

# Precalculated Metal Chime Dimensions

- **EMT Steel Conduit**
- Tubing sized in inches
- Length and hang-point listed for inches & mm
- Select chime size from the menu to the left of this page

**Caution:** if you are attempting to create exact notes for an orchestra setting, exact tuning is required and the use of an electronic tuning device or a good tuning ear is necessary. On the other hand, if you desire a good sounding set of chimes but do not need orchestra accuracy, then carefully cut the tube to the length suggested by this pre-calculated table, or the DIY calculator listed on the website.

Do not use these calculations for an orchestra or a musical setting unless you know for sure they tune to A4=440 Hz. An orchestra will typically tune for A4= 442, 43 or 44 Hz and this chart uses A4=440 Hz. Most symphony grade instruments are shipped with A4=442 Hz.

**Caution:** While there are a host of apps for Chromatic Tuners available for an iPhone, iPad or Android, measuring the exact frequency and musical note of the chime is challenging at best. Non linearity of the human ear and the chime's non-harmonic overtones are two reasons.

It is difficult to provide an exact recommendation when to use the a chromatic tuner to measure a chime's note, but in general, I find most any note below C4 difficult to measure and on occasion below C5. Long, low frequencies tubes, measure incorrectly because of the "missing fundamental effect", and the preponderance of high amplitude overtones. Thick-walled tank chimes/bells can measure with surprising accuracy because its single pure tone above C4 is not cluttered with unimportant sidebands. More info about this topic is here: [www.leehite.org/Chimes.htm#Tuning](http://www.leehite.org/Chimes.htm#Tuning):

From:

[www.leehite.org/Chimes.htm](http://www.leehite.org/Chimes.htm)

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 1/2"

