closures
- Medium Density Polyethylene jacket is rugged, durable and easy to strip



## Product Description

Physical Specifications		O-XXX-LN-XY-M12NS						
Fiber Count		002-060	062-072	074-096	098-120	122-144	146-216	218-288
Subunits		5	6	8	10	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12
Outer Diameter	mm	11,6	12,6	14,6	16,7	18,8	18,8	21,8
Weight	kg/km	91	110	148	189	238	216	292
Minimum Bend Radius								
Loaded	cm	23,2	25,2	29,2	33,4	37,6	37,6	43,6
Unloaded	cm	11,6	12,6	14,6	16,7	18,8	18,8	21,8
Maximum Tensile Load								
Short Term	N	2700	2700	2700	2700	2700	2700	2700
Long Term	N	800	800	800	800	800	800	800
Maximum Vertical Rise	m	899	744	553	433	344	379	280

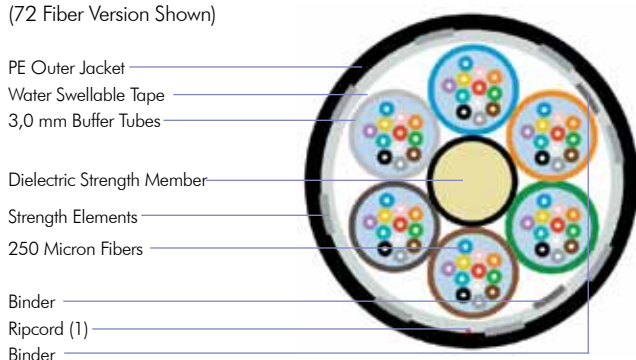


Environmental and Mechanical	Specification (Test Method)
Operating Temperature	°C -40° to +70° (FOTP-3)
Installation Temperature	°C -30° to +60°
Storage Temperature	°C -40° to +75°
Crush Resistance	N/mm 44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

## Arid-Core Stranded Loose Tube Non-Armored, All-Dielectric Cable

(72 Fiber Version Shown)



Specifications are subject to change without notice.

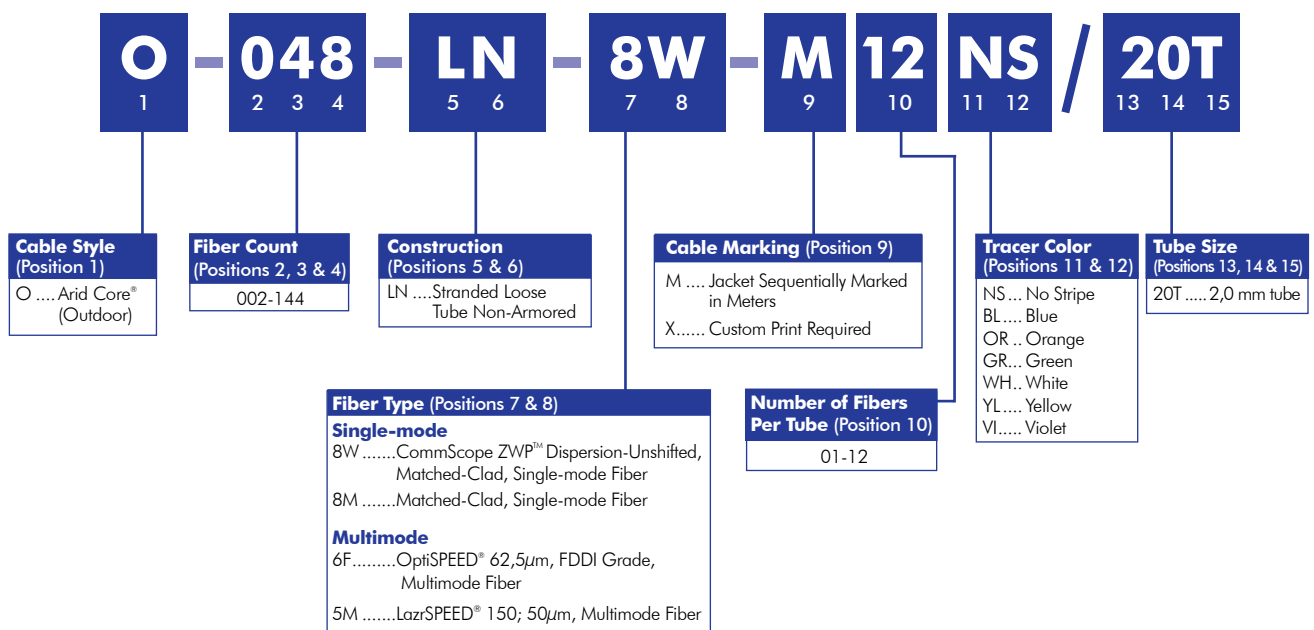
# Outside Plant Mini-Diameter Arid-Core® Stranded Loose Tube Cable

Non-Armored, All-Dielectric



The Arid-Core® Loose tube cable design is suitable for buried, underground, or aerial applications. This family of stranded loose tube cables eliminates the greasy flooding compound around the buffer tubes. The tough outer jacketing and gel filling within the buffer tubes, combined with our Arid-Core® moisture barrier around the buffer tubes, provides full water blocking protection for outside plant applications.

- Arid-Core water blocking technology helps protect fibers from moisture and reduces termination effort
- Standard color-coding on fibers and buffer tubes helps ease installation
- All buffer tubes are constructed to a nominal OD of 2,0 mm reducing the number of tools required in the field
- Flexible buffer tubes improve kink-resistance, reduce bend sensitivity and facilitates route management in closures
- Medium Density Polyethylene jacket is rugged, durable and easy to strip



## Product Description

Physical Specifications		O-XXX-LN-XY-M12NS/20T			
Fiber Count		002-072	074-096	098-120	122-144
Subunits		6	8	10	12
Fiber per Subunit		12	12	12	12
Outer Diameter	mm	9,5	10,5	11,8	13,3
Weight	kg/km	71	86	105	137
Minimum Bend Radius					
Loaded	cm	19,0	21,0	23,6	26,6
Unloaded	cm	9,5	10,5	11,8	11,8
Maximum Tensile Load					
Short Term	N	2700	2700	2700	2700
Long Term	N	800	800	800	800
Maximum Vertical Rise	m	1153	952	779	597



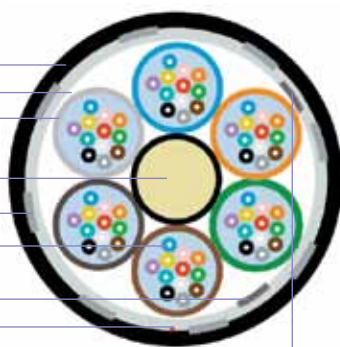
Environmental and Mechanical		Specification (Test Method)
Operating Temperature	°C	-40° to +70° (FOTP-3)
Installation Temperature	°C	-30° to +60°
Storage Temperature	°C	-40° to +75°
Crush Resistance	N/mm	44 (FOTP-41)
Impact Resistance		Exceeds (FOTP-25)
Flexing		25 cycles (FOTP-104)
Twist Bend		Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

## Arid-Core Stranded Loose Tube Non-Armored, All-Dielectric Cable

(72 Fiber Version Shown)

- PE Outer Jacket
- Water Swellable Tape
- 2,0 mm Buffer Tubes
- Dielectric Strength Member
- Strength Elements
- 250 Micron Fibers
- Binder
- Ripcord (1)
- Binder



Specifications are subject to change without notice.

