

Overview of Micro-Coaxial Cable (MCX)

Micro-Coaxial Cable (MCX) is used in a wide array of precision medical products and cabling applications, where high-reliability, high-sensitivity and outstanding signal, capacitance and impedance characteristics are important. Micro-coax is ideal for ultrasound probes, catheters, and advanced endoscopy along with other industrial applications where non-destructive inspection and testing are required. Our micro-coaxial cable is a market leader due in part to our proprietary high-strength alloys with outstanding low-loss characteristics. Ultra-thin insulators made from special fluorine resin enable smaller diameter cables with improved flexibility. Our precision cabling technology enables our customers to use complex bundles while providing size and performance advantages without compromising on today's Healthcare or Industrial standards. At Hitachi, we offer a wide range of turn-key design and manufacturing support. Whether buying bulk cable or receiving a completely manufactured assembly, we are perfectly positioned to meet your every strategy.

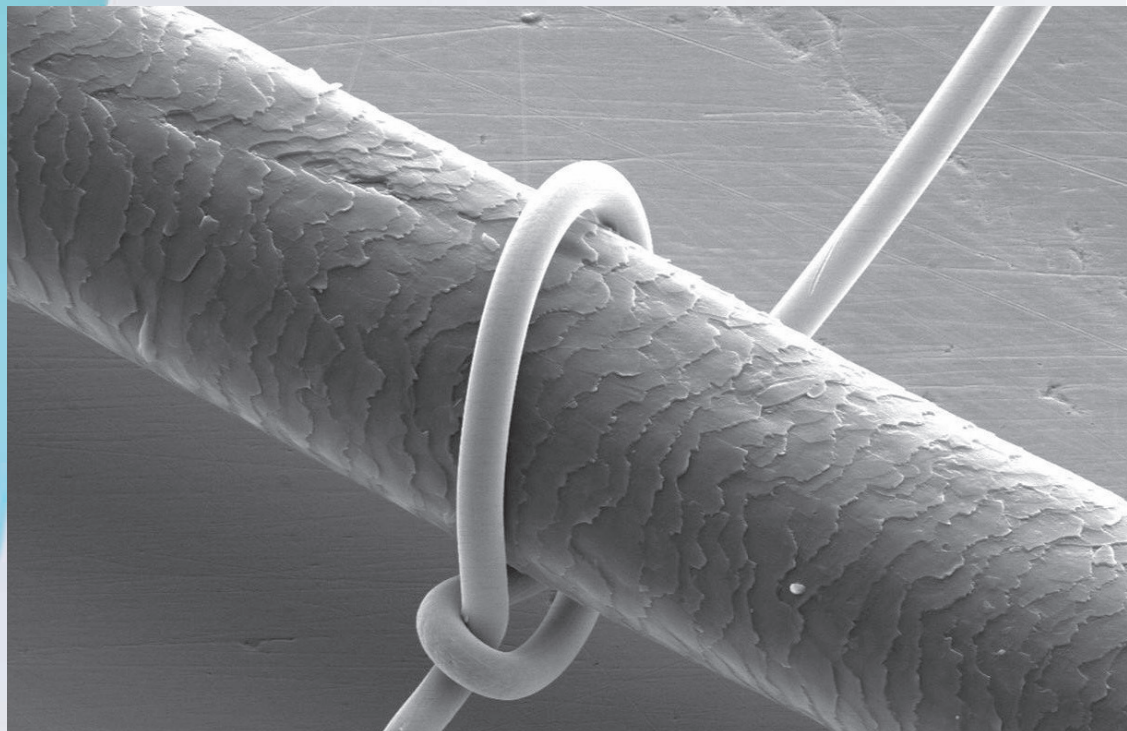


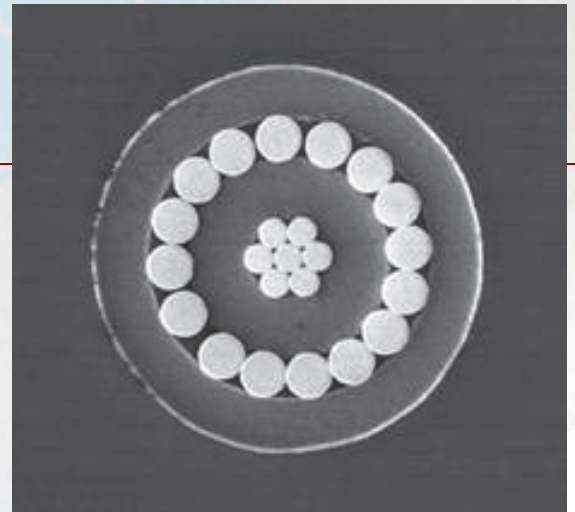
Photo: Hitachi Metals copper alloy wire wrapped around a 80 micron human hair.

