Cable Fire Ratings Matrix Continued

for coax cables

RG type 50 Ohm	Part No.	Page No.	AWM Rating	Permissable Substitutions per NEC																			Permissable Substitutions per CEC		
				CMP	CMR	CM/ CMG	CMX	CL2P	CL3P	CL2R	CL3R	CL2	CL3	CL2X	CL3X	FPLP	FPLR	FPL	CATVP	CATVR	CATV	CATVX	CMP	CMR/ CMG	CM/ CMH
RG58	2100V	139		X												*	*	*					X		
	2104V	139		X												*	*	*					X		
	3104	139			X												*	*						X	
	3130	139				X												*							X
	3135	139				X												*							X
	3136	139		PE Jacketed For Direct Burial Applications																					
	3139	139				X												*							X
RG8	3247	140										X													
	3249	140	1354									X													
	7815	140		PE Jacketed For Direct Burial Applications																					
RG213	7713	140	1354									X													
RG214	7714	141	1354									X													
Other (Ethernet)	2280K	141		X												*	*	*					X		
Wireless WAN	0623	143			X												*	*						X	
	0624	143			X												*	*						X	
	0668	143			X												*	*						X	
	0669	143			X												*	*						X	
	0670	143			X												*	*						X	
VSAT Types I, II, III 50Ω Plenum	2125K	128		X																			X		
	2426K	128		X																			X		
	2427K	128		X																			X		
VSAT Types I, II, III 50Ω Non-Plenum	7725	129		PE Jacketed For Direct Burial Applications																					
	7726	129		X																			X		
	3222	129		PE Jacketed For Direct Burial Applications																					
	3226	129																							
	3228	129				X																			X
	3227	129		PE Jacketed For Direct Burial Applications																					
	3229	129				X																		X	

Coax

Data Applications

50Ω Coax Cables, RG58 Type

Part Number Safety Rating	Conductor Size & Type Nom DCR kft / km	Dielectric Type Nom OD in / mm	Shields Type & Coverage Nom DCR kft / km	Jacket Type & Thickness in / mm	Cable Color & Dimensions in / mm.	Nominal Capacitance pF/ft	Nominal Capacitance pF/m	Nom Vel. of Prop.	Nom Imp.	Nominal Attenuation MHz	Nominal Attenuation dB/100′	Nominal Attenuation dB/100m
2100V IEEE 802.3 Thinnet Plenumax NEC CMP CEC CMP	20 AWG Solid BC 10.5Ω/34.4Ω	Solid FEP .107/2.71	95% TC braid 4.0Ω/13.1Ω	CommFlex(V) .015/.38	White .163/4.1	27.0	88.6	69.5%	50Ω	1 10 50 100 200 400 700 900 1000	0.41 1.30 3.10 4.10 6.20 9.50 13.70 14.50 15.50	1.35 4.27 10.17 13.45 20.34 31.17 44.95 47.57 50.86
2104V DEC 17-01246 Plenumax NEC CMP CEC CMP	20 AWG Stranded TC (19x32) 10.2Ω/33.5Ω	Foam FEP .101/2.57	AL foil and 95% TC braid 4.2Ω/13.9Ω	CommFlex(V) .014/.36	White .161/4.1	27.0	88.6	78%	50Ω	1 10 50 100 200 400 700 900 1000	0.43 1.40 3.13 4.43 6.26 8.85 11.71 13.28 14.00	1.41 4.59 10.27 14.53 20.53 29.01 38.41 43.56 45.92
3104 DEC 17-01248 NEC CMR CEC CMG	20 AWG Stranded TC (19x32) 10.2Ω/33.3Ω	Foam PE .101/2.57	AL foil and 93% TC braid 4.2Ω/13.9Ω	Flame-retardant PVC .026/.66	White .183/4.6	25.0	82.0	78%	50Ω	5 10 50 100 200 400 700 900 1000	0.99 1.30 2.90 4.20 6.10 8.90 12.10 13.90 14.80	3.24 4.26 9.51 13.78 20.00 29.19 39.69 45.59 48.54
3130 IEEE 802.3 Thinnet NEC CM CEC CMH	20 AWG Solid BC 10.5Ω/34.4Ω	Solid PE .116/2.95	95% TC braid 4.1Ω/13.5Ω	Flame-retardant PVC .030/.76	Black .195/4.9	28.5	93.5	66%	50Ω	1 10 50 100 200 400 700 900 1000	0.44 1.42 3.10 4.50 6.80 10.00 14.00 16.00 17.00	1.44 4.67 10.17 14.76 22.31 32.81 45.93 52.50 55.78
3135 IEEE 802.3 Thinnet NEC CM CEC CMH	21 AWG Stranded TC (19x33) 10Ω/32.8Ω	Solid PE .116/2.95	95% TC braid 4.1Ω/13.5Ω	Flame-retardant PVC .030/.76	Black .195/4.9	30.5	100.0	66%	50Ω	1 10 50 100 200 400 700 900 1000	0.64 1.55 4.54 4.90 9.09 11.50 17.00 20.00 21.50	2.11 5.08 14.91 16.08 29.81 37.73 55.73 65.62 70.54
3136 IEEE 802.3 Thinnet Burial Outdoor	20 AWG Stranded TC (19x33) 10Ω/32.8Ω	Solid PE .116/2.95	95% TC braid 4.1Ω/13.5Ω	PE with Floodant .027/.69	Black .195/4.9	30.5	100.0	66%	50Ω	1 10 50 100 200 400 700 900 1000	0.64 1.55 4.54 4.90 9.09 11.50 17.00 20.00 21.50	2.11 5.08 14.91 16.08 29.81 37.73 55.73 65.62 70.52
3139 IEEE 802.3 Thinnet NEC CM CEC CMH	20 AWG Stranded TC (19x32) 8.6Ω/28.3Ω	Foam PE .114/2.90	95% TC braid 4.1Ω/13.5Ω	Flame-retardant PVC .030/.76	Black .195/4.9	26.0	85.3	78%	50Ω	1 10 50 100 200 400 700 900 1000	0.45 1.42 3.20 4.50 6.40 9.00 12.00 13.80 14.50	1.48 4.67 10.50 14.76 21.00 29.53 39.37 45.28 47.57