A=440 Hz, tube open at both ends

<b>OD inches = 0.706</b>	<b>ID inches = 0.622</b>	<b>Material = Steel</b>
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**Wall = 0.042 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	72 1/16	16 3/16	1,828.9	410.0	C5	523.30	18	4 1/16	456.8	102.4
C <sup>#</sup> /D <sup>b</sup>	34.60	70 1/16	15 11/16	1,778.2	398.7	C <sup>#</sup> /D <sup>b</sup>	554.40	17 1/2	3 15/16	444.2	99.6
D	36.70	68	15 1/4	1,725.8	386.9	D	587.30	17	3 13/16	431.5	96.7
D <sup>#</sup> /E <sup>b</sup>	38.90	66 1/16	14 13/16	1,676.7	375.9	D <sup>#</sup> /E <sup>b</sup>	622.30	16 1/2	3 11/16	418.8	93.9
E	41.21	64 3/16	14 3/8	1,629.1	365.2	E	659.30	16 1/16	3 5/8	407.7	91.4
F	43.70	62 5/16	14	1,581.5	354.6	F	698.50	15 9/16	3 1/2	395.0	88.6
F <sup>#</sup> /G <sup>b</sup>	46.30	60 9/16	13 9/16	1,537.1	344.6	F <sup>#</sup> /G <sup>b</sup>	740.00	15 1/8	3 3/8	383.9	86.1
G	49.00	58 7/8	13 3/16	1,494.2	335.0	G	784.00	14 11/16	3 5/16	372.8	83.6
G <sup>#</sup> /A <sup>b</sup>	51.90	57 3/16	12 13/16	1,451.4	325.4	G <sup>#</sup> /A <sup>b</sup>	830.60	14 5/16	3 3/16	363.3	81.4
A	55.01	55 9/16	12 7/16	1,410.2	316.2	A	880.00	13 7/8	3 1/8	352.1	79.0
A <sup>#</sup> /B <sup>b</sup>	58.30	53 15/16	12 1/16	1,368.9	306.9	A <sup>#</sup> /B <sup>b</sup>	932.30	13 1/2	3	342.6	76.8
B	61.70	52 7/16	11 3/4	1,330.9	298.4	B	987.80	13 1/8	2 15/16	333.1	74.7
C2	65.40	50 15/16	11 7/16	1,292.8	289.8	C6	1,046.50	12 3/4	2 7/8	323.6	72.5
C <sup>#</sup> /D <sup>b</sup>	69.30	49 1/2	11 1/8	1,256.3	281.7	C <sup>#</sup> /D <sup>b</sup>	1,108.70	12 3/8	2 3/4	314.1	70.4
D	73.41	48 1/16	10 3/4	1,219.8	273.5	D	1,174.61	12	2 11/16	304.6	68.3
D <sup>#</sup> /E <sup>b</sup>	77.80	46 11/16	10 7/16	1,184.9	265.7	D <sup>#</sup> /E <sup>b</sup>	1,244.50	11 11/16	2 5/8	296.6	66.5
E	82.40	45 3/8	10 3/16	1,151.6	258.2	E	1,318.50	11 3/8	2 9/16	288.7	64.7
F	87.30	44 1/16	9 7/8	1,118.3	250.7	F	1,397.00	11	2 7/16	279.2	62.6
F <sup>#</sup> /G <sup>b</sup>	92.50	42 13/16	9 5/8	1,086.6	243.6	F <sup>#</sup> /G <sup>b</sup>	1,480.00	10 11/16	2 3/8	271.2	60.8
G	98.01	41 5/8	9 5/16	1,056.4	236.9	G	1,568.00	10 3/8	2 5/16	263.3	59.0
G <sup>#</sup> /A <sup>b</sup>	103.80	40 7/16	9 1/16	1,026.3	230.1	G <sup>#</sup> /A <sup>b</sup>	1,661.20	10 1/8	2 1/4	257.0	57.6
A	110.00	39 1/4	8 13/16	996.2	223.3	A	1,760.00	9 13/16	2 3/16	249.0	55.8
A <sup>#</sup> /B <sup>b</sup>	116.50	38 3/16	8 9/16	969.2	217.3	A <sup>#</sup> /B <sup>b</sup>	1,864.60	9 9/16	2 1/8	242.7	54.4
