

# Flexible Waveguide

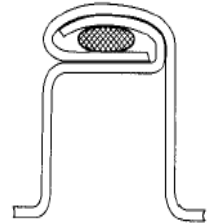


## Satellite Communications

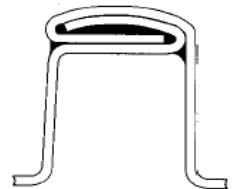
Mitec offers world class manufacturing certified to ISO standards for its line of flexible waveguides. The construction of the guide is similar for both twistable and non-twistable versions and consists of an inner core, two connecting flanges soldered into position and a protective outer jacket. The core is manufactured from pre-convoluted brass strip helically wound to extremely close tolerances around a rectangular mandrel.

Twistable cores are silver clad and are locked by a plated wire inserted into their seam during winding. An outer jacket is required to enable the twistable core to be pressurized.

Non-Twistable cores are also silver clad and are locked by solder wire which is then melted to form a continuous fillet running the entire length of the seam. Non-Twistable cores can be pressurized without an outer jacket.



Twistable  
M1640



Non-Twistable  
M1650

### Key Features:

- **Waveguide sizes from WR28 to WR284**
- **In-house manufacturing allowing for short lead times**
- **Available with North American or European flange configurations**



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### SPECIFICATIONS



Dash No.	IEC-R	E/A Size	Matching Rigid W/G Internal Dim.	Operational Freq. Band	Nominal Test Freq. For Attenuation	Max IL	VSWR Max. (CPR or Cover Flange)		VSWR Max. (Plain or Choke Flange)		Power Rating M1640	Power Rating M1650
							<36"	>36'	<36"	>36'		
		WR	(in.)	(GHz)		(dB/ft.)					CW (kW)	CW (kW)
1	32	284	2.840 x 1.340	2.60 – 3.95	3.15	0.03	1.04	1.07	1.07	1.10	6.50	8.5
2	40	229	2.290 x 1.145	3.30 – 4.90	3.85	0.03	1.05	1.07	-	-	-	-
3	48	187	1.872 x 0.872	3.95 – 5.85	4.75	0.04	1.05	1.07	1.07	1.10	3.00	3.40
4	58	159	1.590 x 0.795	4.90 – 7.05	5.90	0.05	1.05	1.08	1.08	1.10	2.50	2.50
5	70	137	1.372 x 0.622	5.85 – 8.20	6.45	0.06	1.05	1.09	1.09	1.10	2.00	1.70
6	84	112	1.122 x 0.497	7.05 – 10.00	9.40	0.07	1.07	1.10	1.10	1.13	1.26	0.80
7	100	90	0.900 x 0.400	8.20 – 12.40	9.40	0.09	1.07	1.10	1.10	1.13	0.96	0.62
8	120	75	0.750 x 0.375	10.00 – 15.00	13.70	0.13	1.08	1.10	1.10	1.13	0.75	0.50
9	140	62	0.622 x 0.311	12.40 – 18.00	14.00	0.16	1.10	1.13	1.13	1.16	0.22	0.30
10	180	51	0.510 x 0.255	15.00 – 22.00	18.50	0.35	1.15	1.18	1.17	1.20	0.14	0.23
11	220	42	0.420 x 0.170	18.00 – 26.50	22.00	0.38	1.18	1.23	1.20	1.25	0.10	0.12
12	260	34	0.340 x 0.170	22.00 – 33.00	28.00	0.45	1.17	1.20	1.20	1.23	0.10	0.12
13	320	28	0.280 x 0.140	26.50 – 40.00	34.00	0.60	1.19		1.30		0.10	N/A

Dash No.	IEC-R	EIA Size (WR)	Twist and Non-Twist (M1640 & M1650)				Twist Only (M1640)			Maximum Operating Pressure	
			Bending Rating				Twisting Rating				
			Static		Repeated		Static	Repeated	Lenth	M1640 psig	M1650 psig
			E-plane Rad (in.)	H-plane Rad (in.)	E-plane Rad (in.)	H-plane Rad (in.)	Tolerance (±deg./ft.)	Twist (±deg./ft.)	Non-twist (±in./ft.)		
1	32	284	7	14	28	56	32	8	1/8	20	40
2	40	229	6.5	13	26	52	40	10	1/8	30	40
3	48	187	6.5	13	26	52	48	12	1/8	30	40
4	58	159	5	10	20	40	56	14	1/8	30	40
5	70	137	4	8	16	32	64	16	1/8	30	40
6	84	112	3	6	12	24	80	20	1/8	35	50
7	100	90	2.5	5	10	20	96	24	1/8	45	50
8	120	75	2.5	4.5	10	20	112	28	1/8	45	50
9	140	62	2	4	8	16	136	34	1/8	45	50
10	180	51	2	4	8	16	136	34	1/8	45	60
11	220	42	1.5	3	6	12	155	45	1/8	45	60
12	260	34	1.5	3	6	12	155	45	1/8	45	60
13	320	28	1	2	4	8	180	70	1/8	45	60

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### ORDERING INFORMATION

Model No.	WG Size	Length	Jacket	Flanges*	Flange Finish
M1640	7	12	N	06-07	U

- MITEC PART NUMBER – M1640-07-12-N-06-07-U
- The above is a WR90 Flex Twist 12”-long neoprene jacket with cover and choke flanges – flanges unplated irridited & polished.
- Specify flanges – flange numeric codes (see next page)
- \*Brass unless otherwise requested

Jacket / Paint	Flange finish code
<ul style="list-style-type: none"> <li>• P - Black paint (M1650 only)</li> <li>• S - Silicone</li> <li>• N - Neoprene</li> </ul>	<ul style="list-style-type: none"> <li>• C - Both flanges cadmium-plated and passivated</li> <li>• U - Both flanges unplated irridited and polished</li> <li>• S - Both flanges silver-plated</li> <li>• T - Both flanges tin-plated</li> </ul>

Code	Flange Style
01	CPR style grooved (CPRG)
02	CPR style flat (CPRF)
03	CMR style standard hole pattern
04	CMR style all clear holes
05	CMR style all tapped holes
06	Cover style
07	Choke style
08	Special customer specified type
09	PDR style (European CPRG)

Code	Flange Style
10	UDR style (European CPRF)
11	UBR style (European cover)
12	PBR style (European cover groove)
13	CBR style (European choke)
14	CAR style (European)
15	PAR style (European)
16	UAR style (European)
17	UER style (European CMR all clear)
18	Cover style with o-ring groove