

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 $\pm .0005"$. MDL maintains its own carbide die shop for control of critical aspect of high quality waveguide production.

Inside High Finish

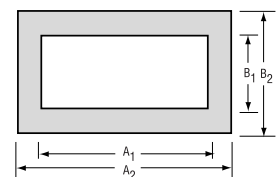
Special parameters and inside high finishes down to 10 micro-inches are available at additional cost.

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 26.5-40.0	R320	Coin Silver	RG-96/U	3-006	.280	.140	.360	.220	.0015	.0008	.040	2.64
	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 18.0-26.5	R220	Coin Silver	RG-63/U	1-106	.420	.170	.500	.250	.002	.001	.040	3.537
	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 15.0-22.0	R180	OF-	RG-352/U	1-094	.510	.255	.590	.335	.0025	.001	.040	.262
	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 12.4-18.0	R140	OF-		1-087	.622	.311	.702	.391	.0025	.001	.040	.314
	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 10.0-15.0	R120	OF-		1-081	.750	.375	.850	.475	.003	.001	.050	.475
	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 8.2-12.4	R100	OF-		1-075	.900	.400	1.000	.500	.004	.001	.050	.543
	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 7.05-11.0		OF-		1-156	1.020	.510	1.148	.638	.003	.002	.064
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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EIA	IEC	Material	MIL-W-85C	MIL W-85/X Dash No.	A ₁	B ₁	A ₂	B ₂	STD	PREC			
WR112 7.05-10.0	R84 6.58-10.0	OF-		1-069	1.122	.497	1.250	.625	.004	.002	.064	.867	
		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 5.85-8.20	R70 5.38-8.17	OF-		1-063	1.372	.622	1.500	.750	.004	.002	.064	1.06
			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 4.90-7.05	R58 4.64-7.05	OF-		1-057	1.590	.795	1.718	.923	.005	.002	.064	1.248	
		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 3.95-5.85	R48 3.94-5.99	OF-		1-051	1.872	.872	2.000	1.000	.005	.003	.064	1.426	
		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 3.30-4.90	R40 3.22-4.90	OF-		1-045	2.290	1.145	2.418	1.273	.006	.003	.064	1.769
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 2.60-3.95	R32 2.60-3.95	OF-		1-039	2.840	1.340	3.000	1.500	.006	.004	.080	2.694	
		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	
	Hvy Wall	1100 AL		2-001	2.840	1.340	3.238	1.738	.006	.004	.199	2.03	
	Hvy Wall	6061 AL	RG-375U	2-002	(72.14)	(34.04)	(82.25)	(44.15)	(.15)	(.10)	(5.05)	2.03	
	Hvy Wall	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