



DATA SHEET

Elliptical Waveguide

Kabelwerk

EUPEN AG

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cable

EU 77

CHARACTERISTICS

Construction

- **Construction**
 - Description **Elliptical corrugated copper tube**
- **Jacket**
 - Material **UV resistant, black polyethylene**
 - Thickness, *mm (in)* **1.4 (0.06)**
- **Dimensions**
 - Outer dimensions, *mm (in)* **43.7 x 25.5 (1.72 x 1.00)**

Mechanical characteristics

- **Minimum bending radius, without rebending**
 - E plane, *mm (in)* **200 (7.9)**
 - H plane, *mm (in)* **500 (19.7)**
- **Minimum bending radius, with rebending**
 - E plane, *mm (in)* **250 (9.8)**
 - H plane, *mm (in)* **600 (23.6)**
- **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)*** **0.7 (0.47)**

Electrical characteristics

- **Frequency range, GHz** **7.125 - 8.5**
- **HE_{C11} Mode cutoff frequency, GHz** **5.0**
- **Attenuation, group velocity of propagation, power**

Frequency GHz	Attenuation ^[1] dB/100m (dB/100ft)	Group velocity %	Av. Power ^[2] kW
7.1	6.65 (2.03)	71.0	2.88
7.2	6.56 (2.00)	72.0	2.92
7.3	6.48 (1.97)	72.9	2.96
7.4	6.40 (1.95)	73.7	2.99
7.5	6.33 (1.93)	74.5	3.03
7.6	6.27 (1.91)	75.3	3.06
7.7	6.21 (1.89)	76.0	3.09
7.8	6.15 (1.87)	76.8	3.12
7.9	6.10 (1.86)	77.4	3.14
8.0	6.05 (1.84)	78.1	3.17
8.1	6.00 (1.83)	78.7	3.20
8.2	5.96 (1.82)	79.3	3.22
8.3	5.91 (1.80)	79.8	3.24
8.4	5.87 (1.79)	80.4	3.26
8.5	5.84 (1.78)	80.9	3.28

[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.

