

# 222040-2

EWP90S, HELIAX® Super Premium Elliptical Waveguide, 10.7–11.7 GHz, unjacketed

**OBSOLETE**

## Product Classification

<b>Product Type</b>	Super premium elliptical waveguide
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	Super Premium

## General Specifications

<b>Performance Note</b>	Values typical, unless otherwise stated
-------------------------	---

## Dimensions

<b>Diameter Over Jacket (E Plane)</b>	33.5 mm   1.319 in
<b>Diameter Over Jacket (H Plane)</b>	20.3 mm   0.799 in
<b>Cable Volume</b>	334 L/km   3.595 ft³/kft

## Electrical Specifications

<b>eTE11 Mode Cutoff</b>	6.5 GHz
<b>Group Delay at Frequency</b>	125 ns/100 ft @ 11.200 GHz   410 ns/100 m @ 11.200 GHz
<b>Operating Frequency Band</b>	10.7 – 11.7 GHz

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
10.7–11.7 GHz	1.05	32.3

## Attenuation

Frequency (GHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)	Group Velocity %
10.7	10.311	3.143	1.559	79.4
10.9	10.198	3.108	1.576	80.3
11.1	10.096	3.077	1.592	81.1
11.3	10.004	3.049	1.606	81.8
11.5	9.92	3.024	1.62	82.5

# 222040-2

---

11.7                                      9.843                                      3                                      1.633                                      83.1

## Material Specifications

**Conductor Material**                                      Corrugated copper  
**Jacket Material**                                      Unjacketed

## Mechanical Specifications

**Minimum Bend Radius, Multiple Bends (E Plane)**                                      180 mm | 7.087 in  
**Minimum Bend Radius, Multiple Bends (H Plane)**                                      480 mm | 18.898 in  
**Minimum Bend Radius, Single Bend (E Plane)**                                      150 mm | 5.906 in  
**Minimum Bend Radius, Single Bend (H Plane)**                                      330 mm | 12.992 in  
**Maximum Twist**                                      6.562 °/m | 2 °/ft

## Environmental Specifications

**Installation temperature**                                      -40 °C to +60 °C (-40 °F to +140 °F)  
**Operating Temperature**                                      -55 °C to +85 °C (-67 °F to +185 °F)  
**Storage Temperature**                                      -70 °C to +85 °C (-94 °F to +185 °F)  
**Attenuation, Ambient Temperature**                                      75 °F | 23.889 °C  
**Average Power, Ambient Temperature**                                      104 °F | 40 °C  
**Average Power, Temperature Rise**                                      42 °C | 107.6 °F

## Packaging and Weights

**Cable weight**                                      0.48 kg/m | 0.323 lb/ft

## Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system