

## Ultra Low Loss



### STANDARD

# 5438 A

Cable type : **5438 A**  
Reference : **EC7-50-A**

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

### FLAME RETARDANT

# HLFR

Cable type : **5438-A-HLFR**  
Reference : **EC7-50-A-FR**

Cable with UV resistant, halogen free, low smoke, flame retardant jacket according to IEC 60754-2, IEC 60332-1-2, IEC 60332-3 Cat. C and IEC 61034-1+2

## CHARACTERISTICS

### Construction

- **Inner conductor**
  - Material corrugated copper tube
  - Diameter (mm) 17.7
- **Dielectric**
  - Material gas-injected cellular polyethylene
  - Diameter (mm) 43.0
- **Outer conductor**
  - Material corrugated copper tube
  - Diameter (mm) 46.6
- **Jacket**
  - Material black polyethylene
  - Thickness (mm) 1.7
  - Diameter (mm) 50.0

### Mechanical

- **Minimum bending radius**
  - a) single bending (cm) 20
  - b) 15 repeated bends (cm) 40
- **Maximum pulling strength** (daN) 250
- **Recommended temperature range**
  - Storage -70 to +85°C
  - Installation -40 to +60°C
  - Operation -55 to +85°C
- **Maximum length per hoisting grip** (m) 70
- **Maximum hanger spacing** 1.5
- **Flat plate crush resistance** (kg/mm) 2.6
- **Bending moment** (Nm) 45
- **Weight** (kg/km) 1130

[1] a = 0.061  
b = 0.000359  
 $\alpha(f) = a \cdot \sqrt{f} + b \cdot f$  [dB/100m]

### Electrical

- **Characteristic impedance** ( $\Omega$ ) 50  $\pm$ 1
- **Nominal capacity** (pF/m) 75
- **Relative propagation velocity** (%) 89
- **Inductance** ( $\mu$ H/m) 0.190
- **DC-resistance at 20°C**
  - inner conductor ( $\Omega$ /km) 1.37
  - outer conductor ( $\Omega$ /km) 0.39
- **RF peak voltage** (kV) 5.5
- **RF peak power** (kW) 302
- **Cut-off-frequency** (GHz) 2.7
- **Insulation resistance** (M $\Omega$ .km) >>5000

Frequency (MHz)	Attenuation at 20°C(*) (dB/100m)	Mean power rating(**) (kW)
10	0.20	51.53
20	0.28	36.17
30	0.34	29.36
80	0.57	17.63
100	0.65	15.68
150	0.80	12.64
200	0.93	10.84
300	1.16	8.70
400	1.36	7.43
450	1.46	6.96
500	1.54	6.56
600	1.71	5.92
700	1.87	5.43
800	2.01	5.03
894	2.14	4.72
960	2.23	4.53
1000	2.29	4.43
1500	2.90	3.49
1700	3.13	3.24
1800	3.23	3.13
1880	3.32	3.05
2000	3.45	2.94
2170	3.62	2.80
2200	3.65	2.77
2300	3.75	2.70
2400	3.85	2.63
2500	3.95	2.57
3000	-	-
4000	-	-
6000	-	-

(\*) nominal values

(\*\*) Ambient temperature = 40°C; Temperature of inner conductor = 100°C; VSWR = 1.0; no solar loading