Waveguide Tubing

Precision Tolerances

MDL specializes in the production of extremely precise waveguides. The Company's facilities and completely modern production line – originally installed in 1966 and upgraded annually – is capable of processing from 20 feet to 20,000 feet lots. Finish, straightness and size tolerances are superior to MIL-W-85/1A.

Micro-Precision for Small Waveguide (.0005)

Where complex waveguide network design requires small, ultra precise tubing, the Company provides tolerances down to ±.0005". MDL maintains its own carbide die shop for control of critical aspect of high quality waveguide production.

Inside High Finish

Special parameters and inside high finishes down to 10 micro-inches are available at additional cost.

The chart illustrates the full range of standard waveguide sizes and materials with corresponding MIL Spec Cross References. For comprehensive information on Stainless Steel, Nickel and Copper Clad Invar and other base metals and materials, please contact our sales offices or plant directly.

Designations Frequency GHz		Waveguide Type			Inner Dimensions Inches (mm)		Outer Dimensions Inches (mm)		Tolerance Inner Dimensions Inches (mm)		Wall Thickness Nominal	Approx. Weight Pounds Per Foot (oz)
EIA	IEC	Material	MIL-W-85C	MIL W-85/X Dash No.	A_1	B_1	A_2	B_2	STD	PREC		
WR28	R320	Coin Silver	RG-96/U	3-006	.280	.140	.360	.220	.0015	.0008	.040	2.64
26.5-40.0	26.4-40.1	Copper Alloy	RG-271/U	3-008	(7.11)	(3.56)	(9.14)	(5.59)	(.038)	(.020)	(1.02)	2.64
		6061AL		3-009								.050
WR42	R220	Coin Silver	RG-63/U	1-106	.420	.170	.500	.250	.002	.001	.040	3.537
18.0-26.5	17.6-26.7	OF-		1-100	(10.67)	(4.32)	(12.70)	(6.35)	(.05)	(.025)	(1.02)	.2017
		Copper Alloy	RG-53/U	1-102								.205
		1100 AL	RG-121/U	1-103								.0627
		6061 AL		1-104								.0627
		6063 AL		1-182								.0627
WR51	R180	OF-	RG-352/U	1-094	.510	.255	.590	.335	.0025	.001	.040	.262
15.0-22.0	14.5-22.0	Copper Alloy	RG-353/U	1-096	(12.95)	(6.48)	(14.99)	(8.51)	(.063)	(.025)	(1.02)	.259
		1100 AL	RG-351/U	1-097								.079
		6061 AL		1-098								.079
		6063 AL		1-181								.079
WR62	R140	OF-		1-087	.622	.311	.702	.391	.0025	.001	.040	.314
12.4-18.0	11.9-18.0	Copper Alloy	RG-91/U	1-089	(15.80)	(7.90)	(17.83)	(9.93)	(.063)	(.025)	(1.02)	.311
		1100 AL	RG-349/U	1-090								.0948
		6061 AL		1-091								.0948
		6063 AL		1-180								.0948
WR75	R120	OF-		1-081	.750	.375	.850	.475	.003	.001	.050	.475
10.0-15.0	9.84-15.0	Copper Alloy	RG-346/U	1-085	(19.05)	(9.53)	(21.59)	(12.07)	(.08)	(.025)	(1.27)	.470
		1100 AL	RG-347/U	1-083								.143
		6061 AL		1-084								.143
		6063 AL		1-179								.143
WR90	R100	OF-		1-075	.900	.400	1.000	.500	.004	.001	.050	.543
8.2-12.4	8.2-12.5	Copper Alloy	RG-52/U	1-079	(22.86)	(10.16)	(25.40)	(12.70)	(.10)	(.025)	(1.27)	.537
		1100 AL	RG-67/U	1-077								.1638
		6061 AL		1-078								.1638
		6063 AL		1-178								.1638
	Hvy Wall	OF-		2-008	.900	.400	1.100	.600	.004	.001	.100	1.086
	Hvy Wall	OF-		2-009	.900	.400	1.300	.800	.004	.001	.200	2.172
	Hvy Wall	Alum*			.900	.400	1.100	.600	.004	.001	.100	.3276
	Hvy Wall	Alum*			.900	.400	1.300	.800	.004	.001	.200	.6552
	Nar Hgt	*+			.900	.200	1.000	.300	.004	.001	.050	1.38
WR102		OF-		1-156	1.020	.510	1.148	.638	.003	.002	.064	1.20
7.05-11.0		Copper Alloy	RG-320/U	1-155	(25.91)	(12.95)	(29.16)	(16.21)	(.08)	(.05)	(1.63)	1.15
		1100 AL		1-157								.330
		6061 AL		1-158								.330
		6063 AL		1-160								.330

