

CALMONT



Medical Products

WIRE AND CABLE

Disposable Medical Cables

Reusable Medical Cables





Medical Cables

Disposable

Medical Applications and Devices

Calmont manufactures both Disposable and Reusable medical cables. The requirements of these two cable types are quite different, and so we address these medical cables as two unique products.

Disposable Cables

By definition, disposable cables are intended for one time or limited use. Minimizing cost, while performing its intended function is of primary importance. PVC and polyethylene are the insulations most commonly used. Conductors are generally bare or tinned copper. Shields when needed are generally spiral or aluminized Mylar. These cables may be gamma radiation sterilized.

INCLUDES

- ▲ Catheter
- ▲ Diagnostic Imaging
- ▲ Endoscopy
- ▲ Implant Devices
- ▲ Laproscopy
- ▲ Laser
- ▲ Medical Robotics
- ▲ Oximetry
- ▲ Patient Monitoring
- ▲ Surgical Instruments

SuperFlex EKG Wire

Superflex Hookup wire is commonly used for single-use electrode applications. Superflex is available in a full range of sizes and is available with a variety of conductor types including high strength alloy and tinsel.

Part Number See How To Order Page	Bare Copper Conductor						Finished Wire			
	AWG SIZE	STRANDS ¹ No. of Strands/ Strand Size	Strand Diameter (inches)	Conductor Diameter Nominal	Conductor Area (CM) Nominal	Conductor Resistance OHMS/1000' (NOM)	Current Carrying Capacity 80°C (approximate)	Outside Diameter (± .003)	Weight lbs./1000' (approximate)	Stiffness Comparison (pounds)
3006-024-20-1-C-U-CCC	20	105/40	.0031	.039	1038.30	10.00	4.00	.054	4.82	.1800
3006-024-22-1-C-U-CCC	22	65/40	.0031	.031	642.70	16.10	2.50	.040	2.80	.1500
3006-023-24-1-C-CCC-S	24	41/40	.0031	.023	405.40	25.60	1.60	.047	2.30	.0780
3006-023-26-1-C-CCC-S	26	66/44	.0020	.019	258.10	40.20	1.00	.042	1.60	.1360
3006-023-28-1-C-CCC-S	28	41/44	.0020	.015	160.30	64.70	.60	.038	1.20	.0224
3006-023-28-1-C-CCC-S	28	41/44	.0020	.015	160.30	64.70	.60	.038	1.20	.0224
3006-023-29-1-C-CCC-S	29	51/46	.0016	.014	125.50	82.70	.50	.030	.80	.0120
3006-024-30-1-C-U-CCC	30	41/46	.0016	.012	100.90	102.80	.40	.017	.48	.0072

Please see Calmont High Flex Product Section for complete specifications.

SuperFlex PVC Surgical and Monitoring Cables

Calmont's Superflex Cables provide the high flexibility and durability coupled with the lower cost considerations required for disposable medical applications. This series provides a perfect low cost solution for disposable surgical knives.

PART NUMBER See How to Order Page for Information	AWG Size	Strands No./Size	Uninsulated Conductor Diameter Strands	Insulated Conductor Diameter	Diameter Over Shield (Nominal)	Cable Overall Diameter	Weight (lbs./M Ft.)
THREE CONDUCTOR							
3006-023-26-3-C-CCC-S	26	66/44	.019	.042	.104	.128	12.1
3006-023-28-3-C-CCC-S	28	41/44	.015	.038	.096	.119	10.0
3006-023-29-3-C-CCC-S	29	51/46	.014	.030	.078	.100	7.7
3006-023-30-3-C-CCC-S	30	41/46	.012	.028	.074	.095	7.1
FOUR CONDUCTOR							
3006-023-26-4-C-CCC-S	26	66/44	.019	.042	.115	.145	14.5
3006-023-28-4-C-CCC-S	28	41/44	.015	.038	.106	.136	12.1
3006-023-29-4-C-CCC-S	29	51/46	.014	.030	.086	.116	9.2
3006-023-30-4-C-CCC-S	30	41/46	.012	.028	.081	.111	8.5
SIX CONDUCTOR							
3006-023-26-6-C-CCC-S	26	66/44	.019	.042	.140	.170	19.5
3006-023-28-6-C-CCC-S	28	41/44	.015	.038	.128	.158	16.0
3006-023-29-6-C-CCC-S	29	51/46	.014	.030	.104	.134	12.1
3006-023-30-6-C-CCC-S	30	41/46	.012	.028	.098	.128	10.9

