



# DATA SHEET

## EC4-50-HF Cable & Connectors

Kabelwerk

**EUPEN** AG

Rev: 11/2013

cable

# EC4-50-HF 1/2" HiFlex Foam-Dielectric Coaxial Cable

## CABLE

### Construction

- **Inner conductor**
  - Material copper clad aluminum
  - Diameter, in (mm) 0.140 (3.6)
- **Dielectric**
  - Material gas-injected cellular polyethylene
  - Diameter, in (mm) 0.354 (9.0)
- **Outer conductor**
  - Material corrugated copper tube
  - Diameter, in (mm) 0.480 (12.2)
- **Outer sheath**
  - Material black polyethylene
  - Thickness, in (mm) 0.028 (0.7)
  - Diameter, in (mm) 0.535 (13.6)

### Mechanical Characteristics

- **Minimum bending radius**
  - a) Single bending, in (cm) 1.2 (3.0)
  - b) 15 repeated bends, in (cm) 1.2 (3.0)
- **Maximum pulling strength, lb (daN)** 152 (68)
- **Recommended temperature range**
  - Storage -94 to +185°F (-70 to +85°C)
  - Installation -40 to +140°F (-40 to +60°C)
  - Operation -67 to +185°F (-55 to +85°C)
- **Maximum length per hoisting grip ft (m)** 230 (70)
- **Maximum hanger spacing, ft (m)** 1.64 (0.5)
- **Flat plate crush resistance, lb/in (kg/mm)** 134 (2.4)
- **Bending moment, lb/ft (Nm)** 1.6 (2.2)
- **Weight, lb/ft (kg/m)** 0.13 (0.19)

### Electrical Characteristics

- **Characteristic impedance, (Ω)** 50 ± 1
- **Nominal capacity, pF/ft (pF/m)** 25.0 (82)
- **Relative propagation velocity, %** 82
- **Inductance, μH/ft (μH/m)** 0.062 (0.20)
- **DC-resistance at 20°C**
  - inner conductor Ω/1000 ft (Ω/km) 0.81 (2.66)
  - outer conductor Ω/1000 ft (Ω/km) 0.99 (3.25)
- **RF peak voltage, (kV)** 1.1
- **RF peak power, (kW)** 12.8
- **Cut-off frequency, (GHz)** 13.2
- **Insulation resistance, (MΩ/km)** >>5000
- **Attenuation and power rating**

Frequency (MHz)	Attenuation at 68°F (20°C) *		Mean power rating ** (kW)
	(dB/100ft)	(dB/100 m)	
10	0.31	1.01	9.45
20	0.44	1.43	6.66
30	0.54	1.76	5.43
80	0.88	2.89	3.30
100	0.99	3.24	2.94
150	1.21	3.98	2.39
200	1.41	4.62	2.06
300	1.73	5.69	1.67
400	2.02	6.61	1.44
450	2.14	7.03	1.36
500	2.27	7.43	1.28
600	2.49	8.17	1.17
700	2.70	8.86	1.08
800	2.90	9.51	1.00
894	3.08	10.09	0.95
960	3.19	10.47	0.91
1000	3.26	10.70	0.89
1500	4.05	13.30	0.72
1700	4.34	14.23	0.67
1800	4.47	14.67	0.65
1880	4.58	15.02	0.63
2000	4.74	15.54	0.61
2170	4.95	16.24	0.59
2200	4.99	16.36	0.58
2300	5.11	16.77	0.57
2400	5.23	17.16	0.56
2500	5.35	17.55	0.54
2700	5.58	18.31	0.52
3000	5.91	19.40	0.49
4000	6.94	22.77	0.42
6000	8.73	28.63	0.33

## CONNECTORS

### Electrical

- **Nominal impedance, (Ω)** 50
- **Return loss @ 2.5 GHz, (dB)** -35
- **3rd order intermodulation product, (dBc)** -155
- **Temperature range** -40°F to +140°F (-40°C to +60°C)
- **Water immersion testing** IP67 & IP68
- **Materials**
  - External parts Passivated silver plated or electroless nickel plated brass
- **Outer contact** Passivated silver plated brass
- **Inner contact** Passivated silver plated Cu-Be
- **Dielectric** TXP / PTFE
- **O-rings** Silicone rubber

### Ordering Information ( Call customer service for availability)

- **N-male** NM50B12X
- **N-male, right angle** NM50BL12X
- **N-female** NF50B12X
- **7/16 DIN male** 7/16M50B12X
- **7/16 DIN male, right angle** 7/16M50BL12X
- **7/16 DIN female** 7/16F50B12X
- **Cable preparation tool** SPTC50B12X
- **Cable preparation tool right angle connectors** SPTC50BL12X

\* Nominal values

\*\* Ambient temperature = 104°F; temperature of inner conductor = 212°F; VSWR = 1.0; no solar loading

