



5/8"

STANDARD

Cable type : 5168

Reference : EC4.5-50-WB

Cable with standard UV resistant PE jacket,
halogen free according to IEC 60754

CHARACTERISTICS

Construction

• Inner conductor	
Material	smooth copper tube
Diameter (mm) (in)	7.04 (0.28)
• Dielectric	
Material	gas-injected cellular polyethylene
Diameter (mm) (in)	17.8 (0.7)
• Outer conductor	
Material	corrugated copper tube
Diameter (mm) (in)	19.7 (0.78)
• Outer sheath	
Thickness (mm) (in)	1.1 (0.04)
Diameter (mm) (in)	21.9 (0.86)

Mechanical characteristics

• Minimum bending radius	
a) single bending (cm) (in)	10 (3.9)
b) 15 repeated bends (cm) (in)	20 (7.9)
• Maximum pulling strength (daN) (lb)	120 (270)
• Recommended temperature range	
- Storage	-70 to +85 °C (-94 to +185 °F)
- Installation	-40 to +60 °C (-40 to +140 °F)
- Operation	-55 to +85 °C (-67 to +185 °F)
• Max. length per hoisting grip (m) (ft)	70 (230)
• Maximum hanger spacing (m) (ft)	1.2 (3.9)
• Flat plate crush res. (kg/mm) (lb/in)	1.5 (87)
• Bending moment (Nm) (lb-ft)	6 (4.4)
• Approximate weight (kg/km) (lb/ft)	345 (0.234)

VSWR characteristics

• VSWR_{max}	600 - 1000 MHz	< 1.15
• VSWR_{max}	1700 - 2700 MHz	< 1.15
• VSWR_{max}	3400 - 3800 MHz	< 1.25
• VSWR^[5]_{max}	5150 - 5925 MHz	< 1.25

[1] The attenuation can be approximated by the formula:

$$\alpha(f[\text{MHz}]) = A \cdot \sqrt{f[\text{MHz}]} + B \cdot f[\text{MHz}] \quad (\text{dB}/100\text{m})$$

A = 0.145
B = 0.000465



Electrical characteristics

• Characteristic impedance (Ω)	50 ± 1
• Nominal capacity (pF/m) (pF/ft)	76 (23.2)
• Relative propagation velocity (%)	88
• Inductance (μH/m) (μH/ft)	0.189 (0.058)
• DC-resistance at 20°C (68°F)	
- inner conductor (Ω/km) (Ω/1000ft)	1.88 (0.57)
- outer conductor (Ω/km) (Ω/1000ft)	1.28 (0.39)
• RF peak voltage (kV)	2.5
• RF peak power (kW)	62
• Cut-off-frequency (GHz)	6.5
• Insulation resistance (MΩ.km)	>> 5000
• Attenuation^[1] and power rating	

Frequency (MHz)	Attenuation at 20°C (68° F) ^[2]		Mean power rating ^[3] (kW)
	(dB/100m)	(dB/100ft)	
10	0.46	0.140	16.17
20	0.66	0.201	11.38
30	0.81	0.247	9.27
80	1.33	0.405	5.61
100	1.50	0.457	5.00
150	1.85	0.564	4.06
200	2.14	0.652	3.49
300	2.65	0.808	2.82
400	3.09	0.942	2.43
450	3.29	1.003	2.28
500	3.47	1.058	2.16
600	3.83	1.168	1.95
700	4.16	1.268	1.80
800	4.47	1.363	1.67
894	4.75	1.448	1.58
960	4.94	1.506	1.52
1000	5.05	1.540	1.48
1500	6.31	1.924	1.19
1700	6.77	2.064	1.11
1800	6.99	2.131	1.07
1880	7.16	2.183	1.05
2000	7.41	2.259	1.01
2170	7.76	2.366	0.96
2200	7.82	2.384	0.96
2300	8.02	2.445	0.93
2400	8.22	2.506	0.91
2500	8.41	2.564	0.89
2700	8.79	2.680	0.85
3000	9.3	2.85	0.80
4000	11.0	3.36	0.68
6000	14.0	4.27	0.53

[2] Nominal values

[3] Ambient temperature = 40°C (104°F); temperature of inner conductor = 100°C (212°F);

VSWR = 1.0; no solar loading

[4] Maximum VSWR value for 5000 to 6000 MHz for lengths up to 20 meters