

MIL-C-17 Coaxial Cable

Harbour supplies a complete line of high temperature, high performance QPL approved MIL-C-17 coax cables for military, commercial and industrial applications. The specific M17 constructions referenced are manufactured in accordance with the most recent revision of the MIL-C-17 specification. The MIL-C-17 specification defines complete physical and electrical characteristics for each M17 part number, including dimensional parameters, dielectric materials, shield construction, maximum attenuation, and VSWR levels.

VSWR Sweep Testing

When selecting a 50 ohm coaxial cable, constructions with VSWR requirements are recommended. Manufacturing and sweep testing cables with concern for VSWR ensures a quality cable free of spikes over the referenced frequency range. (Note the test frequencies specified in the Electrical characteristics section.)

Precision PTFE Dielectric Coax

All of the PTFE dielectric coax cables listed are high temperature, high performance constructions exhibiting high dielectric strength and low capacitance in proportion to their dielectric constant. All PTFE dielectrics are manufactured with tolerances tighter than the MIL-C-17 specification to ensure uniformity of electrical characteristics, especially impedance, attenuation and VSWR.

High Performance Polyethylene Dielectric Coax

Harbour also manufactures high performance solid polyethylene dielectric coaxial cable. These cables have a high maximum operating voltage up to 7,000 Volts RMS.

Tape Wrapped PTFE Constructions

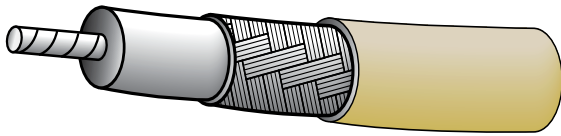
Harbour manufactures PTFE tape wrapped cables to a previous revision of the MIL-C-17 specification. These constructions can withstand operating temperatures up to 250° C versus 200° C for FEP jacketed cables. PTFE tape wrapped cables are generally more flexible than their FEP jacketed counterparts.

UL Approvals

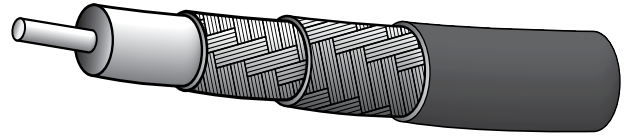
All of Harbour's M17 part numbers with PTFE dielectrics and FEP jackets may be ordered with UL 1971 (150° C, 125 Volt) listing.

M17 Number	Center Conductor (inches)	PTFE Dielectric O. D. (inches)	Shield	Jacket	Overall Diameter (inches)	Minimum Bend Radius (inches)	Operating Temp (°c)	Weight (lbs / MFT)	Comments
M17/60-RG142	.037 SCCS	.116	SPC (2)	FEP	.195	1.0	-55 +200	43.0	
M17/93-RG178	.120 (7/.004)SCCS	.033	SPC	FEP	.071	0.4	-55 +200	6.3	
M17/94-RG179	.120 (7/.004)SCCS	.063	SPC	FEP	.100	0.4	-55 +200	10.8	
M17/95-RG180	.120 (7/.004)SCCS	.102	SPC	FEP	.141	0.7	-55 +200	19.8	
M17/111-RG303	.037 SCCS	.006	SPC	FEP	.170	0.9	-55 +200	31.0	
M17/112-RG304	.059 SCCS	.185	SPC (2)	FEP	.280	1.4	-55 +200	94	
M17/113-RG316	.201 (7/.0067)SCCS	.060	SPC	FEP	.098	0.5	-55 +200	12.2	
M17/127-RG393	.094 (7/.0312) SC	.285	SPC (2)	FEP	.390	2.0	-55 +200	165	
M17/128-RG400	.0384 (19/.008) SC	.116	SPC (2)	FEP	.195	1.0	-55 +200	50	
M17/131-RG403	.120 (7/.004)SCCS	.033	SPC (2)	FEP (2)	.116	0.6	-55 +200	15	Triaxial RG-178
M17/152-00001	.201 (7/.0067)SCCS	.060	SPC (2)	FEP	.114	0.6	-55 +200	18.5	Double Shield RG-316
M17/158-00001	.037 SCCS	.116	SPC (2)	FEP	.195	1.0	-55 +200	56	Unswep RG142
M17/169-00001	.120 (7/.004)SCCS	.033	SPC	FEP	.071	0.4	-55 +200	6.3	Unswep RG178
M17/170-00001	.037 SCCS	.116	SPC	FEP	.170	0.9	-55 +200	39	Unswep RG303
M17/172-00001	.120 (7/.004)SCCS	.060	SPC	FEP	.098	0.5	-55 +200	11.5	Unswep RG316
M17/174-00001	.094 (7/.0312) SC	.285	SPC (2)	FEP	.390	2.0	-55 +200	175	Unswep RG393
M17/175-00001	.0384 (19/.008) SC	.116	SPC (2)	FEP	.195	1.0	-55 +200	50	Unswep RG400
M17/176-00002	.0235 (19/.005)SPA(2)	.042	SPA	PFA	.129	0.6	-55 +230	18	Twinax
RG187 A/U	.120 (7/.004)SCCS.	.063	SPC	PTFE	.100	0.5	-55 +250	10	Tape Wrapped Jacket
RG188 A/U	.201 (7/.0067)SCCS	.060	SPC	PTFE	.100	0.5	-55 +250	11	Tape Wrapped Jacket
RG195 A/U	.120 (7/.004)SCCS	.102	SPC	PTFE	.141	0.7	-55 +250	18	Tape Wrapped Jacket
RG196 A/U	.120 (7/.004)SCCS	.034	SPC	PTFE	.067	0.4	-55 +250	6	Tape Wrapped Jacket