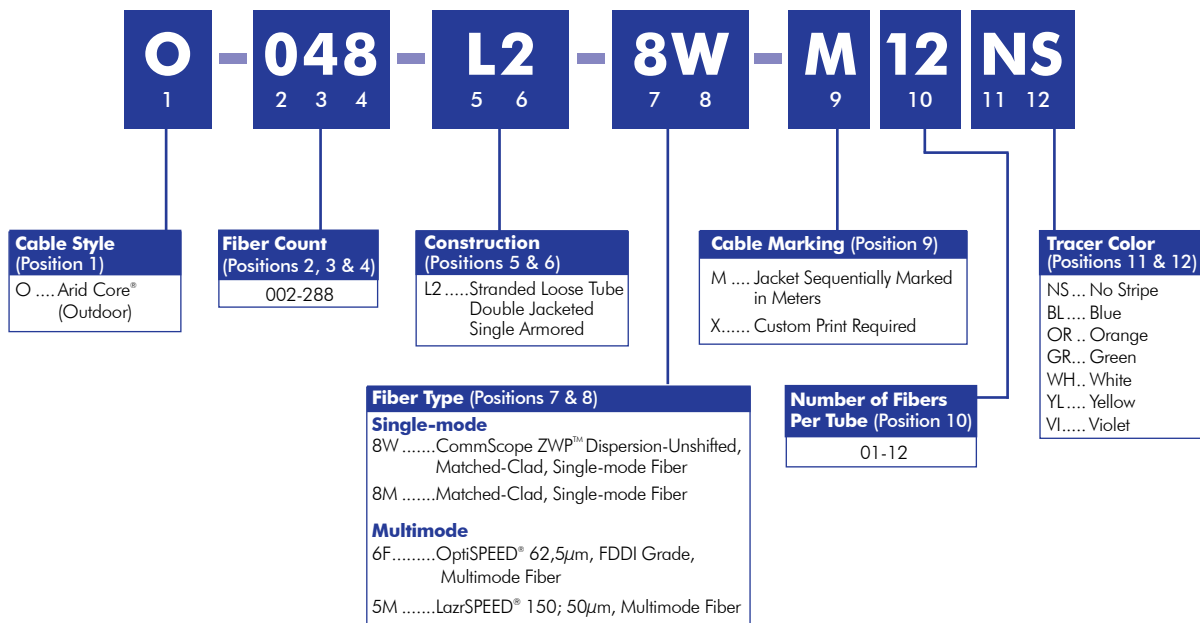
# Multi-Jacketed Stranded Loose Tube Cable

Double Jacketed, Single Armored



The Arid-Core® Loose tube cable design is suitable for buried, underground, or aerial applications. This family of stranded loose tube cables eliminates the greasy flooding compound around the buffer tubes. The tough inner and outer jacketing and gel filling within the buffer tubes, combined with our Arid-Core® moisture barrier around the buffer tubes, provides full water blocking protection for outside plant applications.

- Double jacketed/single armored cable provides additional crush and mechanical protection for areas with severe rodent and lightning problems
- Corrugated steel tape armor is strong yet flexible providing additional crush and rodent protection
- Arid-Core® water blocking technology helps protect fibers from moisture and reduces termination effort
- Standard color-coding on fibers and buffer tubes helps ease installation
- All buffer tubes are constructed to a nominal OD of 3mm reducing the number of tools required in the field
- Flexible buffer tubes improve kink-resistance, reduce bend sensitivity and facilitates route management in closures
- Medium Density Polyethylene jacket is rugged, durable and easy to strip



## Product Description

Physical Specifications		O-XXX-L2-XY-M12NS						
Fiber Count		002-060	062-072	074-096	098-120	122-144	146-216	218-288
Subunits		5	6	8	10	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12
Outer Diameter	mm	16,2	17,1	19,2	21,3	23,4	23,4	26,4
Weight	kg/km	227	256	312	376	442	420	522
Minimum Bend Radius								
Loaded	cm	32,4	34,2	38,4	42,6	46,8	46,8	52,8
Unloaded	cm	16,2	17,1	19,2	21,3	23,4	23,4	26,4
Maximum Tensile Load								
Short Term	N	2700	2700	2700	2700	2700	2700	2700
Long Term	N	800	800	800	800	800	800	800
Maximum Vertical Rise	m	361	320	262	218	185	195	157

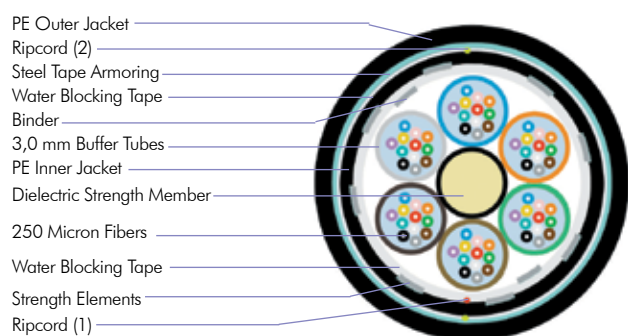


Environmental and Mechanical	Specification (Test Method)
Operating Temperature	°C -40° to +70° (FOTP-3)
Installation Temperature	°C -30° to +60°
Storage Temperature	°C -40° to +75°
Crush Resistance	N/mm 44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

## Double Jacket/Single Armor Loose Tube Cable

(72 Fiber Version Shown)



Specifications are subject to change without notice.

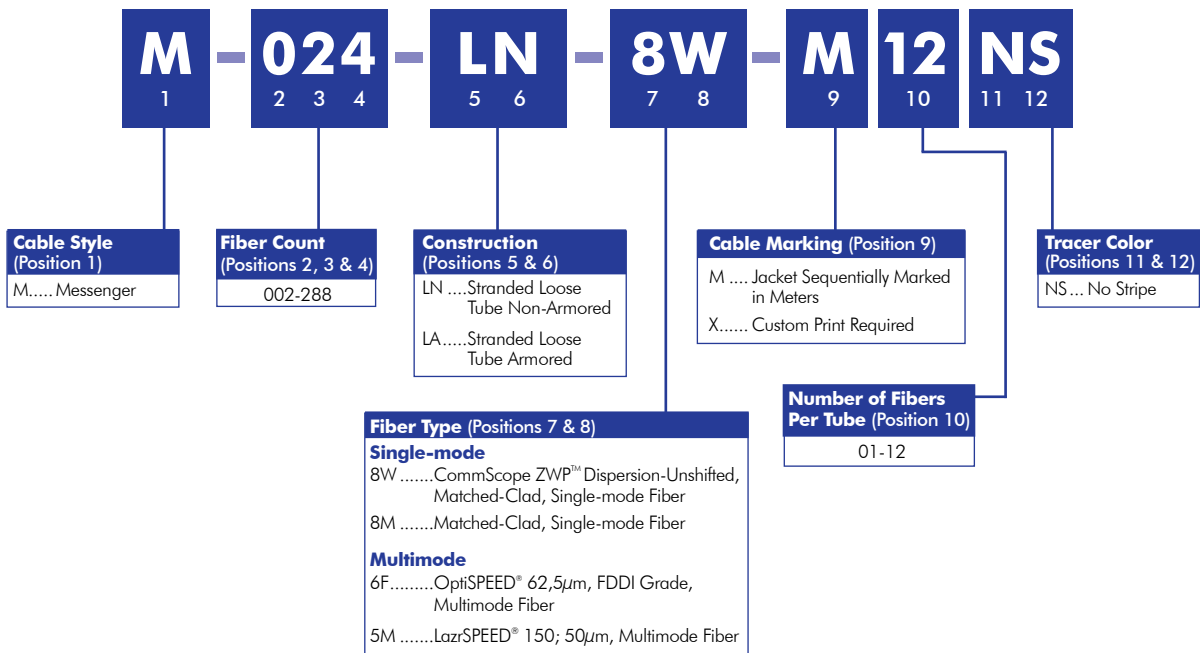
# Outside Plant Self-Supporting Figure-8 Cable

## Messengered Stranded Loose Tube Non-Armored and Armored



The Messengered Loose Tube cable design was developed for aerial, self-support applications. This figure-8 design utilizes a 6.35mm galvanized steel messenger wire for supporting the loose tube cable leg. The Messengered loose tube cable has a medium density polyethylene (MDPE) outer jacket, which is rugged and durable yet easy to strip.