Specifications subject to change without notice.
Plenumax is a trademark for CommScope plenum products.

Data Applications

50Ω Coax Cables, RG8 Type

Part Number Safety Rating	Conductor Size & Type Nom DCR kft / km	Dielectric Type Nom OD in / mm	Shields Type & Coverage Nom DCR kft / km	Jacket Type & Thickness in / mm	Cable Color & Dimensions in / mm.	Nominal Capacitance pF/ft	Nominal Capacitance pF/m	Nom Vel. of Prop.	Nom Imp.	Nominal Attenuation MHz	Nominal Attenuation dB/100′	Nominal Attenuation dB/100m
3247 NEC CL2	13 AWG Stranded BC (7x21) 1.8Ω/6.1Ω	Solid PE .285/7.24	AL foil and 96% TC braid 1.2Ω/3.9Ω	Flame-retardant PVC .045/1.1	Black .410/10.4	29.5	96.8	66%	50Ω	1 10 50 100 200 400 700 900 1000	0.23 0.55 1.60 2.20 3.20 4.70 6.90 8.00 8.90	0.74 1.80 5.25 7.22 10.50 15.42 22.64 26.25 29.20
3249 Appliance AWM 1354	13 AWG Stranded BC (7x21) 1.87Ω/6.1Ω	Solid PE .285/7.24	AL foil and 96% TC braid 1.2Ω/3.9Ω	PVC .045/1.1	Black .405/10.3	29.5	96.8	66%	50Ω			
7815 Triaxial Outdoor/Flooded	11 AWG Stranded BC (7x19) 1.2Ω/3.9Ω	Foam PE .285/7.24	Inner: 95% BC braid 1.1Ω/3.6Ω Outer: 95% BC braid 2.1Ω/6.9Ω	Inner: PE .030/.76 Outer: PE with Floodant .030/.76	Black .480/12.2	26.0	85.3	78%	50Ω	1 10 50 100 200 400 700 900 1000	0.17 0.57 1.20 1.80 2.70 4.20 5.80 6.70 7.10	0.56 1.87 3.94 5.91 8.86 13.78 19.03 21.98 23.30

Specifications subject to change without notice.

