

CR 50 1070 (7/8") Cable Specifications

CR 50 1070 PE cable features a Polyethylene jacket and is intended for indoor or outdoor wireless transmission line applications where a riser rated cable is not required by local electrical codes.

CR 50 1070 R cable features a UV stabilized Polyethylene jacket and is intended for use within buildings where local electrical codes require cable rated as CMR (or CATVR). This requirement is usually encountered when coaxial cable penetrates more than one floor of a building, but does not pass through plenums, ducts, false ceilings or other environmental air-handling spaces.

Cell Reach cables and connectors are designed for wireless transmission line systems. This smooth-wall, copper 50 Ohm coaxial cable eliminates water migration, offers industry-leading attenuation and VSWR performance, provides a high average power rating and easy connectorization.



Cable Characteristics

Electrical		
Impedance, Ohms	50 ± 1	
Cutoff Frequency, GHz	5.0	
Velocity %	88	
Peak Power Rating, kW	108	
DC Resistance, Ohms/1000 ft (1000m)		
Inner	0.63	(2.07)
Outer	0.36	(1.18)
DC Breakdown, Volts	6000	
Jacket Spark, Volts RMS	8000	
Capacitance, pF/ft (pF/m)	23.0	(75.5)
Inductance, μH/ft (μH/m)	0.058	(0.19)

VSWR Specification

30-2500 MHz	1.10:1	(26.4dB)
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DTF Specification (at minimum bend radius)

30-2500 MHz	1.006	(50.0dB)
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Mechanical

Jacket	PE or riser rated CMR/CATVR	
Outer Conductor	Copper	
Inner Conductor	Copper	
Inner Conductor Dia., in. (mm)	.399	(10.13)
Dia. Over Dielectric, in. (mm)	1.05	(26.7)
Dia. Over Outer Conductor, in. (mm)	1.07	(27.2)
Dia. Over Outer Jacket, in. (mm)	1.170	(29.7)
Minimum Bend Radius, in. (mm)	8.0	(203)
Number of Bends	15	
Bending Moment, ft-lbs. (Nm)	49	(66)
Cable Weight, lbs/ft (kg/m)	0.28	(0.38)
Tensile Strength, lbs. (Kg)	900	(408)
Flat Plate Crush Strength, lbs./in. (kg/mm)	210	(3.8)

Standard Conditions:

- For Attenuation, VSWR 1.0 ambient temperature 20° (68°F), atmospheric pressure, dry air.
- For Average Power, VSWR 1.0, inner temperature 100° (212°F), ambient temperature 40° (104°F), atmospheric pressure, dry air, no solar loading.
- Specifications subject to change without notice.

Nominal Attenuation and Average Power**

Frequency Mhz	Attenuation dB/100 ft dB/100m		Average Power kW
100	0.317	1.04	8.45
108	0.329	1.08	8.20
150	0.391	1.28	6.85
174	0.425	1.39	6.26
200	0.459	1.51	5.88
300	0.568	1.86	4.63
400	0.665	2.18	3.90
450	0.710	2.33	3.65
500	0.754	2.47	3.42
512	0.762	2.50	3.34
600	0.834	2.74	3.06
700	0.910	2.99	2.80
800	0.979	3.21	2.58
824	0.997	3.27	2.54
894	1.04	3.42	2.43
960	1.09	3.57	2.33
1000	1.11	3.66	2.28
1700	1.52	4.99	1.68
1800	1.58	5.17	1.66
1900	1.63	5.35	1.63
2000	1.68	5.51	1.54
2200	1.77	5.81	1.45
2300	1.83	6.01	1.41
2400	1.89	6.20	1.37
2500	1.95	6.39	1.34
3000	2.15	7.04	1.21
4000	2.57	8.43	1.02
5000	3.00	9.84	0.887

CR 50 1070 (7/8") Connectors and Assemblies

All Cell Reach connectors are premium quality. The two piece construction is designed for quick and consistent termination while maintaining superior performance. Termination craftsmanship issues are reduced to a minimum by using a Cell Reach self gauging coring tool.

Brass is used as the connector body base material. Surfaces in the RF transmission path are silver plated. All other surfaces are nickel/tin coated. Insulators are made of polypropylene, polytetrafluorethylene (PTFE), polycarbonate and Delrin. All O-rings are made of ethylene propylene rubber (EPDM) to ensure the tightest seal against moisture ingress.



N-Male



N-Female



7/16 DIN-Male



7/16 DIN-Female

Insertion Loss, dB-Formula

$$.05 \sqrt{f, \text{ GHz}}$$

Intermodulation-3rd Order Product-dBm (dBc)

>112 (155) (Two +43 dBm carriers, 1M product
between 1870-1910 MHz)

Product No.	Interface	Maximum Length inches	(mm)	Maximum Diameter inches	(mm)
CR1070NM	N-Male	4.177	(106.1)	1.677	(42.6)
CR1070NF	N-Female	3.602	(91.5)	1.677	(42.6)
CR1070DM	7/16 DIN-Male	3.776	(95.9)	1.677	(42.6)
CR1070ADF	7/16 DIN-Female	2.70	(68.8)	1.677	(42.6)

Adapters

NF-UHF	N-Female to UHF-Male	1.46	(37.3)	.788	(20.0)
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Product No.	Transmission Line	Mating Jumper	Maximum Length Inches	(mm)	Maximum Diameter Inches	(mm)
CR1070540TS	7/8"	540	4.19	(106.4)	1.677	(42.6)
CR10705FXTS	7/8"	500	4.12	(104.6)	1.677	(42.6)

NOTE: For detailed information on TranSplice connectors (CR1070540TSBN, CR10705FXTSBN), see pages (24-28)
Tools and Hardware, see pages (29-36)

1070 Cable Runs with Installed Connectors

Guaranteed Low VSWR Specifications, Type CR 1070

Freq. Code No.	Freq. MHz	Assembly VSWR, Maximum (RL, dB)					Connectors
		1-25 ft.	26-100 ft.	101-200 ft.	201-500 ft.	> 500 ft.	
		(5-7.5m)	(7.6-30.5m)	(30.6-61m)	(61.2-152.4m)	(> 152.4m)	
A	824-960	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	NF, NM, DF, DM
B	824-960 1700-1900	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)	NF, NM, DF, DM
C	1700-2000	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	NF, NM, DF, DM
D	1900-2200	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)	NF, NM, DF, DM

VSWR values are guaranteed for factory fit assemblies only.

Note: Tools and hardware, pages (29-36)