



# DATA SHEET

## Elliptical Waveguide

Kabelwerk

**EUPEN** AG

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cable

# EU 90

## CHARACTERISTICS

### Construction

- **Construction**
  - Description **Elliptical corrugated copper tube**
- **Jacket**
  - Material **UV resistant, black polyethylene**
  - Thickness, *mm (in)* **1.3 (0.05)**
- **Dimensions**
  - Outer dimensions, *mm (in)* **32.8 x 19.7 (1.29 x 0.78)**

### Mechanical characteristics

- **Minimum bending radius, without rebending**
  - E plane, *mm (in)* **150 (5.9)**
  - H plane, *mm (in)* **300 (11.8)**
- **Minimum bending radius, with rebending**
  - E plane, *mm (in)* **200 (7.9)**
  - H plane, *mm (in)* **500 (19.7)**
- **Min. drum core diameter, *mm (in)*** **1200 (47)**
- **Maximum operating pressure, *bar (psi)*** **0.5 (7.3)**
- **Max. pulling length per hoisting grip, *m (ft)*** **60 (197)**
- **Recommended temperature range**
  - Installation, °C (°F) **-20 to +60 (-4 to +140)**
  - Operation, °C (°F) **-40 to +80 (-40 to +176)**
- **Weight, *kg/m (lb/ft)*** **0.5 (0.34)**

### Electrical characteristics

- **Frequency range, GHz** **8.5 - 11.7**
- **HEC<sub>11</sub> Mode cutoff frequency, GHz** **6.75**
- **Attenuation, group velocity of propagation, power**

Frequency <i>GHz</i>	Attenuation <sup>[1]</sup> <i>dB/100m (dB/100ft)</i>	Group velocity <i>%</i>	Av. Power <sup>[2]</sup> <i>kW</i>
8.5	12.01 (3.66)	60.8	1.33
8.6	11.78 (3.59)	62.0	1.35
8.7	11.57 (3.53)	63.1	1.38
8.8	11.38 (3.47)	64.2	1.40
8.9	11.20 (3.41)	65.2	1.42
9.0	11.04 (3.36)	66.1	1.44
9.1	10.88 (3.32)	67.1	1.46
9.2	10.74 (3.27)	67.9	1.48
9.3	10.61 (3.23)	68.8	1.50
9.4	10.49 (3.20)	69.6	1.52
9.5	10.37 (3.16)	70.4	1.53
9.6	10.27 (3.13)	71.1	1.55
9.7	10.16 (3.10)	71.8	1.57
9.8	10.07 (3.07)	72.5	1.58
9.9	9.98 (3.04)	73.2	1.60
10.0	9.89 (3.02)	73.8	1.61
10.1	9.81 (2.99)	74.4	1.62
10.3	9.66 (2.95)	75.5	1.65
10.5	9.53 (2.90)	76.6	1.67
10.7	9.41 (2.87)	77.6	1.69
10.9	9.30 (2.83)	78.5	1.71
11.1	9.20 (2.80)	79.4	1.73
11.3	9.10 (2.77)	80.2	1.75
11.5	9.02 (2.75)	81.0	1.77
11.7	8.94 (2.72)	81.7	1.78

[1] Attenuation at 20°C (68°F)

[2] Average power ratings based on VSWR 1.0, 82°C (180 °F) inner temperature, 40°C (104 °F) ambient temperature.

