



ELECTRONIC COMMUNICATIONS

Inventing *the Future* of Wire and Cable



XLC Coax RF Coaxial Cable -40° to 105°C

Champlain Cable's **XLC Coax** is an irradiation-crosslinked coaxial cable that possesses excellent mechanical and electrical properties. **XLC Coax** crosses the boundaries between polyethylene and fluoropolymer performance by combining the cost effectiveness of polyethylene (PE) coaxial cables with higher temperature performance of fluoropolymer (FEP/PTFE) coaxial cables.

Advantages of XLC over FEP/PTFE

Lower cost product
Better flexibility
Easier cutting, stripping and termination
Halogen free
UL Approved
Light weight
End of Service Life Recycling

Performance

Electrically equivalent to Mil-C-17 RG Coax up to 1GHz
Dimensional equivalent to Mil-C-17 RG Coax
Uses Standard RF connectors
UL Rated to 105°C
Exceptional electrical performances to 105°C

Champlain Cable Corporation offers a coaxial cable that can easily be designed into existing RG type applications by providing maximum temperature, power and frequency. The **XLC Coax** has exceptional RG performance. **XLC Coaxial Cables** are the dimensional equivalent of RG and Mil-C-17 offered at a lower cost. **XLC Coax** is the cost effective alternative to PTFE and FEP coaxial cables.

XLC Physical Properties

Description	Center Conductor		Dielectric Material		Dielectric OD (nominal)		Outer Conductor		Jacket Material		Overall OD (nominal)	
	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17
XLC 142-Ag	0.037" SPC	0.037" SPCW	Foamed XLPE	PTFE	0.117"	0.116"	2:36 AWG SPC	2:36 AWG SPC	XLPO	FEP Type IX	0.198"	0.195"
XLC 142-Sn	0.037" SPC	0.037" SPCW	Foamed XLPE	PTFE	0.117"	0.116"	2:36 AWG SnCu SPC	2:36 AWG SPC	XLPO	FEP Type IX	0.198"	0.195"
XLC 178-Ag	0.012" SPCW 7/.004"	SPCW 7/.004"	Foamed XLPE	PTFE	0.032"	0.033"	38 AWG SPC	38 AWG SPC	XLPO	FEP Type IX	0.072"	0.071"
XLC 178-Sn	0.012" SPCW 7/.004"	SPCW 7/.004"	Foamed XLPE	PTFE	0.032"	0.033"	38 AWG SnCu SPC	38 AWG SPC	XLPO	FEP Type IX	0.072"	0.071"
XLC 179-Ag	0.012" SPCW 7/.004"	SPCW 7/.004"	Foamed XLPE	PTFE	0.061"	0.063"	38 AWG SPC	38 AWG SPC	XLPO	FEP Type IX	0.100"	0.100"
XLC 179-Sn	0.012" SPCW 7/.004"	SPCW 7/.004"	Foamed XLPE	PTFE	0.061"	0.063"	38 AWG SnCu SPC	38 AWG SPC	XLPO	FEP Type IX	0.100"	0.100"
XLC 316-Ag	0.0209" SPCW 7/.071"	SPCW 7/.067"	Foamed XLPE	PTFE	0.061"	0.060"	38 AWG SPC	38 AWG SPC	XLPO	FEP Type IX	0.098"	0.098"
XLC 316-Sn	0.0209" SPCW 7/.071"	SPCW 7/.067"	Foamed XLPE	PTFE	0.061"	0.060"	38 AWG SnCu SPC	38 AWG SPC	XLPO	FEP Type IX	0.098"	0.098"
XLC 316D-Ag	0.0209" SPCW 7/.071"	SPCW 7/.067"	Foamed XLPE	PTFE	0.061"	0.060"	2:38 AWG SPC	2:38 AWG SPC	XLPO	FEP Type IX	0.121"	0.114"
XLC 316D-Sn	0.0209" SPCW 7/.071"	SPCW 7/.067"	Foamed XLPE	PTFE	0.061"	0.060"	2:38 AWG SnCu SPC	2:38 AWG SPC	XLPO	FEP Type IX	0.121"	0.114"
XLC 400-Ag	.0394" SPC 19/.0078"	0.0384" SPC 19/.008"	Foamed XLPE	PTFE	0.119"	0.116"	2:36 AWG SPC	2:36 AWG SPC	XLPO	FEP Type IX	0.198"	0.195"
XLC 400-Sn	.0394" SPC 19/.0078"	0.0384" SPC 19/.008"	Foamed XLPE	PTFE	0.119"	0.116"	2:36 AWG SnCu SPC	2:36 AWG SPC	XLPO	FEP Type IX	0.198"	0.195"