B	123.50	37 1/16	8 5/16	940.6	210.9	B	1,975.50	9 1/4	2 1/16	234.8	52.6
C3	130.81	36	8 1/16	913.7	204.8	C7	2,093.00	9	2	228.4	51.2
C <sup>#</sup> /D <sup>b</sup>	138.60	35	7 7/8	888.3	199.2	C <sup>#</sup> /D <sup>b</sup>	2,217.40	8 3/4	1 15/16	222.1	49.8
D	146.80	34	7 5/8	862.9	193.5	D	2,349.20	8 1/2	1 7/8	215.7	48.4
D <sup>#</sup> /E <sup>b</sup>	155.60	33	7 3/8	837.5	187.8	D <sup>#</sup> /E <sup>b</sup>	2,489.01	8 1/4	1 7/8	209.4	46.9
E	164.80	32 1/16	7 3/16	813.7	182.4	E	2,637.00	8	1 13/16	203.0	45.5
F	174.61	31 3/16	7	791.5	177.5	F	2,794.00	7 13/16	1 3/4	198.3	44.5
F <sup>#</sup> /G <sup>b</sup>	185.00	30 5/16	6 13/16	769.3	172.5	F <sup>#</sup> /G <sup>b</sup>	2,960.00	7 9/16	1 11/16	191.9	43.0
G	196.00	29 7/16	6 5/8	747.1	167.5	G	3,136.00	7 3/8	1 5/8	187.2	42.0
G <sup>#</sup> /A <sup>b</sup>	207.70	28 9/16	6 3/8	724.9	162.5	G <sup>#</sup> /A <sup>b</sup>	3,322.41	7 1/8	1 5/8	180.8	40.5
A	220.00	27 3/4	6 1/4	704.3	157.9	A	3,520.00	6 15/16	1 9/16	176.1	39.5
A <sup>#</sup> /B <sup>b</sup>	233.10	27	6 1/16	685.3	153.6	A <sup>#</sup> /B <sup>b</sup>	3,729.20	6 3/4	1 1/2	171.3	38.4
B	246.90	26 1/4	5 7/8	666.2	149.4	B	3,951.00	6 9/16	1 1/2	166.6	37.3
C4	261.60	25 1/2	5 11/16	647.2	145.1	C8	4,186.00	6 3/8	1 7/16	161.8	36.3
C <sup>#</sup> /D <sup>b</sup>	277.20	24 3/4	5 9/16	628.2	140.8	C <sup>#</sup> /D <sup>b</sup>	4,434.81	6 3/16	1 3/8	157.0	35.2
D	293.70	24 1/16	5 3/8	610.7	136.9	D	4,698.40	6	1 3/8	152.3	34.1
D <sup>#</sup> /E <sup>b</sup>	311.10	23 3/8	5 1/4	593.3	133.0	D <sup>#</sup> /E <sup>b</sup>	4,978.00	5 13/16	1 5/16	147.5	33.1
E	329.61	22 11/16	5 1/16	575.8	129.1	E	5,274.00	5 11/16	1 1/4	144.3	32.4
F	349.30	22 1/16	4 15/16	559.9	125.5	F	5,588.00	5 1/2	1 1/4	139.6	31.3
F <sup>#</sup> /G <sup>b</sup>	370.00	21 7/16	4 13/16	544.1	122.0	F <sup>#</sup> /G <sup>b</sup>	5,920.00	5 3/8	1 3/16	136.4	30.6
G	392.00	20 13/16	4 11/16	528.2	118.4	G	6,272.00	5 3/16	1 3/16	131.7	29.5
G <sup>#</sup> /A <sup>b</sup>	415.30	20 3/16	4 1/2	512.4	114.9	G <sup>#</sup> /A <sup>b</sup>	6,644.80	5 1/16	1 1/8	128.5	28.8
A	440.01	19 5/8	4 3/8	498.1	111.7	A	7,040.00	4 15/16	1 1/8	125.3	28.1
A <sup>#</sup> /B <sup>b</sup>	466.20	19 1/16	4 1/4	483.8	108.5	A <sup>#</sup> /B <sup>b</sup>	7,458.40	4 3/4	1 1/16	120.6	27.0
B	493.91	18 9/16	4 3/16	471.1	105.6	B	7,902.01	4 5/8	1 1/16	117.4	26.3
						C9	8,367.01	4 1/2	1	114.2	25.6