- Figure-8 cable design allows easy, one-step installation resulting in cost savings
- Arid-Core® water blocking technology helps protect fibers from moisture and reduces termination effort
- Standard color-coding on fibers and buffer tubes helps ease installation
- All buffer tubes are constructed to a nominal OD of 3mm reducing the number of tools required in the field
- Uses standard figure-8 cable hardware and installation practices



# Outside Plant Self-Supporting Figure-8 Cable

## Messengered Stranded Loose Tube Non-Armored and Armored



### Product Description

Physical Specifications		M-XXX-LN-XY-M12NS					M-XXX-LA-XY-M12NS				
Fiber Count		002-060	062-072	074-144	146-216	218-288	002-060	062-072	074-144	146-216	218-288
Subunits		5	6	12	18	24	5	6	12	18	24
Fiber per Subunit		12	12	12	12	12	12	12	12	12	12
Buffer Tube Diameter	mm	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0
Width	mm	11,6	12,6	18,8	18,8	21,8	13,1	14,0	20,3	20,3	23,3
Height	mm	22,8	23,8	30,0	30,0	33,0	24,3	25,2	31,5	31,5	34,4
Weight	kg/km	318	338	466	446	520	382	404	565	545	633
Minimum Bend Radius											
Loaded	cm	46,4	50,4	75,2	75,2	87,2	52,4	56,0	81,2	81,2	93,2
Unloaded	cm	23,2	25,2	37,6	37,6	43,6	26,2	28,0	40,6	40,6	46,6

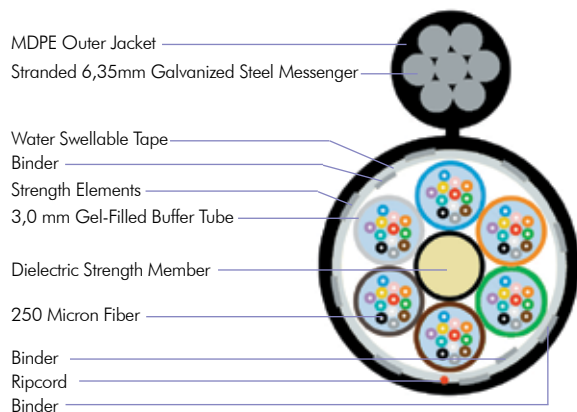


Environmental and Mechanical	Specification (Test Method)
Operating Temperature	°C -40° to +70° (FOTP-3)
Installation Temperature	°C -30° to +60°
Storage Temperature	°C -40° to +75°
Crush Resistance	N/mm 44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

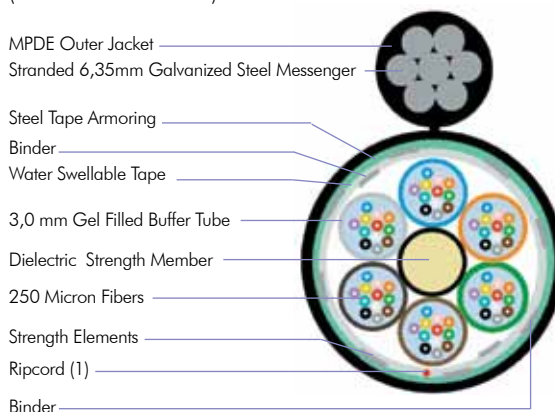
### Figure-8 Non-Armored Cable

(72 Fiber Version Shown)



### Figure-8 Armored Cable

(72 Fiber Version Shown)



Specifications are subject to change without notice.

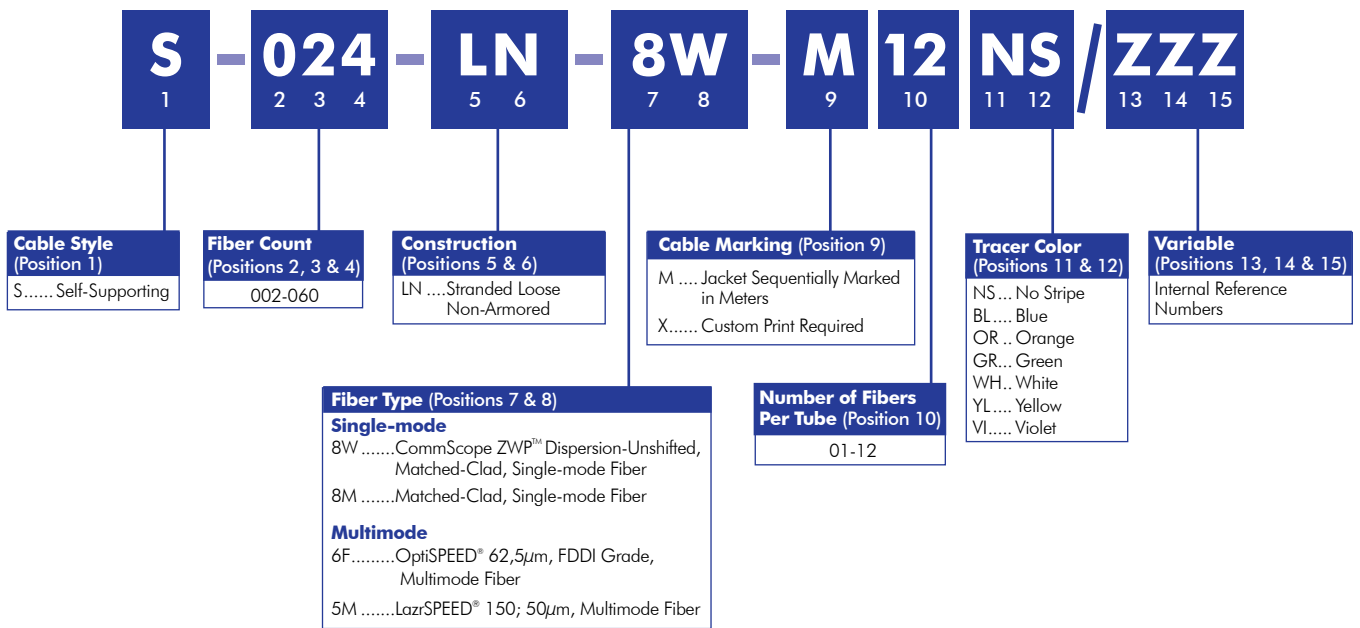
# Outside Plant ADSS Self-Supporting Stranded Loose Tube Cable

## All-Dielectric



The All-Dielectric Self-Supporting (ADSS) cable is suitable for many of your aerial applications. The cable design contains enough internal strength elements to support itself, removing the need for lashing in aerial plant. The tough outer jacket and gel filling within the buffer tubes, combined with our Arid-Core® moisture barrier around the buffer tubes, provides full water blocking protection for outside plant applications.

- Small, lightweight aerial cable design allowing for increased ease of installation, routing and termination
- Designed for short spans of up to 192 meters
- Single polyethylene jacket is rugged, durable, and easy to strip
- Fully qualified to the requirements of ANSI/ICEA, Telcordia, EN, and IEEE standards
- Arid-Core water blocking technology helps protect fibers from moisture and reduces termination effect
- All buffer tubes are constructed to a nominal OD of 3mm reducing the number of tools required in the field



## Product Description

Physical Specifications		S-XXX-LN-XY-MZZNS
<b>Fiber Count</b>		<b>002-060</b>
Subunits		5
Fiber per Subunit		12
Outer Diameter	mm	11,8
Weight	kg/km	99
Minimum Bend Radius		
Loaded	cm	23,6
Unloaded	cm	11,8
Maximum Tensile Load		
Short Term	N	2700
Long Term	N	800
Maximum Vertical Rise	m	827

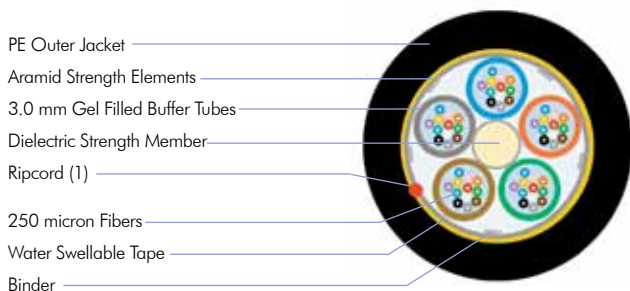


Environmental and Mechanical		Specification (Test Method)
Operating Temperature	°C	-40° to +70° (FOTP-3)
Installation Temperature	°C	-30° to +60°
Storage Temperature	°C	-40° to +75°
Crush Resistance	N/mm	44 (FOTP-41)
Impact Resistance		Exceeds (FOTP-25)
Flexing		25 cycles (FOTP-104)
Twist Bend		Exceeds (FOTP-85)
High Frequency (Aeolian) Vibration	Cycles	100 Million
Low Frequency (Galloping) Vibration	Cycles	100,000
Electrical Space Potential	kV	up to 12

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2, Generic Requirements for OSP Fiber Optic Cable ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable EN 187105, European Standard for Optical Cable IEEE 1222-2004, IEEE Standard for All-Dielectric Self-Supporting Fiber Optic Cable RoHS Compliant

## ADSS Loose Tube All-Dielectric Cable

(60 Fiber Version Shown)



Specifications are subject to change without notice.