Features & Benefits

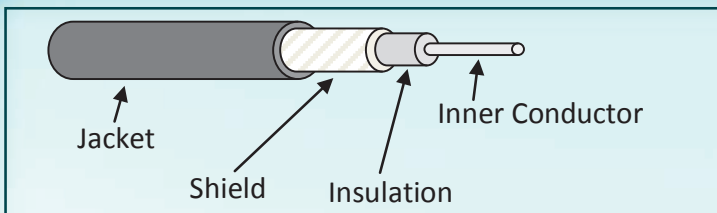
- Micro diameter and super light weight
- Excellent heat resistance and electric properties with fluorocarbon polymer insulation
- Excellent mechanical strength and flexible performance with copper alloy conductor
- Custom design of bundled cable for the required specification

High Capacitance Micro-Coaxial Cable (MCX)

We offer a broad selection of copper alloy wire with precision wire gauges ranging from 36 AWG to 50 AWG and, with a new low resistance HiFC[®] alloy characterized by very high-tensile strength, long flex life and conductor resistance that approaches copper. This resistance improvement can lower cable attenuation by 20% or more.



Note: 50-60 Ohm Impedance Cables



Coaxial Product Number	Inner Conductor		Conductor DCR@20C Ω /kft (Ω /km)	Insulation Material	Shield Material	Jacket		Capacitance pF/ft (pF/m)	Impedance @10MHz (Ω)
	AWG (Stranding)	Material				Material	Diameter Inch (mm)		
5361-110	36 (7/44) (7/0.05mm)	Tinned Copper	479 (1,569)	PFA ³	Tinned Copper	PFA	0.021 (0.54)	33.6 (110)	50
5381-110	38 (7/46) (7/0.04mm)	Tinned Copper Alloy	1,007 (3,300)				0.017 (0.44)		
5382-110			610 ¹ (2,000)						
5401-110	40 (7/48) (7/0.031mm)		1,525 (5,000)				0.013 (0.32)		
5402-110			975 ¹ (3,200)						
5411-110	41 (7/49) (7/0.028mm)		1,525 (5,000)		0.012 (0.31)				
5421-110	42 (7/50) (7/0.025mm)	2,227 (7,300)	0.011 (0.29)						
5422-110		1,265 ^{1,2} (4,150)							
5431-110	43 (7/51) (7/0.023mm)	2,288 (7,500)	0.012 (0.30)						
5441-110	44 (7/52) (7/0.02mm)	3,203 (10,500)	0.011 (0.27)						
5451-110	45 (7/53) (7/0.018mm)	3,752 (12,300)	0.010 (0.24)						
5461-115	46 (7/54) (7/0.016mm)	4,728 (15,500)	0.009 (0.22)						
5481-120	48 (7/56) (7/0.012mm)	7,010 (23,000)	0.008 (0.20)		35.1 (115)				
5501-125	50 (7/58) (7/0.01mm)	11,430 (37,500)	0.007 (0.17)		36.6 (120)				
5401-090	40 (7/48) (7/0.031mm)	1,525 (5,000)	PFA		Silver Plated Copper Alloy	PFA	0.006 (0.15)		
5411-090	41 (7/49) (7/0.028mm)	1,525 (5,000)		0.015 (0.37)					
5421-090	42 (7/50) (7/0.025mm)	2,227 (7,300)		0.014 (0.35)					
5431-090	43 (7/51) (7/0.023mm)	2,288 (7,500)		0.013 (0.32)					
5441-090	44 (7/52) (7/0.02mm)	3,203 (10,500)		0.012 (0.3)					

We reserve the right to alter products at any time.

