



FLEXWELL® elliptical waveguide is constructed of longitudinally continuous seam welded, highly conductive copper tube, corrugated and precision formed into an elliptical cross section. It is manufactured in continuous lengths using a special seam welding process.

The corrugation design achieves high transverse stability, flexibility and crush strength for superior handling and forming at an installation. The inherent strength and flexibility of FLEXWELL® waveguide allows on location, a continuous length of waveguide to be run directly from a tower-mounted antenna to the equipment building.

A FLEXWELL® elliptical waveguide feeder requires less planning and reduces installation costs when compared to a feeder system using a rigid rectangular waveguide.

FLEXWELL® waveguide is available cut to length with factory attached connectors or in continuous lengths for termination in the field.

FEATURES / BENEFITS

- Designed for optimum system performance
- Excellent electrical performance
- Low loss and low VSWR (low return loss)
- Electrical test made on every waveguide during manufacturing
- Every waveguide passes pressure test
- Reduced installation cost and time compared to using rigid rectangular waveguides
- No need of flange joints, twist section and bends
- Easy transportation in coils or on drums
- Cutting at exact length and connectorizing in the field or in the factory



Technical features

GENERAL SPECIFICATIONS

| | | |
|-------------|--|---|
| Performance | | Standard (STD) or Premium (PREM) to be selected when ordering |
| Jacket | | J (Black Polyethylene, PE) by default, JFN (Black fire redartant) on request |

ELECTRICAL SPECIFICATIONS

| | | |
|-------------------------|-----|--|
| Typical Operating Band | GHz | 5.9 - 7.125 |
| Max. VSWR / Return Loss | dB | 1.062 / 30.5 Premium Performance (suggest to use with tunable or pre-tuned connectors to achieve optimal system performance) 1.15 / 23.1 Standard Performance |
| Cut-off Frequency | GHz | 4.01 |



MECHANICAL SPECIFICATIONS

| | | |
|---|----------------------|---------------------|
| Dimension over Jacket | mm (in) | 51 x 30 (2.0 x 1.2) |
| Weight | kg/m (lb/ft) | 0.75 (0.5) |
| Minimum Bending Radius E Plane, Single Bend | mm (in) | 200 (8) |
| Minimum Bending Radius H Plane, Single Bend | mm (in) | 500 (20) |
| Minimum Bending Radius E Plane, Repeated Bends | mm (in) | 300 (12) |
| Minimum Bending Radius H Plane, Repeated Bends | mm (in) | 600 (24) |
| Maximum Twist | degree/m (degree/ft) | 5 (1.5) |
| Max. Operating Pressure | bar (psi) | 0.5 (7) |
| Max. Pulling Length per Hoisting Grip | m (ft) | 100 (305) |
| Standard Hanger Spacing | m (ft) | 0.9 (3) |

TEMPERATURE SPECIFICATIONS

| | | |
|---------------------------------|---------|-------------------------|
| Installation Temperature | °C (°F) | -40 to 60 (-40 to 140) |
| Storage Temperature | °C (°F) | -70 to 85 (-94 to 185) |
| Operation Temperature | °C (°F) | -50 to 85 (-58 to 185) |

ATTENUATION AND POWER RATING

| Frequency (GHz) | Attenuation dB/100m | Attenuation dB/100ft | Average Power (KW) | Group velocity (%c) | Group Delay (ns/100m) | Group Delay (ns/100ft) |
|-----------------|---------------------|----------------------|--------------------|---------------------|-----------------------|------------------------|
| 5.9 | 4.92 | 1.50 | 4.82 | 73.4 | 454.7 | 138.6 |
| 6 | 4.84 | 1.47 | 4.90 | 74.4 | 448.4 | 136.7 |
| 6.1 | 4.76 | 1.45 | 4.98 | 75.4 | 442.6 | 134.9 |
| 6.2 | 4.69 | 1.43 | 5.06 | 76.3 | 437.4 | 133.3 |
| 6.3 | 4.62 | 1.41 | 5.13 | 77.1 | 432.5 | 131.8 |
| 6.4 | 4.56 | 1.39 | 5.19 | 77.9 | 428 | 130.5 |
| 6.5 | 4.51 | 1.37 | 5.26 | 78.7 | 423.8 | 129.2 |
| 6.6 | 4.46 | 1.36 | 5.32 | 79.4 | 420 | 128 |
| 6.7 | 4.41 | 1.34 | 5.37 | 80.1 | 416.4 | 126.9 |
| 6.8 | 4.37 | 1.33 | 5.42 | 80.8 | 413 | 125.9 |
| 6.9 | 4.33 | 1.32 | 5.47 | 81.4 | 409.9 | 124.9 |
| 7 | 4.29 | 1.31 | 5.52 | 82 | 407 | 124 |
| 7.1 | 4.25 | 1.30 | 5.58 | 82.7 | 403.5 | 123 |



External Document Links

Notes

Recommend premium performance waveguides to be used with tunable or pre-tuned connectors.

VSWR values include connectors and are valid for frequency band of connectors.

Max. Operating Band: 5.00 - 7.125 GHz