

# RT STANDARD TOWER DESIGN CRITERIA LIGHT, MEDIUM AND HEAVY SERIES ANSI/TIA-222-G

<b>WIND LOADING CRITERIA</b>												
EQUIVALENT 3-SECOND GUST WIND SPEEDS (MPH) BASED ON RISK CATEGORY OR STRUCTURE CLASS												
ULTIMATE WIND SPEED ASCE 7-10 & ASCE 7-16		85	90	95	100	105	110	115*	120	130	140	150
EQUIVALENT ASCE 7-05 TIA-222-G 50-YEAR MRI WIND SPEEDS	CLASS I	72	76	81	85	89	93	97	102	110	119	127
	CLASS II	67	71	75	79	83	87	91*	95	103	111	119
	CLASS III	63	66	70	74	77	81	85	88	96	103	111
* EXAMPLE: FOR A 115 MPH ULTIMATE WIND SPEED, THE 50-YEAR MRI WIND SPEED FOR A CLASS II TOWER MUST NOT EXCEED 91 MPH												

<b>ICE LOADING CRITERIA</b>		
MAXIMUM RADIAL GLAZE ICE THICKNESS CONCURRENT WITH 40 MPH 3-SECOND GUST TABULATED EPA VALUES DOUBLED FOR THE ICE LOADING CONDITION TO ACCOUNT FOR THE ADDITIONAL EPA DUE TO ICE		
RISK CATEGORY OR STRUCTURE CLASS	ASCE 7-16 500-YR MRI	ASCE 7-10 TIA-222-G 50-YR MRI
I	N/A	N/A
III	2.00	1.00
III	1.60	0.80

<b>EARTHQUAKE LOADING CRITERIA</b>		
SS = SPECTRAL RESPONSE ACCELERATION PARAMETER AT SHORT PERIODS S1 = SPECTRAL RESPONSE ACCELERATION PARAMETER AT 1 SECOND PERIOD SITE CLASS D		
RISK CATEGORY OR STRUCTURE CLASS	MAX S <sub>s</sub>	MAX S <sub>1</sub>
I	N/A	N/A
III	2.50	1.00
III	1.67	0.67

<b>TOWER SERIES</b>	<b>LINEAR APPURTENANCE LOADING CRITERIA</b>	<b>DISCRETE APPURTENANCE LOADING CRITERIA</b>
<b>LIGHT</b>	(6) 7/8 INCH LINES ATTACHED TO TOWER LEGS (1) 3/8 INCH SAFETY CABLE	500 LBS TOTAL WEIGHT WITHOUT ICE 1,000 LBS TOTAL WEIGHT WITH ICE
<b>MEDIUM</b>	(9) 7/8 INCH LINES ON A 9-HOLE WAVEGUIDE LADDER (1) 3/8 INCH SAFETY CABLE	1,500 LBS TOTAL WEIGHT WITHOUT ICE 3,000 LBS TOTAL WEIGHT WITH ICE
<b>HEAVY</b>	(12) 7/8 INCH LINES ON A 15-HOLE WAVEGUIDE LADDER (1) 3/8 INCH SAFETY CABLE	3,000 LBS TOTAL WEIGHT WITHOUT ICE 6,000 LBS TOTAL WEIGHT WITH ICE

# RT STANDARD SERIES TOWER DESIGN LOADING

## ANSI/TIA-222-G

TOWER HEIGHT (FT)	TOWER KIT P/N	ALLOWABLE EFFECTIVE PROJECTED AREA (FT) <sup>2</sup>											
		ULTIMATE WIND SPEED WITHOUT ICE (MPH)											
		EXPOSURE	85	90	95	100	105	110	115	120	130	140	150
190	RT190L	C	93	72	54	32	13	-	-	-	-	-	-
		B	138	112	90	71	55	40	22	6	-	-	-
	RT190M	C	186	160	137	118	101	86	74	53	7	-	-
	RT190H	C	250	250	248	222	200	176	150	118	66	24	-
180	RT180L	C	70	51	34	19	-	-	-	-	-	-	-
		B	113	90	69	52	37	24	11	-	-	-	-
	RT180M	C	188	162	142	125	109	93	76	61	20	-	-
	RT180H	C	250	250	237	211	189	169	147	128	79	35	-
170	RT170L	C	74	53	34	19	5	-	-	-	-	-	-
		B	123	97	74	55	39	24	12	-	-	-	-
	RT170M	C	192	165	142	122	105	91	72	48	9	-	-
	RT170H	C	250	250	250	228	205	182	157	128	75	33	-
160	RT160L	C	76	56	39	25	12	-	-	-	-	-	-
		B	122	98	77	59	43	30	18	8	-	-	-
	RT160M	C	193	168	147	129	113	98	81	58	20	-	-
	RT160H	C	250	250	244	217	194	175	157	141	89	45	-
150	RT150L	C	81	59	40	24	10	-	-	-	-	-	-
		B	135	107	84	64	47	32	19	8	-	-	-
	RT150M	C	199	171	147	126	104	85	68	50	19	-	-
	RT150H	C	250	250	250	234	211	180	153	129	80	43	9
140	RT140L	C	83	62	45	30	17	6	-	-	-	-	-
		B	133	108	86	67	51	37	25	15	-	-	-
	RT140M	C	200	174	152	134	113	90	70	52	23	-	-
	RT140H	C	250	250	250	224	201	178	153	129	84	49	20
130	RT130L	C	90	67	47	31	17	5	-	-	-	-	-
		B	147	118	94	74	56	41	27	15	-	-	-
	RT130M	C	200	179	154	133	115	100	78	59	27	-	-
	RT130H	C	250	250	243	215	191	171	152	137	95	56	25
120	RT120L	C	91	69	52	36	23	12	-	-	-	-	-
		B	146	119	96	77	60	46	33	22	-	-	-
	RT120M	C	168	145	126	109	94	82	68	55	33	10	-
	RT120H	C	250	250	250	233	208	187	158	131	86	51	22
110	RT110L	C	121	98	78	61	46	33	22	12	-	-	-
		B	150	150	128	106	88	71	57	45	24	-	-
	RT110M	C	200	187	162	140	121	101	83	67	42	22	-
	RT110H	C	250	250	250	223	199	178	160	142	112	79	44
100	RT100L	C	116	94	76	60	47	35	25	16	-	-	-
		B	150	147	123	103	86	71	57	46	27	-	-
	RT100M	C	173	150	130	113	98	85	74	61	39	21	-
	RT100H	C	250	250	239	211	187	167	148	133	106	79	48

The tabulated allowable effective projected areas (EPA) are limited to maximum recommended values of 150, 200 and 250 ft<sup>2</sup> for the Light (L), Medium (M) and Heavy(H) series tower kits respectively. EPA values shown as "-" indicate tower kit is not recommended for the corresponding wind speed. A site-specific engineering analysis is required for higher EPA or wind speed values.