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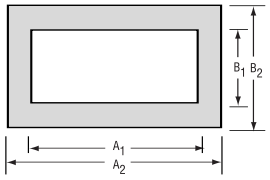
Designations Frequency GHz		Waveguide Type			Inner Dimensions Inches (mm)		Outer Dimensions Inches (mm)		Tolerance Inner Dimensions Inches (mm)		Wall Thickness Nominal	Approx. Weight Pounds Per Foot (oz)
		Material	MIL-W-85C	MIL W-85/X Dash No.								
EIA	IEC				A_1	B_1	A_2	B_2	STD	PREC		
WR112	R84	OF-		1-069	1.122	.497	1.250	.625	.004	.002	.064	.867
7.05-10.0	6.58-10.0	Copper Alloy	RG-51/U	1-073	(28.50)	(12.62)	(31.75)	(15.88)	(.10)	(.05)	(1.63)	.858
		1100 AL	RG-68/U	1-071								.260
		6061 AL		1-072								.260
		6063 AL		1-177								.260
	Hvy Wall	OF-		2-007	1.122	.497	1.378	.753	.004	.002	.128	1.734
	Hvy Wall	Alum*			1.122	.497	1.378	.753	.004	.002	.128	.52
	Nar Hgt	*+			1.122	.248	1.250	.376	.004	.002	.064	
WR137	R70	OF-		1-063	1.372	.622	1.500	.750	.004	.002	.064	1.06
5.85-8.20	5.38-8.17	Copper Alloy	RG-50/U	1-067	(34.85)	(15.80)	(38.10)	(19.05)	(.10)	(.05)	(1.63)	1.03
		1100 AL	RG-106/U	1-065								.33
		6061 AL		1-066								.33
		6063 AL		1-176								.33
	Nar Hgt	*+			1.372	.311	1.500	.439	.004	.002	.064	
WR159	R58	OF-		1-057	1.590	.795	1.718	.923	.005	.002	.064	1.248
4.90-7.05	4.64-7.05	Copper Alloy	RG-343/U	1-061	(40.39)	(20.19)	(43.64)	(23.44)	(.13)	(.05)	(1.63)	1.235
		1100 AL	RG-344/U	1-059								.376
		6061 AL		1-060								.376
		6063 AL		1-175								.376
	Nar Hgt	*+			1.590	.397	1.718	.525	.005	.002	.064	
WR187	R48	OF-		1-051	1.872	.872	2.000	1.000	.005	.003	.064	1.426
3.95-5.85	3.94-5.99	Copper Alloy	RG-49/U	1-055	(47.55)	(22.15)	(50.80)	(25.40)	(.13)	(.08)	(1.63)	1.411
		1100 AL	RG-95/U	1-053								.43
		6061 AL		1-054								.43
		6063 AL		1-174								.43
	Hvy Wall	OF-		2-006	1.872	.872	2.122	1.122	.005	.003	.125	2.84
	Hvy Wall	1100 AL		2-003	1.872	.872	2.172	1.172	.005	.003	.150	1.00
	Hvy Wall	6063 AL		2-005	1.872	.872	2.172	1.172	.005	.003	.150	1.00
	Nar Hgt	*+			1.872	.436	2.000	.564	.005	.003	.064	
WR229	R40	OF-		1-045	2.290	1.145	2.418	1.273	.006	.003	.064	1.769
3.30-4.90	3.22-4.90	Copper Alloy	RG-340/U	1-049	(58.17)	(29.08)	(61.42)	(32.33)	(.15)	(.08)	(1.63)	1.751
		1100 AL	RG-341/U	1-047								.533
		6061 AL		1-048								.533
		6063 AL		1-173								.533
	Nar Hgt	*+			2.290	.572	2.418	.700	.006	.003	.064	
WR284	R32	OF-		1-039	2.840	1.340	3.000	1.500	.006	.004	.080	2.694
2.60-3.95	2.60-3.95	Copper Alloy	RG-48/U	1-043	(72.14)	(34.04)	(76.20)	(38.10)	(.15)	(.10)	(2.03)	2.666
		1100 AL	RG-75/U	1-041								.812
		6061 AL		1-042								.812
		6063 AL		1-172								.812
		1100 AL		2-001	2.840	1.340	3.238	1.738	.006	.004	.199	2.03
		6061 AL	RG-375U	2-002	(72.14)	(34.04)	(82.25)	(44.15)	(.15)	(.10)	(5.05)	2.03
		6063 AL		2-004								2.03
	Nar Hgt	*+			2.840	.670	3.000	.830	.006	.004	.080	
					2.840	.400	3.000	.560	.006	.004	.080	



Notes: **Specify Material Required*
+ Other Heights Available On Request