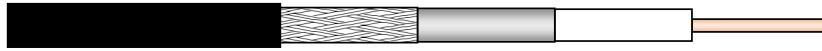




# EC 400-HLFR

Flexible flame retardant 50 Ohms low loss coaxial cable



Cable with UV resistant, halogen free, low smoke, flame retardant jacket according to IEC 60754, 60332-1, IEC 60332-3-25 (Cat. D), IEC 61034.

Reaction to fire according to EN 60332-1-2 Eca

Compliant to EN 50575

## CHARACTERISTICS

### Construction

<b>• Inner conductor</b>	
Material	<b>copper clad aluminium wire</b>
Construction	-
Diameter (mm)	<b>2.7</b>
<b>• Dielectric</b>	
Material	<b>gas-injected cellular polyethylene</b>
Diameter (mm)	<b>7.25</b>
<b>• Outer conductor</b>	
Tape	<b>aluminium tape, bonded to the dielectric</b>
Diameter over tape (mm)	<b>7.35</b>
Braid	<b>tinned copper braid</b>
Diameter over braid (mm)	<b>8.0</b>
<b>• Outer sheath</b>	
Material	<b>black</b>
Thickness (mm)	<b>1.1</b>
Diameter (mm)	<b>10.2</b>

### Mechanical characteristics

<b>• Minimum bending radius</b>	
a) single bending (cm)	<b>2.5</b>
b) 15 repeated bends (cm)	<b>5</b>
<b>• Maximum pulling strength (daN)</b>	
	<b>30</b>
<b>• Recommended temperature range</b>	
- Storage	<b>-70 to +85 °C</b>
- Installation	<b>-40 to +60 °C</b>
- Operation	<b>-55 to +85 °C</b>
<b>• Weight (kg/km)</b>	
	<b>103</b>

### Electrical characteristics

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

#### • Attenuation<sup>[1]</sup> and power rating

Frequency (MHz)	Attenuation at 20°C <sup>[2]</sup> (dB/100m)	Mean power rating <sup>[3]</sup> (kW)
10	1.28	5.05
20	1.81	3.56
30	2.23	2.90
80	3.66	1.76
100	4.10	1.57
150	5.05	1.28
200	5.85	1.10
300	7.21	0.90
400	8.37	0.77
450	8.90	0.73
500	9.40	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
4000	28.7	0.22
4800	31.8	0.20
5800	35.4	0.18

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

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

$$A = 0.402$$

$$B = 0.00082$$

[2] Nominal values

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