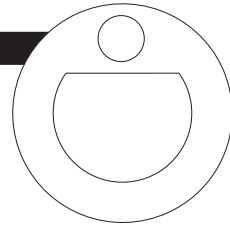
Please see Calmont High Flex Product Section for complete specifications and additional sizes.

SPECIALTY CABLE

Calmont can integrate your needs for non electrical components and lumens into your custom built cable design. Your solution can be designed as a traditional round cable or let us design a zip construction if separation of components is important.

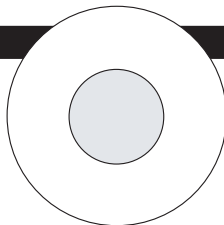
Saliva Extraction Tube

This engineered tubing is used to remove saliva from a patient's mouth during a dental procedure. The large lumen, or hole is used to remove the saliva. A steel wire is extruded into the wall of the tube to allow easy forming. The tube is bent into a horseshoe shape and inserted into the patient's mouth. PVC insulation is used to reduce cost, as this is a one-time use product.



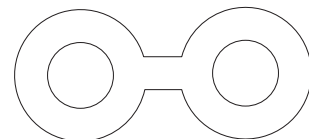
Single Conductor Carbon Lead Wire

Used for medical leads where radio translucency is required, these wires are "invisible" to standard medical X-Rays. They can be left attached to the patient during X-Ray examination. Also available with carbon fiber shields when shielded lead wires are needed.



Zip Cable

This two conductor parallel cable uses high strand bare copper conductors. And is used for applications requiring an inexpensive cable that can be separated or unzipped. The web and width can be adjusted to meet specific customer needs. The conductors are extruded at the same time to reduce the cost.



Medical Cables

Reusable

Reusable Cables

Reusable medical cables are built to endure constant flexing and extended cycles of sterilization. Insulations may be Teflon, TPE or silicone rubber with TPE or silicone jackets.

Fluoroflex Silicone Cut and Cauterize Cables

Fluoroflex has become the benchmark for high flex reusable surgical cables. With its thinly extruded FEP conductors we are able to manufacture compact diameter primaries making for some of the smallest cables in the industry. The extreme flexibility results in less fatigue and increased accuracy for the surgeon. All components are designed for multiple sterilizations by autoclave, Steris, alcohol and other common methods.