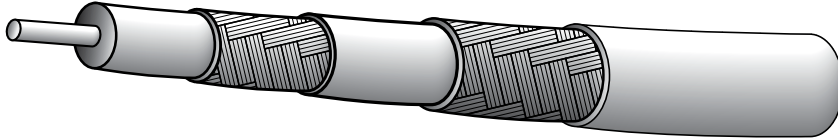
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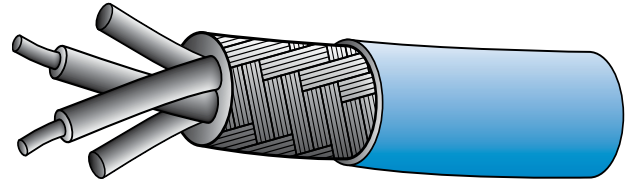
Single Braid



Double Braid



Triaxial



Twinax

“Maximum frequencies” are those as referenced on individual slant sheets of the MIL-C-17 specification. No values are given for unswept constructions as the specification recommends these cables should not be used above 400 MHz. All figures referenced above are nominal unless otherwise specified.

M17 Number	Impedance (ohms)	Capacitance (pF/ft)	Max Voltage	100 MHz Typ / Max	400 MHz Typ / Max	1 GHz Typ / Max	2.4 GHz Typ / Max	5 GHz Typ / Max	10 GHz Typ / Max	Max Frequency (GHz)
M17/60-RG142	50	29.4	1900	4.0 / 5.5	8.1 / 11.7	13.4 / 19.2	21.3 / 30.4	33.3 / 48.7		17.4
M17/93-RG178	50	29.4	1000	13.0 / 16.0	27.2 / 33.0	44.2 / 52.0	61.9 / 83.3			
M17/94-RG179	75	19.4	1200	8.0 / 9.2	15.5 / 21.0	26.7 / 30.7				
M17/95-RG180	95	17.4	1500	5.7 / 6.6	11.7 / 17.4	19.2 / 23.0				
M17/111-RG303	50	29.4	1900	3.5 / 3.9	7.2 / 8.0	13.5 / 15.0				
M17/112-RG304	50	29.4	3000	2.4 / 2.7	5.8 / 6.4	10.0 / 11.1				8.0
M17/113-RG316	50	29.4	1200	7.6 / 11.0	16.0 / 21.0	26.2 / 38.0	41.2 / 55.4			3.0
M17/127-RG393	50	29.4	1500	2.3 / 2.5	4.4 / 5.0	7.7 / 9.2	12.4 / 14.2	21.3 / 26.8	30.1 / 37.9	11.0
M17/128-RG400	50	29.4	1900	4.3 / 4.5	8.6 / 10.5	14.1 / 18.1	22.6 / 30.2	35.6 / 52.1	61.6 / 78.0	12.4
M17/131-RG403	50	29.4	1000		33.3 / 37.0					10.0
M17/152-00001	50	29.4	1200	8.1 / 11.5	17.8 / 24.0	29.6 / 40.0	43.1 / 58.3	100.0 / 110.0	153.0 / 170.0	12.4
M17/158-00001	50	29.4	1900		8.1 / 9.5					
M17/169-00001	50	29.4	1000		27.2 / 29.0					
M17/170-00001	50	29.4	1900		7.7 / 8.6					
M17/172-00001	50	29.4	1200		15.5 / 21.0					
M17/174-00001	50	29.4	2500		4.4 / 5.0					
M17/175-00001	50	29.4	1900		8.6 / 10.5					
M17/176-00002	77	19.0	1000							
RG187 A/U	75	19.4	1200		15.5 / 21.0					
RG188 A/U	50	29.4	1200	7.6 / 11.0	16.0 / 21.0	26.2 / 38.0	41.2 / 55.4			3.0
RG195 A/U	95	17.4	1500		11.7 / 17.4					
RG196 A/U	50	29.4	1000	13.0 / 16.0	27.2 / 33.0	44.2 / 52.0	41.7 / 56.1			3.0