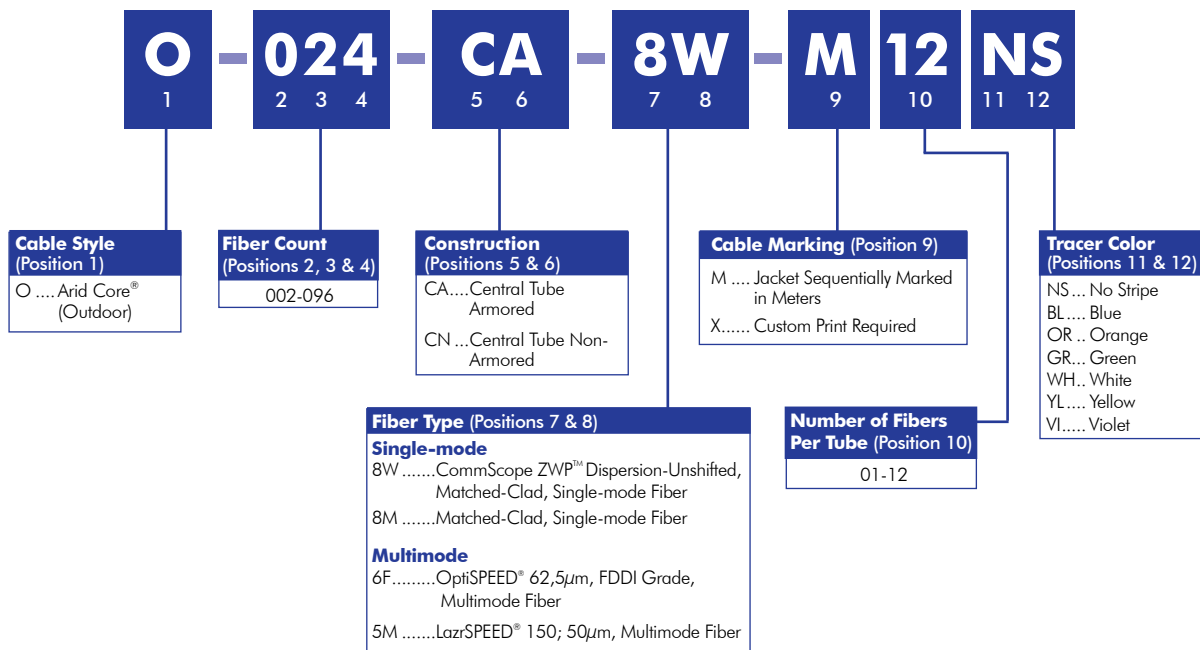
# Outside Plant Central Tube Cable

## Armored and Non-Armored



The Central Tube cable design is suitable for buried, underground, or aerial applications. With all the fibers within one buffer tube, cable access is simplified. Utilizing the Arid-Core® moisture barrier around the buffer tube and gel filling within the buffer tube, this provides full water blocking protection for outside plant applications.

- Robust constructions offer excellent protection of fibers
- Provides easy access to the fibers
- Arid-Core® water blocking technology helps protect fibers from moisture and reduces termination effort
- Compatible with standard industry hardware and procedures



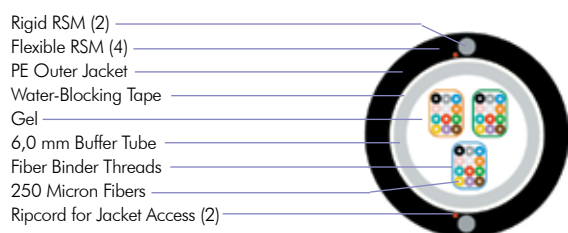
## Product Description

Physical Specifications	O-XXX-CN-XY-M12NS				O-XXX-CA-XY-M12NS		
	002-024	026-048	050-096		002-024	026-048	050-096
<b>Fiber Count</b>							
Subunits	2	4	8		2	4	8
Fiber per Subunit	12	12	12		12	12	12
Buffer Tube Diameter mm	4,0	6,0	8,0		4,0	6,0	8,0
Outer Diameter mm	10,1	12,1	14,1		11,0	13,0	15,0
Weight kg/km	94	128	164		138,0	181,0	226,0
Minimum Bend Radius							
Loaded cm	20,2	24,2	28,2		22,0	26,0	30,0
Unloaded cm	10,1	12,1	14,1		11,0	13,0	15,0
Maximum Tensile Load							
Short Term N	2700	2700	2700		2700	2700	2700
Long Term N	800	800	800		800	800	800
Maximum Vertical Rise m	871	639	499		593	452	362

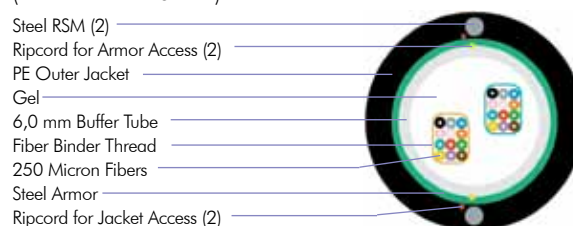
Environmental and Mechanical	Specification (Test Method)
Operating Temperature °C	-40° to +70° (FOTP-3)
Installation Temperature °C	-30° to +60°
Storage Temperature °C	-40° to +75°
Crush Resistance N/mm	44 (FOTP-41)
Impact Resistance	Exceeds (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

### Central Tube Non-Armored All-Dielectric Cable (36 Fiber All-Dielectric Version Shown)



### Central Tube Armored Cable (24 Fiber Version Shown)



Specifications are subject to change without notice.

# Outside Plant Fiber Drop Cable

Armored, Non-Armored and Messengered



The Drop central tube cable design is suitable for buried, underground, or aerial applications. This family of Drop cables offers the same great features of the Arid-Core® moisture barrier around the buffer tube and gel filling within the buffer tube as the standard size Central Tube cables, but in a smaller, more lightweight cable design allowing for better ease of handling. This combination provides full water blocking protection for outside plant applications, and is a cost effective solution for shorter, drop applications.

### All-Dielectric Design

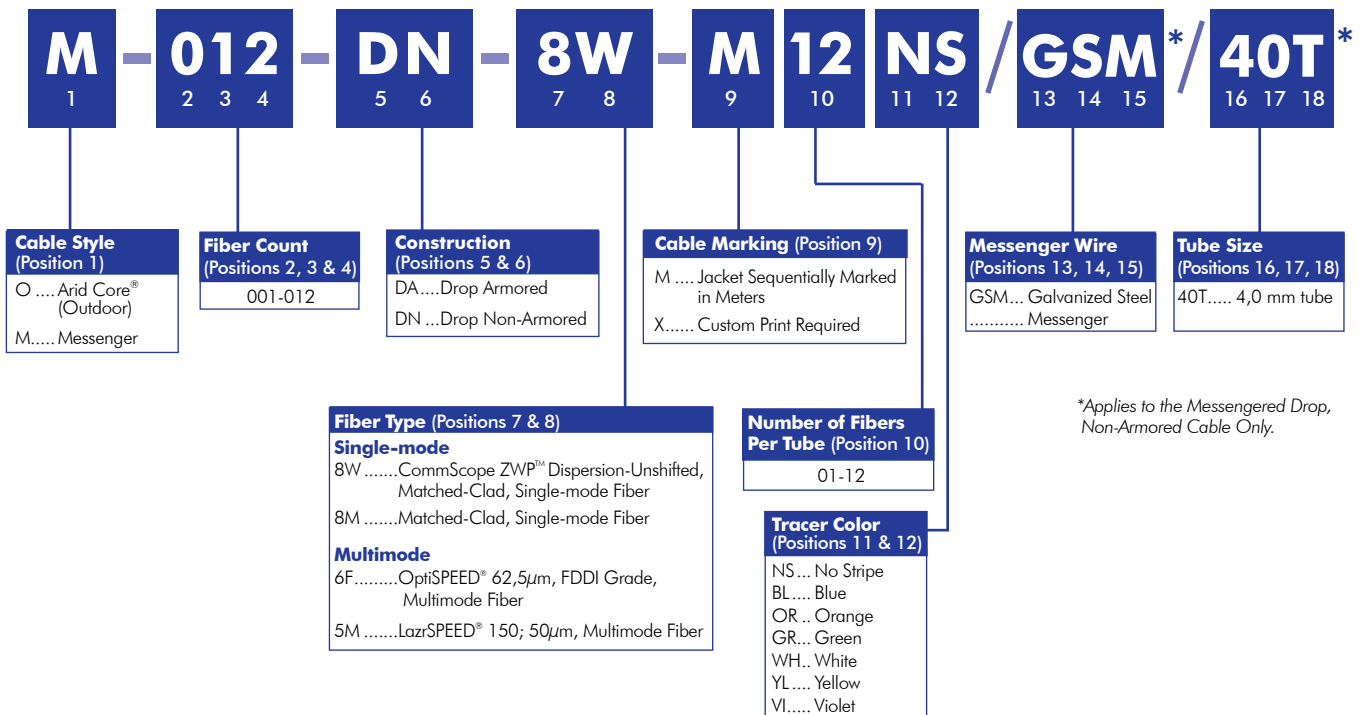
- Arid-Core® water blocking technology helps protect fibers from moisture and reduces termination effort
- Small, lightweight cable allowing for increased ease of installation, routing and termination
- Cost effective, low fiber count cable for outside plant applications
- An outstanding choice when space is at a premium
- Medium Density Polyethylene jacket is rugged, durable and easy to strip
- Rigid dielectric strength members support placement in power utility easements