PART NUMBER See How to Order Page for Information	AWG Size	Strands No./Size	Uninsulated Conductor Diameter Strands	Insulated Conductor Diameter	Diameter Over Shield (Nominal)	Cable Overall Diameter	Weight (lbs./M Ft.)
TWO CONDUCTOR							
3006-029-24-2-C-CCC-S	24	41/40	.023	.031	.073	.103	8.0
3006-029-26-2-C-CCC-S	26	66/44	.019	.024	.059	.079	5.2
3006-029-28-2-C-CCC-S	28	41/44	.015	.020	.052	.072	4.1
3006-029-29-2-C-CCC-S	29	51/46	.014	.019	.050	.070	3.7
3006-029-30-2-C-CCC-S	30	41/46	.012	.017	.046	.066	3.4
THREE CONDUCTOR							
3006-029-24-3-C-CCC-S	24	41/40	.023	.031	.081	.111	10.3
3006-029-26-3-C-CCC-S	26	66/44	.019	.024	.065	.089	6.9
3006-029-28-3-C-CCC-S	28	41/44	.015	.020	.057	.081	5.3
3006-029-29-3-C-CCC-S	29	51/46	.014	.019	.055	.075	4.6
3006-029-30-3-C-CCC-S	30	41/46	.012	.017	.050	.070	4.0
FOUR CONDUCTOR							
3006-029-24-4-C-CCC-S	24	41/40	.023	.031	.088	.112	12.2
3006-029-26-4-C-CCC-S	26	66/44	.019	.024	.072	.096	8.6
3006-029-28-4-C-CCC-S	28	41/44	.015	.020	.062	.082	6.2
3006-029-29-4-C-CCC-S	29	51/46	.014	.019	.060	.080	5.6
3006-029-30-4-C-CCC-S	30	41/46	.012	.017	.055	.075	4.9
SIX CONDUCTOR							
3006-029-24-6-C-CCC-S	24	41/40	.023	.031	.107	.137	17.5
3006-029-26-6-C-CCC-S	26	66/44	.019	.024	.086	.110	11.6
3006-029-28-6-C-CCC-S	28	41/44	.015	.020	.074	.098	8.6
3006-029-29-6-C-CCC-S	29	51/46	.014	.019	.071	.091	7.3
3006-029-30-6-C-CCC-S	30	41/46	.012	.017	.065	.085	6.4

Please see Calmont High Flex Product Section for complete specifications and additional sizes.

Fluoroflex TPE Surgical Instrument Cables

Fluoroflex insulated and TPE jacketed cables provide a compact cable with a less costly and easier to mold to jacket than our silicone jacketed cables. At the same time, these cables provide good autoclaving characteristics and are resistant to common sterilizing chemicals.

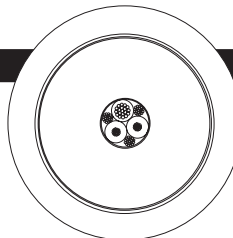
PART NUMBER See How to Order Page for Information	AWG Size	Strands No./Size	Uninsulated Conductor Diameter Strands	Insulated Conductor Diameter	Diameter Over Shield (Nominal)	Cable Overall Diameter	Weight (lbs./M Ft.)
TWO CONDUCTOR							
3006-032-24-2-C-CCC-S	24	41/40	.023	.031	.073	.103	7.8
3006-032-26-2-C-CCC-S	26	66/44	.019	.024	.059	.079	5.1
3006-032-28-2-C-CCC-S	28	41/44	.015	.020	.052	.072	4.0
3006-032-29-2-C-CCC-S	29	51/46	.014	.019	.050	.070	3.6
3006-032-30-2-C-CCC-S	30	41/46	.012	.017	.046	.066	3.3
THREE CONDUCTOR							
3006-032-24-3-C-CCC-S	24	41/40	.023	.031	.081	.111	10.1
3006-032-26-3-C-CCC-S	26	66/44	.019	.024	.065	.089	6.8
3006-032-28-3-C-CCC-S	28	41/44	.015	.020	.057	.081	5.2
3006-032-29-3-C-CCC-S	29	51/46	.014	.019	.055	.075	4.5
3006-032-30-3-C-CCC-S	30	41/46	.012	.017	.050	.070	3.9
FOUR CONDUCTOR							
3006-032-24-4-C-CCC-S	24	41/40	.023	.031	.088	.112	12.1
3006-032-26-4-C-CCC-S	26	66/44	.019	.024	.072	.096	8.4
3006-032-28-4-C-CCC-S	28	41/44	.015	.020	.062	.082	6.1
3006-032-29-4-C-CCC-S	29	51/46	.014	.019	.060	.080	5.5
3006-032-30-4-C-CCC-S	30	41/46	.012	.017	.055	.075	4.8
SIX CONDUCTOR							
3006-032-24-6-C-CCC-S	24	41/40	.023	.031	.107	.137	17.2
3006-032-26-6-C-CCC-S	26	66/44	.019	.024	.086	.110	11.4
3006-032-28-6-C-CCC-S	28	41/44	.015	.020	.074	.098	8.5
3006-032-29-6-C-CCC-S	29	51/46	.014	.019	.071	.091	7.2
3006-032-30-6-C-CCC-S	30	41/46	.012	.017	.065	.085	6.3

Please see Calmont High Flex Product Section for complete specifications and additional sizes.