Coax

Data Applications

50Ω Coax Cables, RG213 Type

Part Number Safety Rating	Conductor Size & Type Nom DCR kft / km	Dielectric Type Nom OD in / mm	Shields Type & Coverage Nom DCR kft / km	Jacket Type & Thickness in / mm	Cable Color & Dimensions in / mm.	Nominal Capacitance pF/ft	Nominal Capacitance pF/m	Nom Vel. of Prop.	Nom Imp.	Nominal Attenuation MHz	Nominal Attenuation dB/100′	Nominal Attenuation dB/100m
7713 Appliance AWM 1354	13 AWG Stranded BC (7x21) 2.0Ω/6.6Ω	Solid PE .285/7.24	95% BC braid 1.2Ω/3.9Ω	Flame-retardant PVC .045/1.1	Black .405/10.3	30.8	101.0	66%	50Ω	1 10 50 100 200 400 700 900 1000	0.18 0.62 1.50 2.10 3.00 4.80 6.50 7.60 9.20	0.59 2.03 4.92 6.89 9.84 15.75 21.33 24.94 30.18

Specifications subject to change without notice.

Cable Fire Ratings Matrix Continued

for coax cables

RG type 93 Ohm	Part No.	Page No.	AWM Rating	Permissable Substitutions per NEC																			Permissable Substitutions per CEC		
				CMP	CMR	CM/ CMG	CMX	CL2P	CL3P	CL2R	CL3R	CL2	CL3	CL2X	CL3X	FPLP	FPLR	FPL	CATVP	CATVR	CATV	CATVX	CMP	CMR/ CMG	CM/ CMH
RG62	2249V	142		X												*	*	*					X		
	2250V	142		X												*	*	*					X		
	6609	142	1478									X													

RG type 100 Ohm	Part No.	Page No.	AWM Rating	Permissable Substitutions per NEC																			Permissable Substitutions per CEC		
				CMP	CMR	CM/ CMG	CMX	CL2P	CL3P	CL2R	CL3R	CL2	CL3	CL2X	CL3X	FPLP	FPLR	FPL	CATVP	CATVR	CATV	CATVX	CMP	CMR/ CMG	CM/ CMH
Twinax	2291K	142		X												*	*	*					X		
	7901	142										X													

X Denotes primary rating

* May be substituted with restrictions (see NEC 760-51).

Coax

Cable Construction
components and abbreviation key

Center Conductor

Conductors in coaxial cable are either solid or stranded wire. Solid conductors are described by their diameter and material (i.e. 18 AWG Solid TC) while stranded conductors include their stranding (i.e. 20 AWG (19x32 AWG) Strand TC).

BC - Bare Copper
SC - Silvered Copper
TC - Tinned Copper
CCA - Copper Clad Aluminum
CCS - Copper Covered Steel

Dielectric

Most CommScope coaxial cables have foamed (or cellular) dielectrics for better velocity of propagation characteristics. Different materials are used to meet electrical and fire-safety performance.

Foam PE - Foamed Polyethylene
Solid PE - Solid Polyethylene
Foam FEP - Foamed Fluorinated Ethylene Propylene (generic or Teflon® brand)
Solid FEP - Solid Fluorinated Ethylene Propylene
AD/PE - Air Dielectric created with a Polyethylene filament

Shields

Coaxial shields (also called the outer conductor) come in several varieties. Two types of coverage are: **Foil**, where aluminum is bonded to both sides of a polypropylene or polyester tape to provide 100% coverage and **Braid** where flexible wire is woven around the dielectric. Braid coverage designation is given as a percentage followed by a two letter code representing the material of the braid (i.e. 96% TC braid would be 96% coverage of a Tin Copper braid).

ALS - Aluminum sheath
AL - Aluminum braid
BC - Bare Copper braid
SC - Silver Copper braid
TC - Tin Copper braid

Jackets

Jacket material may vary depending on application. Plenum-rated cables provide superior fire safety, while flame-retardant PVC are used in riser, general purpose and residential situations. Outdoor cables (especially those meant for burial) are usually sheathed in polyethylene.

K - Kynar™ Polyvinylidene Fluoride (PVDF - used in plenum cables)
V - CommFlex, our proprietary jacketing compound (used in plenum cables)
PE - Polyethylene (Direct Burial Applications)
PVC - Polyvinylchloride

Teflon is a registered trademark of E.I. Dupont de Nemours and Co.