### Armored Design

- Arid-Core® water blocking technology helps protect fibers from moisture and reduces termination effort
- Small, lightweight cable allowing for increased ease of installation, routing and termination
- Cost effective, low fiber count cable for outside plant applications
- An outstanding choice when space is at a premium
- Medium Density Polyethylene jacket is rugged, durable and easy to strip

### Messengered Design

- Small, lightweight cable allowing for increased ease of installation, routing and termination
- Cost effective, low fiber count cable for outside plant applications
- Medium Density Polyethylene jacket is rugged, durable and easy to strip
- Flexible design allows for ease of routing and placement



## Product Description

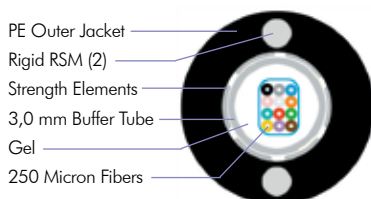
Physical Specifications	O-XXX-DN-XY-M12NS	O-XXX-DA-XY-M12NS	M-XXX-DN-XY-M12NS/ GSM/40T
<b>Fiber Count</b>	<b>001-012</b>	<b>001-012</b>	<b>001-012</b>
Subunits	1	1	1
Fiber per Subunit	12	12	12
Buffer Tube Diameter mm	3,0	3,0	4,0
Outer Diameter - over fiber mm	8,7	8,0	6,6
Outer Diameter - over messenger mm	NA	NA	3,4
Weight kg/km	69	72	70
Minimum Bend Radius			
Loaded cm	17,4	16,0	26,4
Unloaded cm	8,7	8,0	13,2
Maximum Tensile Load			
Short Term N	1335	1335	NA
Long Term N	400	400	NA
Maximum Vertical Rise m	593	568	NA

Environmental and Mechanical	Specification (Test Method)
Operating Temperature °C	-40° to +70° (FOTP-3)
Installation Temperature °C	-30° to +60°
Storage Temperature °C	-40° to +70°
Crush Resistance N/mm	22 (FOTP-41)
Impact Resistance N·m	2,94 (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua *Buffer tubes 13-24 repeat the color sequence with a tracer stripe
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request
<b>Standards</b>	Telcordia GR-20-CORE, Issue 2 ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable The M-XXX-DN... cable complies with ANSI/ICEA S-110-717-2002, Standard for Optical Fiber Drop Cable RoHS Compliant

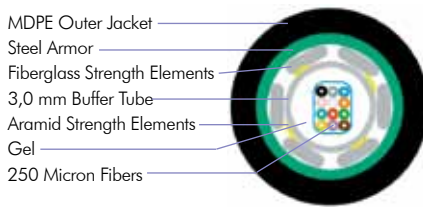
### All-Dielectric Drop Cable

(12 fiber version shown)



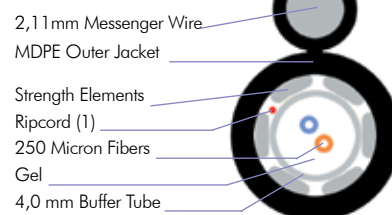
### Drop Armored Cable

(12 fiber version shown)



### Figure 8 Drop Cable

(2 fiber version shown)



Specifications are subject to change without notice.

# Outside Plant Messengered Mini-Drop & Flat Drop Cable

## Solid Steel Messengered and Stranded Steel Messengered



The Mini-Drop central tube cable family includes flexible, versatile, and craft-friendly access product solutions needed as fiber cable is deployed deeper in the network. These products were developed to provide alternative means of accessing new customers and new markets. This family of Drop cables offers very lightweight designs with reduced diameters for ease of installation, simplifying the final customer connection.

### Solid Steel Messengered Mini-Drop Cable

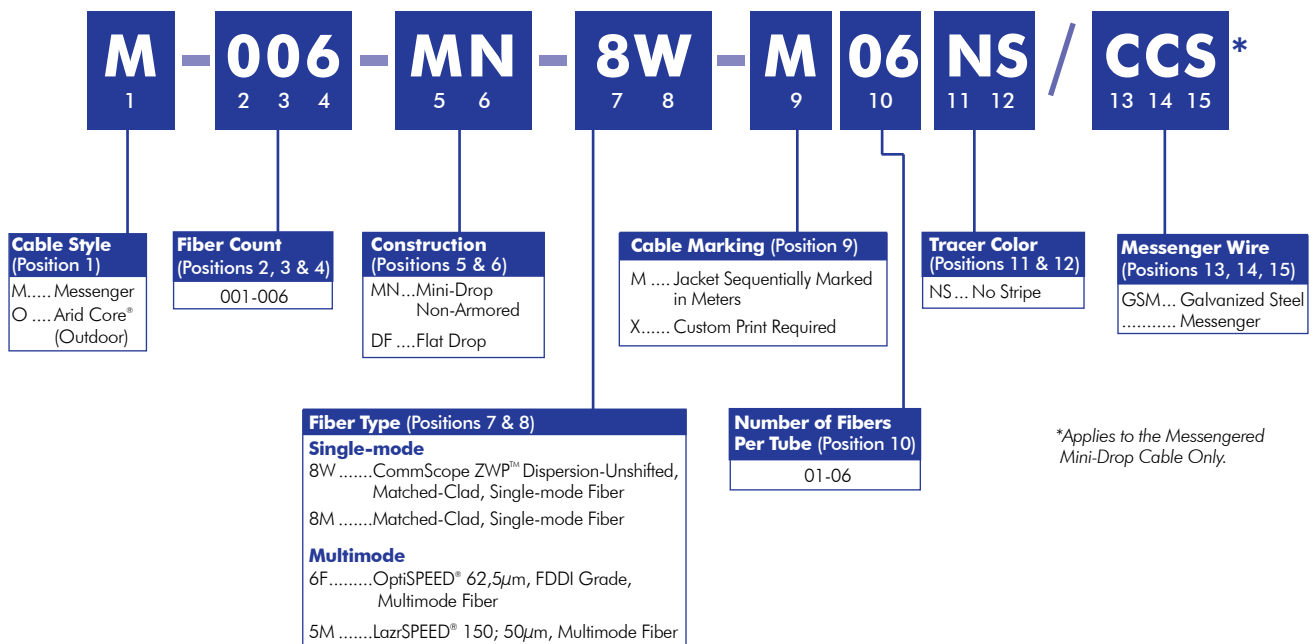
- Low cable weight, which minimizes installation pulling force
- Messenger wire is great for toning and locates
- Designed to withstand vibratory plowing
- Linear low-density polyethylene (LLDPE) jacket is rugged, yet flexible and easy to strip
- Small, lightweight cable constructions designed for ease of handling and installation
- Suitable for direct buried, underground conduit, and aerial self-supporting FTTP applications
- 2,5 mm buffer tube compatible with existing tube access tools

