EC 400 Plus

Flexible 50 Ohms low loss coaxial cable
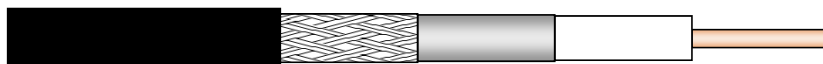
CHARACTERISTICS

Construction

• Inner conductor

Material	**copper clad aluminium wire**
Construction	**-**
Diameter *(mm)*	**2.7**

• Dielectric

Material	**gas-injected cellular polyethylene**
Diameter *(mm)*	**7.25**

• Outer conductor

Tape	**luminium tape, bonded to the dielectric**
Diameter over tape *(mm)*	**7.35**
Braid	**tinned copper braid**
Diameter over braid *(mm)*	**8.0**

• Outer sheath

Material	**black polyethylene**
Thickness *(mm)*	**1.1**
Diameter *(mm)*	**10.2**

Mechanical characteristics

• Minimum bending radius

a) single bending *(cm)*	**2.5**
b) 15 repeated bends *(cm)*	**5**
• Maximum pulling strength *(daN)*	**30**

• Recommended temperature range

- Storage	**-70 to +85 °C**
- Installation	**-40 to +60 °C**
- Operation	**-55 to +85 °C**
• Weight *(kg/km)*	**90**

Electrical characteristics

• Characteristic impedance *(Ω)*	**50 ± 2**
• Nominal capacity *(pF/m)*	**78.5**
• Relative propagation velocity *(%)*	**85**
• Inductance *(µH/m)*	**0.196**
• DC-resistance at 20°C	
- inner conductor *(Ω/km)*	**4.56**
- outer conductor *(Ω/km)*	**6.4**
• RF peak voltage *(kV)*	**1.0**
• RF peak power *(kW)*	**10**
• Cut-off-frequency *(GHz)*	**16**
• Insulation resistance *(MΩ.km)*	**>> 5000**
• Screening attenuation *(dB)*	**> 90**

• Attenuation[1] and power rating

Frequency	Attenuation at 20°C [2]	Mean power rating [3]
(MHz)	*(dB/100m)*	*(kW)*
10	1.3	5.05
20	1.8	3.56
30	2.2	2.90
80	3.7	1.76
100	4.1	1.57
150	5.1	1.28
200	5.9	1.10
300	7.2	0.90
400	8.4	0.77
450	8.9	0.73
500	9.4	0.69
600	10.3	0.62
700	11.2	0.58
800	12.0	0.54
894	12.8	0.51
960	13.2	0.49
1000	13.5	0.48
1500	16.8	0.38
1700	18.0	0.36
1800	18.5	0.35
1880	19.0	0.34
2000	19.6	0.33
2170	20.5	0.31
2200	20.7	0.31
2300	21.2	0.31
2400	21.7	0.30
2500	22.2	0.29
3000	24.5	0.26

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

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

A = 0.402
B = 0.00082

[2] Nominal values
[3] Ambient temperature = 40°C; temperature of inner conductor = 100°C;
VSWR = 1.0; no solar loading