SPECIALTY CABLE

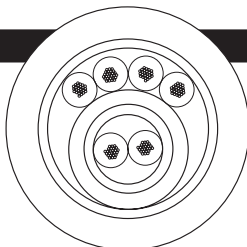
High Voltage X-Ray Cable

This is a six conductor high voltage medical X-Ray cable. The center conductors are used for filament and deflection plate control of a medical X-Ray machine. The center conductors are insulated from the outer shield by silicone rubber. This cable is suitable for voltages up to 75 KVDC.



Calmont has years of experience working with nontraditional conductor, insulating, shielding and jacketing materials. Your options are endless when you partner with Calmont to design your critical medical cable.

Oximeter Cable

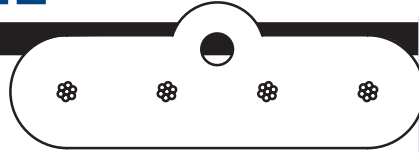


The shielded wires of this cable bring the detector signal back to the measuring unit of a medical device. The 4 unshielded conductors carry power to the sensor. The insulation is FEP Teflon and the jacket is polyurethane for alcohol sterilization.

SPECIALTY CABLE

Extruded Breather Tube Cable

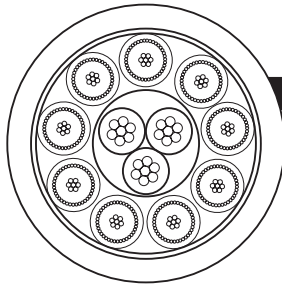
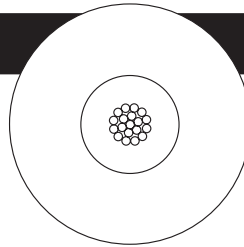
This cable incorporates a tube in the core, which is used to pass air to a diaphragm. The conductors are used in a bridge circuit to determine pressure. Prior to this design, each of the conductors was individually insulated and cabled with a tube for air flow. The 4 conductors are insulated with PVC in a single extrusion to reduce the cable cost.



Calmont's manufacturing capabilities are quite diverse. From high voltage silicone coextrusion to complex hybrid constructions, we can turn your engineering concept into a working prototype.

Coextruded High Voltage Silicone Rubber Insulated Wire

Calmont's coextruded silicone wire uses a semiconductive layer of silicone rubber applied over the conductor to increase the effective radius of the conductor, and to raise the corona inception voltage rating of the cable. The required voltage rating of the cable determines the thickness of the outer layer of insulating silicone rubber.

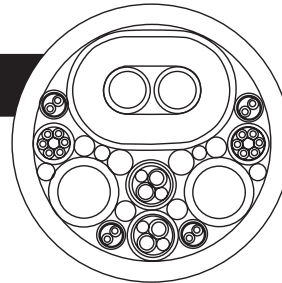


Hybrid Video Cable

This cable is used for medical imaging. The cable has 9 coaxial conductors for video data and 3 conductors for control. The coax conductors are miniature and are insulated and jacketed with FEP Teflon to reduce the cable size. The cable is shielded and jacketed with a polyurethane jacket for toughness, and is suitable for alcohol sterilization.

Medical Laser Power Control and Cooling Cable

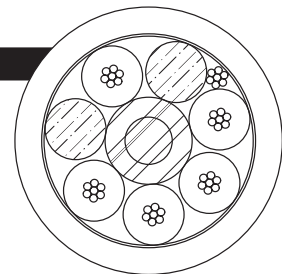
This cable contains the power conductors for a medical laser, along with tubes for bringing cooling liquid to the laser. The cooling tubes are thermally insulated with the rest of the cable to maximize cooling efficiency. The wires are insulated with FEP Teflon to keep the cable OD as small as possible. Additional conductors are used for connection to sensors on the laser. The complete cable is jacketed with Santoprene for autoclavability.