### Stranded Steel Messengered Mini-Drop Cable

- Superior flexibility
- Good kink resistance
- Less bend memory
- Dry tube construction decreases cable prep time by eliminating an extra cleaning step
- Small, lightweight cable constructions designed for ease of handling and installation
- Suitable for direct buried, underground conduit, and aerial self-supporting FTTP applications
- 2,5 mm buffer tube compatible with existing tube access tools

### Flat Drop Cable

- No bonding or grounding required
- Small, lightweight cable construction designed for ease of handling and installation
- Suitable for direct buried, underground conduit, and aerial self-supporting FTTP applications
- Dry tube construction decreases cable prep time by eliminating an extra cleaning step
- Buffer tube provides additional crush resistance
- Compatible with industry-standard attachment hardware



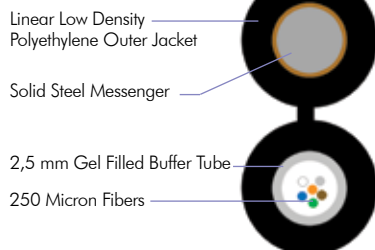
## Product Description

Physical Specifications	M-XXX-MN-XY-M06NS/CCS	M-XXX-MN-XY-M06NS/BSS	O-XXX-DF-XY-M06NS
<b>Fiber Count</b>	<b>001-006</b>	<b>001-006</b>	<b>001-006</b>
Subunits	1	1	1
Fiber per Subunit	6	6	6
Buffer Tube Diameter mm	2,5	2,5	2,0
Outer Diameter - over fiber mm	3,8	3,8	4,5 (height)
Outer Diameter - over messenger mm	4,0	4,0	8,2 (width)
Weight kg/km	40	42	35,7
Minimum Bend Radius			
Loaded cm	15,2	15,2	32,8
Unloaded cm	7,6	7,6	16,4

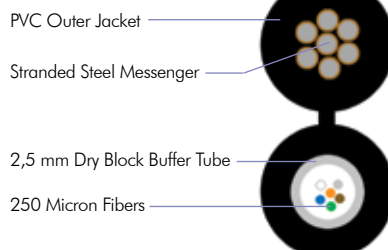
Environmental and Mechanical	Specification (Test Method)
Operating Temperature °C	-40° to +70° (FOTP-3)
Installation Temperature °C	-30° to +60°
Storage Temperature °C	-40° to +70°
Crush Resistance N/mm	22 (FOTP-41)
Impact Resistance N·m	2,94 (FOTP-25)
Flexing	25 cycles (FOTP-104)
Twist Bend	Exceeds (FOTP-85)

Cable Identification	
<b>Cable Jacket</b>	Black Medium Density Polyethylene with optional co-extruded stripe
<b>Buffer Tube and Fiber Color Coding</b>	1-blue, 2-orange, 3-green, 4-brown, 5-slate, 6-white, 7-red, 8-black, 9-yellow, 10-violet, 11-rose, 12-aqua
<b>Fiber Types</b>	CommScope ZWP™ (8W) Standard Matched Clad Single-mode (8M) OptiSPEED® 62,5µm, FDDI Grade Multimode Fiber (6F) LazrSPEED® 150; 50µm, Multimode Fiber (5M) Other glass types available upon request,
<b>Standards</b>	ANSI/ICEA S-87-640-1999 Standard for Optical Fiber Outside Plant Communications Cable RoHS Compliant

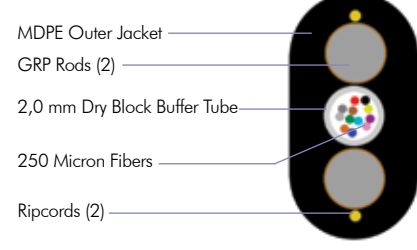
**Figure 8 Mini-Drop Cable**  
(6 fiber version shown)



**Figure 8 Mini-Drop Cable**  
(6 fiber version shown)



**Flat Drop Cable**  
(6 fiber version shown)

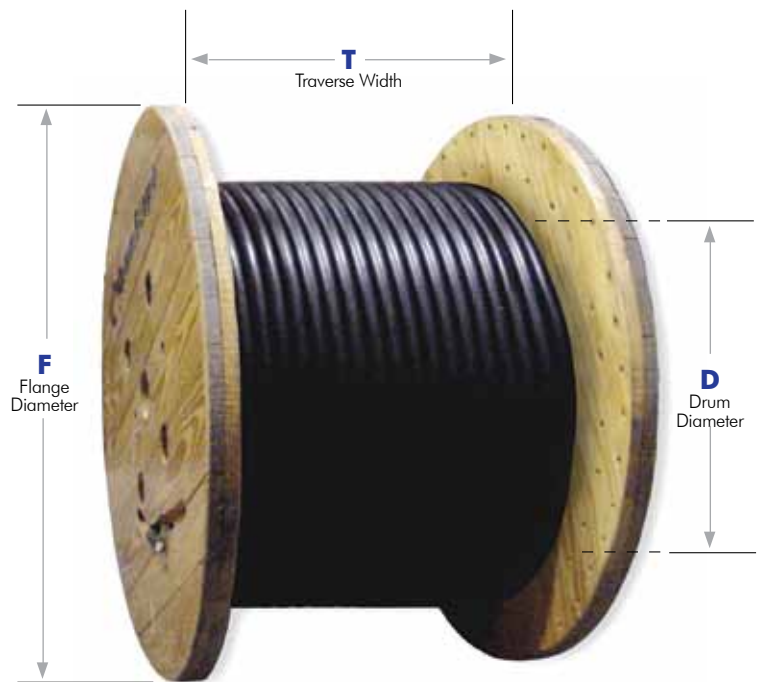


Specifications are subject to change without notice.

### ○ Packaging and Shipping

Fiber optic cable is packaged for shipment on wooden or composite reels. Each package contains only one continuous length of cable. The packaging is designed to prevent damage to the cable during shipping and handling. Fiber cable reels are protected with a “reel wrap”, the highest technology available today. This wrap is stronger, lighter and more environmentally friendly than other methods of lagging. In addition, reel wrap is simple to remove from the reel and readily disposable. All reel sizes between 889 and 1981 mm will be blocked and palletized to help ensure safe arrival to the customer. Each reel is plainly marked to indicate the direction in which it should be rolled to prevent loosening of the cable on the reel.

Products shipped outside the continental United States are protected with reel wrap, lagged with wood, and blocked and palletized (for reel sizes between 889 and 1981 mm) or placed on the rolling edge and securely fastened to international shipping containers.



### Dry Loose Tube Armored (D-LA)

Flange X Drum X Traverse (mm)	Reel Wt (kg)	FIBER COUNT						
		2-60	62-72	74-96	98-120	122-144	146-216	218-288
<b>914 x 559 x 756</b>	36	1476	1417	1161	927	735	736	566
<b>1067 x 559 x 756</b>	54	2714	2429	1920	1605	1214	1218	994
<b>1219 x 559 x 826</b>	80	4335	3971	3263	2650	2096	1941	1615
<b>1372 x 610 x 711</b>	168	4837	4512	3509	2908	2416	2209	1641
<b>1524 x 762 x 813</b>	196	6486	5985	4738	3908	3219	2958	2363
<b>1676 x 762 x 813</b>	230	8732	7819	6380	5138	4108	4041	3133
<b>1829 x 914 x 914</b>	284	11033	9934	8084	6592	5143	5165	3978
<b>1981 x 914 x 914</b>	344	13626	12409	9930	8273	6316	6347	5022
<b>2134 x 1016 x 1016</b>	414	17424	15794	12712	10188	8292	7825	6296
<b>2134 x 1016 x 1067</b>	418	18288	16574	13419	10658	8721	8236	6543
<b>2235 x 1016 x 1016</b>	435		18288	16228	13171	10408	9876	8014
<b>2438 x 1118 x 1168</b>	463			18288	16228	13049	12435	9670

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Dry Loose Tube Non-Armored (D-LN)