Note: Custom designs available.

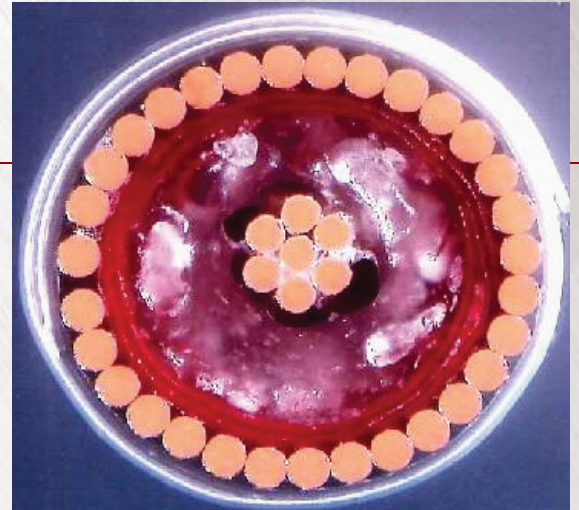
¹ HiFC[®] = Hitachi Fine Copper ³ PFA = Perfluoroalkoxy

² Under development ⁴ PFA available

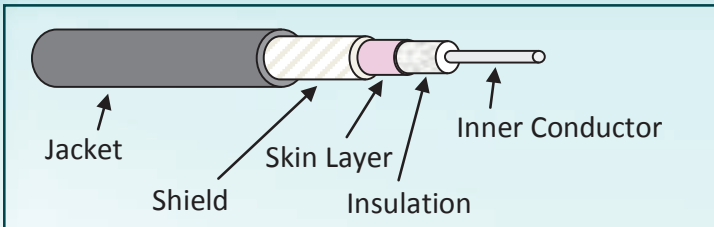
HiFC[®] is a registered trademark of Hitachi Metals, Ltd in Japan.

Low Capacitance Micro-Coaxial Cable (MCX)

Hitachi's advanced foam PFA extrusion process delivers low capacitance cable with reliable performance. We utilize a polyester tape skin over the foam to deliver dielectric strength properties required by the medical industry. 38 AWG to 46 AWG wire sizes available.



Note: 75-85 Ohm Impedance Cables



Coaxial Product Number	Inner Conductor		Conductor DCR@20C Ω /kft (Ω /km)	Insulation Material	Shield Material	Jacket		Capacitance pF/ft (pF/m)	Impedance @10MHz (Ω)
	AWG (Stranding)	Material				Material	Diameter Inch (mm)		
5381-060	38 (7/46) (7/0.04mm)	Silver Plated Copper Alloy	1,007 (3,300)	Cellular PFA (+Polyester tape skin)	Tinned Copper Alloy	Polyester tape	0.021 (0.54)	18.3 (60)	75
5401-060	40 (7/48) (7/0.03mm)		1,525 (5,000)				0.016 (0.41)		
5411-060	41 (7/49) (7/0.028mm)		1,525 (5,000)				0.014 (0.36)		
5421-060	42 (7/50) (7/0.025mm)		2,227 (7,300)				0.013 (0.34)		
5431-060	43 (7/51) (7/0.023mm)		2,288 (7,500)				0.012 (0.31)		
5441-060	44 (7/52) (7/0.02mm)		3,203 (10,500)				0.011 (0.28)		
5461-060	46 (7/54) (7/0.016mm)		4,728 (15,550)				0.01 (0.25)		
5401-050	40 (7/48) (7/0.03mm)	Silver Plated Copper Alloy	1,525 (5,000)	Cellular PFA (+Polyester tape skin)	Tinned Copper Alloy	Polyester tape	0.019 (0.47)	15.3 (50)	85
5411-050	41 (7/49) (7/0.028mm)		1,525 (5,000)				0.016 (0.4)		
5421-050	42 (7/50) (7/0.025mm)		2,227 (7,300)				0.016 (0.41)		
5431-050	43 (7/51) (7/0.023mm)		2,288 (7,500)				0.014 (0.35)		
5441-050	44 (7/52) (7/0.02mm)		3,203 (10,500)				0.013 (0.32)		

We reserve the right to alter products at any time.

Note: Custom designs available.