Our customers are always moving toward more compact medical devices with greater functionality. Our ability to extrude extremely fine walls of Teflon coupled with our ability to integrate air lines into our medical cables provides our customers the means to reduce size drastically.

Breather Tube Cable

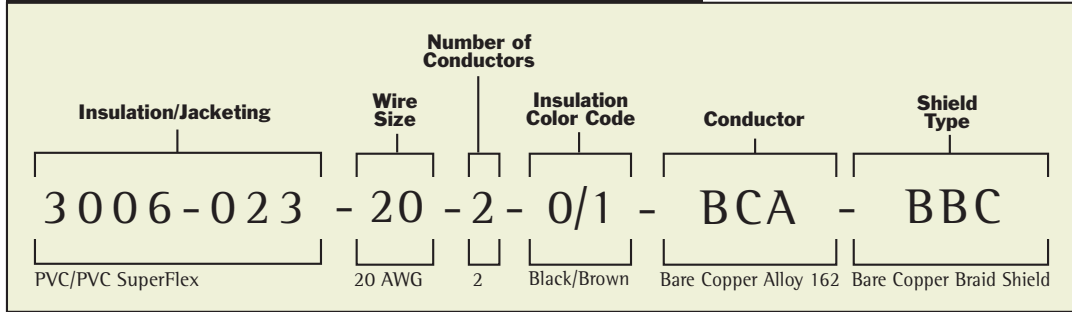
This cable incorporates a tube in the core which is used to pass air to a diaphragm. The conductors are used in conjunction with a bridge circuit to determine pressure. The conductors are insulated with FEP Teflon to reduce the cable diameter. Medical grade polyurethane is used for the jacket to allow for alcohol wipe down of the cable assembly.





How To Order Calmont High Flex Products

SAMPLE ORDERING NUMBER



CALMONT HIGH FLEX CABLE OPTIONS

Part #	Insulation/Jacketing	-A WIRE SIZE AWG	-N NUMBER OF CONDUCTORS	-C PRIMARY INSULATION COLORS	-CCC CONDUCTOR TYPE		-S SHIELD STYLE
					ABBREVIATION	DESCRIPTION	
3006-023	PVC/PVC	20 AWG through 40 AWG	Customer to specify.	Per MIL-STD-6 0 = Black 1 = Brown 2 = Red 3 = Orange 4 = Yellow 5 = Green 6 = Blue 7 = Violet 8 = Grey 9 = White	BC	Bare Copper	U = No Shield
3006-031	PVC/TPE				BCA	Bare Copper Alloy 162	BC
3006-051	PVC/PU				BCW	Bare CopperWeld	BCA
3006-024	FEP/FEP				BPB	Bare Phosphor Bronze	Bronze
3006-029	FEP/SILICONE				CON	Constantan	BCW
3006-032	FEP/TPE				HIP	High Permeable Iron	HIP
3006-052	FEP/PU				KN	Alumel	LOP
3006-028	SILICONE/SILICONE				KP	Chromel	NIC
3006-026	SILICONE/FEP				LOP	Low Permeable Iron	NPA
3006-034	SILICONE/TPE				NIC	Nickel	NPC
					NPA	Nickel plated Alloy 135	SCW
					NPC	Nickel plated Copper	SPA
					SCW	Silver plated CopperWeld	SPC
		SPA	Silver plated alloy 135	SPCS95			
		SPC	Silver plated Copper	SS			
		SPCS95	Silver plated Alloy CS-95	TC			
		SS	Stainless Steel	TCA			
		TC	Tin plated Copper	TCW			
		TCA	Tin plated Alloy 162				
		TCW	Tin plated CopperWeld				
				(B) Braid Shield			
				(S) Spiral Shield			