Flange X Drum X Traverse (mm)	Reel Wt (kg)	FIBER COUNT						
		2-60	62-72	74-96	98-120	122-144	146-216	218-288
<b>914 x 559 x 756</b>	36	2011	1766	1417	1161	910	792	589
<b>1067 x 559 x 756</b>	54	3423	3111	2429	1920	1435	1441	1029
<b>1219 x 559 x 826</b>	80	5559	5096	3971	3263	2430	2427	1851
<b>1372 x 610 x 711</b>	168	6374	5933	4512	3509	2745	2699	1987
<b>1524 x 762 x 813</b>	196	8507	7853	5985	4738	3623	3569	2619
<b>1676 x 762 x 813</b>	230	11450	10302	7819	6380	4814	4746	3422
<b>1829 x 914 x 914</b>	284	14437	13065	9934	8084	6197	6120	4415
<b>1981 x 914 x 914</b>	344	17900	16368	12409	9930	7834	7741	5804
<b>2134 x 1016 x 1016</b>	414	18288	18288	15794	12712	10085	9577	7204
<b>2134 x 1016 x 1067</b>	418			16574	13419	10558	10032	7604
<b>2235 x 1016 x 1016</b>	435			18288	16228	12407	11836	9187
<b>2438 x 1118 x 1168</b>	463				18288	15559	15435	11175

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

**Arid-Core® Outside Plant Stranded Loose Tube Armored (LA) Cables**

Flange x Drum x Traverse (mm)	Reel Wt (kg)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
<b>914 x 559 x 756</b>	36	1231	1161	792	706	554	554	407
<b>1067 x 559 x 756</b>	54	2195	1920	1441	1170	974	974	673
<b>1219 x 559 x 826</b>	80	3618	3263	2396	1876	1448	1448	1195
<b>1372 x 610 x 711</b>	168	4117	3509	2699	2175	1747	1747	1319
<b>1524 x 762 x 813</b>	196	5499	4738	3569	2919	2322	2322	1790
<b>1676 x 762 x 813</b>	230	7252	6380	4746	3768	3083	3083	2286
<b>1829 x 914 x 914</b>	284	9261	8084	6120	4737	3921	3921	2883
<b>1981 x 914 x 914</b>	344	11647	9930	7741	5867	4688	4688	3542
<b>2134 x 1016 x 1016</b>	414	14911	12712	9577	7760	6224	6224	4462
<b>2134 x 1016 x 1067</b>	418	15675	13419	10032	8176	6473	6473	4773
<b>2235 x 1016 x 1016</b>	435	N/A	14605	10807	8492	6882	6882	5305
<b>2438 x 1118 x 1168</b>	463	N/A	N/A	15,435	11708	9588	9588	7289

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

**Arid-Core® Outside Plant Stranded Loose Tube Non-Armored (LN) Cables**

Flange x Drum x Traverse (mm)	Reel Wt (kg)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
<b>914 x 559 x 756</b>	36	1494	1417	992	765	591	591	428
<b>1067 x 559 x 756</b>	54	2741	2429	1866	1397	1032	1032	807
<b>1219 x 559 x 826</b>	80	4367	3971	2986	2164	1665	1665	1241
<b>1372 x 610 x 711</b>	168	5121	4512	3286	2449	1944	1944	1508
<b>1524 x 762 x 813</b>	196	6847	5985	4372	3259	2630	2630	2027
<b>1676 x 762 x 813</b>	230	8795	7819	5956	4389	3438	3438	2551
<b>1829 x 914 x 914</b>	284	11250	9934	7575	5585	4343	4343	3200
<b>1981 x 914 x 914</b>	344	14341	12409	9368	6808	5428	5428	4133
<b>2134 x 1016 x 1016</b>	414	18051	15794	12055	8875	7237	7237	5266
<b>2134 x 1016 x 1067</b>	418	N/A	N/A	12572	9319	7505	7505	5495
<b>2235 x 1016 x 1016</b>	435	N/A	N/A	13432	10057	7945	7945	5869
<b>2438 x 1118 x 1168</b>	463	N/A	N/A	N/A	13804	11050	11050	7960

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Arid-Core® Outside Plant Double Jacketed Single Armored (L2) Cables

Flange x Drum x Traverse (mm)	Reel Wt (kg)	5@1 2-60	6@1 62-72	8@1 74-96	10@1 98-120	12@1 122-144	12@6@1 146-216	15@9@1 218-288
<b>914 x 559 x 756</b>	36	778	750	577	439	408	408	292
<b>1067 x 559 x 756</b>	54	1416	1237	1010	826	675	675	523
<b>1219 x 559 x 826</b>	80	2361	2131	1673	1398	1077	1077	881
<b>1372 x 610 x 711</b>	168	2652	2403	1953	1542	1324	1324	984
<b>1524 x 762 x 813</b>	196	3586	3205	2579	2067	1745	1745	1322
<b>1676 x 762 x 813</b>	230	4772	4087	3373	2787	2229	2229	1747
<b>1829 x 914 x 914</b>	284	6041	5218	4361	3483	2893	2893	2240
<b>1981 x 914 x 914</b>	344	7314	6716	5452	4200	3555	3555	2821
<b>2134 x 1016 x 1016</b>	414	9474	8394	6794	5339	4478	4478	3624
<b>2134 x 1016 x 1067</b>	418	9932	8821	7179	5680	4686	4686	3815
<b>2235 x 1016 x 1016</b>	435	N/A	9545	7835	6262	5037	5037	4125
<b>2438 x 1118 x 1168</b>	463	N/A	N/A	10923	8437	7317	7317	5723

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Messengered Loose Tube (M-LA and M-LN) Cables

Flange x Drum x Traverse (mm)	Reel Wt (kg)	Self-Support Figure-8 Armored Cables - M-LA				Non-Armored Cables - M-LN			
		2-72	74-144	146-216	218-288	2-72	74-144	146-216	218-288
<b>914 x 559 x 756</b>	36	624	344	344	280	732	369	369	277
<b>1067 x 559 x 756</b>	54	1031	606	606	463	1255	645	645	522
<b>1219 x 559 x 826</b>	80	1770	941	941	820	2046	1046	1046	838
<b>1372 x 610 x 711</b>	168	1965	1098	1098	880	2295	1209	1209	989
<b>1524 x 762 x 813</b>	196	2614	1451	1451	1177	3131	1590	1590	1315
<b>1676 x 762 x 813</b>	230	3520	1927	1927	1502	4090	2079	2079	1655
<b>1829 x 914 x 914</b>	284	4477	2527	2527	1922	5171	2714	2714	2107
<b>1981 x 914 x 914</b>	344	5500	3021	3021	2361	6459	3392	3392	2722
<b>2134 x 1016 x 1016</b>	414	7062	3983	3983	3009	8190	4422	4422	3434
<b>2134 x 1016 x 1067</b>	418	7415	4108	4108	3217	8580	4691	4691	3664
<b>2235 x 1016 x 1016</b>	435	8114	4404	4404	3948	9284	4855	4855	4211
<b>2438 x 1118 x 1168</b>	463	N/A	6224	6224	4956	N/A	6772	6772	5257

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Outside Plant Central Tube Armored (CA) Cables

Flange x Drum x Traverse (mm)	Reel Weight (kg)	CA 2-24F	CA 26-48F	CA 50-96F
<b>889 x 419 x 457</b>	32	1300	990	734
<b>914 x 559 x 756</b>	36	1766	1231	655
<b>1067 x 610 x 635</b>	49	2430	1677	1226
<b>1067 x 559 x 756</b>	54	3111	2195	1657
<b>1219 x 559 x 826</b>	80	5096	3618	2720
<b>1372 x 610 x 711</b>	168	5933	4117	3190
<b>1524 x 762 x 813</b>	196	7853	5499	4260
<b>1676 x 762 x 813</b>	230	10302	7252	5542
<b>1829 x 914 x 914</b>	284	13065	9261	7078
<b>1981 x 914 x 914</b>	344	16368	11647	8815

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Outside Plant Central Tube Non-Armored (CN) Cables