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XLC Electrical Properties

Description	Impedance (Ω)		Velocity of Propagation (nominal)		Capacitance (pF/ft, nominal)		Operating Voltage (Vrms, Max.)		Max. Power Handling @1GHz (Watts)		Typical Operating Frequency (GHz)	
	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17
XLC 142-Ag	50 +/- 2	50 +/- 2	71%	69.5%	28.95	29.3	2,500	1,400	220	600	5	12.4
XLC 142-Sn	50 +/- 2	50 +/- 2	71%	69.5%	28.95	29.3	2,500	1,400	220	600	5	12.4
XLC 178-Ag	50 +/- 2	50 +/- 2	70%	69.5%	28.95	32	1,000	1000	60	65	3	3
XLC 178-Sn	50 +/- 2	50 +/- 2	70%	69.5%	28.95	32	1,000	750	60	65	3	3
XLC 179-Ag	75 +/- 3	75 +/- 3	70%	69.5%	18.29	32	1,500	900	50	220	1	3
XLC 179-Sn	75 +/- 3	75 +/- 3	70%	69.5%	18.29	32	1,500	900	50	220	1	3
XLC 316-Ag	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	1,500	900	90	120	3	3
XLC 316-Sn	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	1,500	900	90	120	3	3
XLC 316D-Ag	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	1,500	900	90	150	5	12.4
XLC 316D-Sn	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	1,500	900	90	150	5	12.4
XLC 400-Ag	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	2,500	1,400	200	700	5	12.4
XLC 400-Sn	50 +/- 2	50 +/- 2	71%	69.5%	28.95	32	2,500	1,400	200	700	5	12.4

Description	Operating Temp.		UL/CSA Approval	Mil Spec Equivalent	Weight (Lbs/ft)		Flame Rating
	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax	Mil-C-17	XLC Coax
XLC 142-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/060	0.0346	0.0430	UL 1581 VW-1 Vertical
XLC 142-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/060	0.0346	0.0430	UL 1581 VW-1 Vertical
XLC 178-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/093	0.0044	0.0063	UL 1581 Horizontal
XLC 178-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/093	0.0044	0.0063	UL 1581 Horizontal
XLC 179-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/094	0.0065	0.0108	UL 1581 Horizontal
XLC 179-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/094	0.0065	0.0108	UL 1581 Horizontal
XLC 316-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/113C	0.0082	0.0122	UL 1581 Horizontal
XLC 316-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/113C	0.0082	0.0122	UL 1581 Horizontal
XLC 316D-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17 152-00001	0.0137	0.0185	UL 1581 Horizontal
XLC 316D-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17 152-00001	0.0137	0.0185	UL 1581 Horizontal
XLC 400-Ag	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/128B	0.0360	0.0500	UL 1581 VW-1 Vertical
XLC 400-Sn	-40°C to 105°C	-55°C to 200°C	UL 3651	M17/128B	0.0360	0.0500	UL 1581 VW-1 Vertical

Health and Safety

Fire Safety is more important than ever. The plastic insulation materials of standard RG (PTFE) cables contain halogens, which will produce highly toxic and corrosive gasses when burnt. Fumes given off during a fire can severely damage circuitry, and toxic smoke can cause human injury.

Recycling

PTFE cables are particularly resistant to decomposition, and do not lend themselves to easy recycling. As environmental responsibility regulations evolve to mandate that manufacturers recycle their products at the end of their service life, the true application cost of PTFE cables will reach excessive levels.

Applications

XLC cables are dimensionally and electrically equivalent to RG-type cables, so they can be easily designed to existing RG-type cable applications by merely considering the maximum temperature, power, and frequency requirements of the application.

Detailed electrical specification is available upon request. We can customize an XLC solution to fit your needs and budget. Let our Design Engineers create and design a cable to meet your specific requirements. We can optimize diameter, shield, capacitance, impedance, and attenuation to meet your application needs and minimize costs!

We have years of proven quality, reliability, and performance. Champlain Cable has produced millions of feet of crosslinked coaxial cable for the world leaders in the Telecommunications industry.

We cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product combination for their own purpose. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss and damage arising from the handling and use of our products whether used alone or in combination with other products.



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