Flange x Drum x Traverse (mm)	Reel Wt (kg)	CN 2-24F	CN 26-48F	CN 50-96F
<b>889 x 419 x 457</b>	32	1617	1006	750
<b>914 x 559 x 756</b>	36	2057	1417	992
<b>1067 x 610 x 635</b>	49	2743	1884	1376
<b>1067 x 559 x 756</b>	54	3720	2429	1866
<b>1219 x 559 x 826</b>	80	5936	3971	2986
<b>1372 x 610 x 711</b>	168	6783	4512	3286
<b>1524 x 762 x 813</b>	196	9016	5985	4372
<b>1676 x 762 x 813</b>	230	11887	7819	5956
<b>1829 x 914 x 914</b>	284	N/A	9934	7575
<b>1981 x 914 x 914</b>	344	N/A	11887	9368

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Outside Plant Drop (DA, DN, and M-DN) Cables

Flange x Drum x Traverse (mm)	Reel Wt (kg)	DA 2-12F	DN 2-12F	M-DN 2-12F
<b>559 x 305 x 305</b>	5	N/A	361	457
<b>762 x 305 x 305</b>	10	N/A	1083	1205
<b>889 x 419 x 457</b>	32	2625	2008	2404
<b>914 x 559 x 756</b>	36	3474	2737	2846
<b>1067 x 610 x 635</b>	49	4525	3688	4270
<b>1067 x 559 x 756</b>	54	5864	4633	5833
<b>1219 x 559 x 826</b>	80	9814	7717	10223
<b>1372 x 610 x 711</b>	168	11073	8963	11960
<b>1524 x 762 x 813</b>	196	12192	11852	12192
<b>1676 x 762 x 813</b>	230	N/A	12192	N/A

All cable lengths listed above are in meters      50.8 mm flange clearance      Reel dimensions listed above do not include lagging or pallet dimensions

### Outside Plant Mini-Drop (M-MN, DF) Cables

Flange x Drum x Traverse	Reel Weight (kg)	M-MN 1-6F	DF 1-6F
<b>559 x 305 x 305</b>	5	354	2450
<b>762 x 305 x 305</b>	10	1607	7117
<b>889 x 419 x 457</b>	32	3174	14246
<b>914 x 559 x 756</b>	36	3651	18114
<b>1067 x 610 x 635</b>	49	5673	24561
<b>1067 x 559 x 756</b>	54	7619	N/A
<b>1219 x 559 x 826</b>	80	12192	N/A

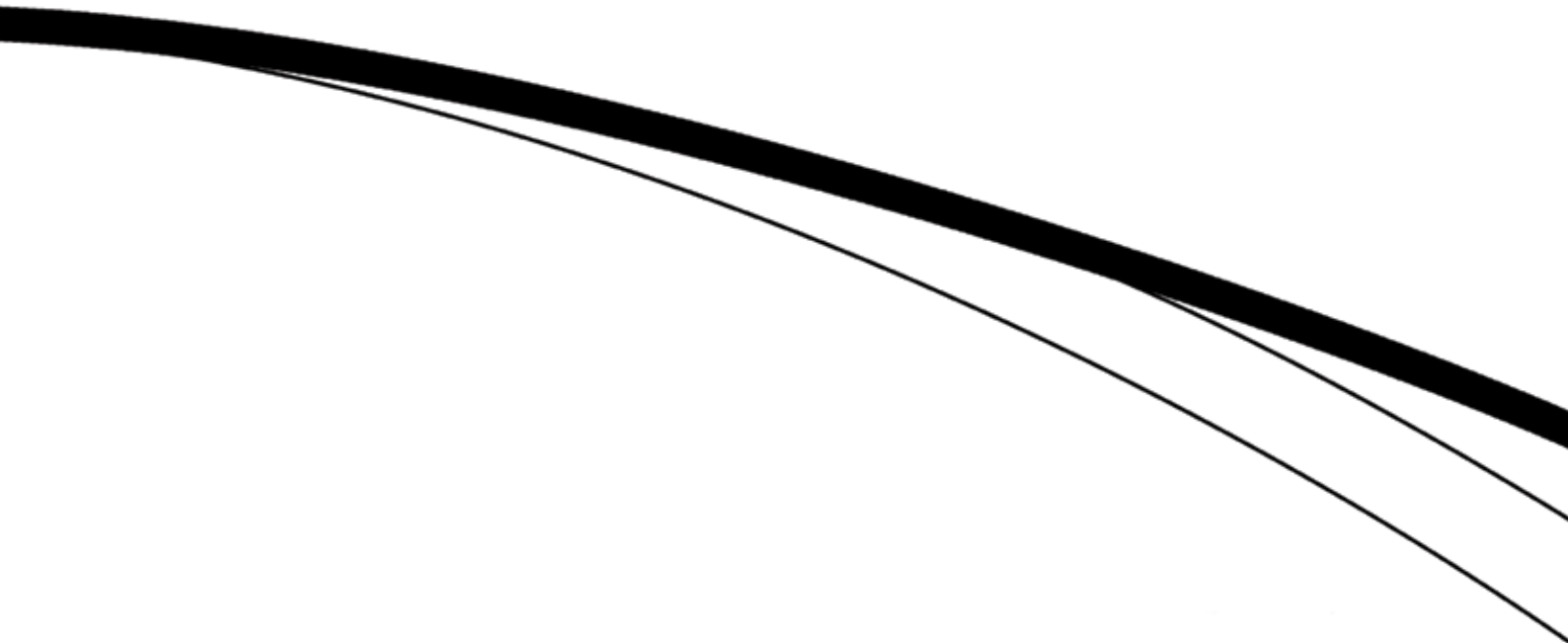
All cable lengths listed above are in meters      50.8 mm flange clearance  
Reel dimensions listed above do not include lagging or pallet dimensions

**International Packaging - Weights and Dimensions**

Reel Dimensions (mm)	Reels per Layer	Layers	Cube Size (mm) (l x w x h)	Lagging Weight (kg)	Reel Weight (kg)	Pallet Weight (kg)	Total Weight (kg)
<b>559 x 305 x 305</b>	4	1	1118 x 1118 x 489	0	5	20	41
<b>559 x 305 x 305</b>	4	2	1118 x 1118 x 826	0	5	20	63
<b>559 x 305 x 305</b>	4	3	1118 x 1118 x 1162	0	5	20	85
<b>762 x 305 x 305</b>	1	1	762 x 762 x 489	0	10	9	18
<b>762 x 305 x 305</b>	1	2	762 x 762 x 826	0	10	9	28
<b>889 x 419 x 457</b>	1	N/A	991 x 635 x 1041	27	32	21	80
<b>914 x 559 x 756</b>	1	N/A	991 x 1016 x 1168	41	36	32	109
<b>1067 x 610 x 635</b>	1	N/A	838 x 1118 x 1321	86	49	30	166
<b>1067 x 559 x 756</b>	1	N/A	991 x 1118 x 1321	86	54	32	171
<b>1219 x 559 x 826</b>	1	N/A	1067 x 1295 x 1473	77	80	49	205
<b>1372 x 610 x 711</b>	1	N/A	1067 x 1448 x 1626	85	168	49	302
<b>1524 x 762 x 813</b>	1	N/A	1143 x 1600 x 1778	97	196	73	367
<b>1676 x 762 x 813</b>	1	N/A	1143 x 1753 x 1905	109	230	73	412
<b>1829 x 914 x 914</b>	1	N/A	1219 x 1905 x 2083	151	284	105	541
<b>1981 x 914 x 914</b>	1	N/A	1219 x 2057 x 2235	163	344	105	612
<b>2134 x 1016 x 1016</b>	1	N/A	2159 x 1321 x 2337	176	414	109	699
<b>2235 x 1016 x 1016*</b>	1	N/A	2311 x 1321 x 2464	188	435	109	731
<b>2438 x 1118 x 1168*</b>	1	N/A	N/A	204	463	0	667

All cable lengths listed above are in meters

\*Note: These reels require special containers. Please consult Customer Service for availability at time of order.



CommScope is committed to manufacturing excellence in all aspects of its operations. Our policy is to design, manufacture and deliver products and services which conform to specifications and satisfy customer requirements and expectations in every way.



**Global Sales Office**

1100 CommScope Place SE  
PO Box 1729

Hickory, North Carolina 28603-1729

Tel: +1-828 324 2200

Fax: +1-828 323 4989

[www.commscope.com](http://www.commscope.com)

Sales e-mail: [intfcustserv@commscope.com](mailto:intfcustserv@commscope.com)

Technical services e-mail: [brc@commscope.com](mailto:brc@commscope.com)