[www.home.fuse.net/engineering/Chimes.htm](http://www.home.fuse.net/engineering/Chimes.htm)

**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 3/4"

A=440 Hz, tube open at both ends

<b>OD inches = 0.922</b>	<b>ID inches = 0.824</b>	<b>Material = Steel</b>
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**Wall = 0.049 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	82 9/16	18 1/2	2,095.4	469.8	C5	523.30	20 5/8	4 5/8	523.5	117.4
C#/D <sup>b</sup>	34.60	80 5/16	18	2,038.3	457.0	C#/D <sup>b</sup>	554.40	20 1/16	4 1/2	509.2	114.2
D	36.70	77 15/16	17 1/2	1,978.1	443.5	D	587.30	19 1/2	4 3/8	494.9	111.0
D#/E <sup>b</sup>	38.90	75 3/4	17	1,922.5	431.0	D#/E <sup>b</sup>	622.30	18 15/16	4 1/4	480.6	107.8
E	41.21	73 9/16	16 1/2	1,867.0	418.6	E	659.30	18 3/8	4 1/8	466.4	104.6
F	43.70	71 7/16	16	1,813.1	406.5	F	698.50	17 7/8	4	453.7	101.7
F#/G <sup>d</sup>	46.30	69 7/16	15 9/16	1,762.3	395.1	F#/G <sup>d</sup>	740.00	17 3/8	3 7/8	441.0	98.9
G	49.00	67 1/2	15 1/8	1,713.2	384.1	G	784.00	16 7/8	3 13/16	428.3	96.0
G#/A <sup>d</sup>	51.90	65 9/16	14 11/16	1,664.0	373.1	G#/A <sup>d</sup>	830.60	16 3/8	3 11/16	415.6	93.2
A	55.01	63 11/16	14 1/4	1,616.4	362.4	A	880.00	15 15/16	3 9/16	404.5	90.7
A#/B <sup>d</sup>	58.30	61 7/8	13 7/8	1,570.4	352.1	A#/B <sup>d</sup>	932.30	15 7/16	3 7/16	391.8	87.8
B	61.70	60 1/8	13 1/2	1,526.0	342.1	B	987.80	15	3 3/8	380.7	85.4
C2	65.40	58 3/8	13 1/16	1,481.6	332.2	C6	1,046.50	14 5/8	3 1/4	371.2	83.2
C#/D <sup>b</sup>	69.30	56 3/4	12 3/4	1,440.3	322.9	C#/D <sup>b</sup>	1,108.70	14 3/16	3 3/16	360.1	80.7
D	73.41	55 1/8	12 3/8	1,399.1	313.7	D	1,174.61	13 3/4	3 1/16	349.0	78.2
D#/E <sup>b</sup>	77.80	53 9/16	12	1,359.4	304.8	D#/E <sup>b</sup>	1,244.50	13 3/8	3	339.5	76.1
E	82.40	52	11 11/16	1,319.8	295.9	E	1,318.50	13	2 15/16	329.9	74.0
F	87.30	50 9/16	11 5/16	1,283.3	287.7	F	1,397.00	12 5/8	2 13/16	320.4	71.8
F#/G <sup>d</sup>	92.50	49 1/8	11	1,246.8	279.5	F#/G <sup>d</sup>	1,480.00	12 1/4	2 3/4	310.9	69.7
G	98.01	47 11/16	10 11/16	1,210.3	271.4	G	1,568.00	11 15/16	2 11/16	303.0	67.9
G#/A <sup>d</sup>	103.80	46 3/8	10 3/8	1,177.0	263.9	G#/A <sup>d</sup>	1,661.20	11 9/16	2 9/16	293.5	65.8
A	110.00	45	10 1/16	1,142.1	256.1	A	1,760.00	11 1/4	2 1/2	285.5	64.0
A#/B <sup>d</sup>	116.50	43 3/4	9 13/16	1,110.4	248.9	A#/B <sup>d</sup>	1,864.60	10 15/16	2 7/16	277.6	62.2
B	123.50	42 1/2	9 1/2	1,078.7	241.8	B	1,975.50	10 5/8	2 3/8	269.7	60.5
C3	130.81	41 5/16	9 1/4	1,048.5	235.1	C7	2,093.00	10 5/16	2 5/16	261.7	58.7
C#/D <sup>b</sup>	138.60	40 1/8	9	1,018.4	228.3	C#/D <sup>b</sup>	2,217.40	10	2 1/4	253.8	56.9
D	146.80	39	8 3/4	989.8	221.9	D	2,349.20	9 3/4	2 3/16	247.5	55.5
D#/E <sup>b</sup>	155.60	37 7/8	8 1/2	961.3	215.5	D#/E <sup>b</sup>	2,489.01	9 7/16	2 1/8	239.5	53.7
E	164.80	36 13/16	8 1/4	934.3	209.5	E	2,637.00	9 3/16	2 1/16	233.2	52.3
F	174.61	35 3/4	8	907.3	203.4	F	2,794.00	8 15/16	2	226.8	50.9
F#/G <sup>d</sup>	185.00	34 3/4	7 13/16	882.0	197.7	F#/G <sup>d</sup>	2,960.00	8 11/16	1 15/16	220.5	49.4
G	196.00	33 3/4	7 9/16	856.6	192.0	G	3,136.00	8 7/16	1 7/8	214.1	48.0
G#/A <sup>d</sup>	207.70	32 3/4	7 5/16	831.2	186.4	G#/A <sup>d</sup>	3,322.41	8 3/16	1 13/16	207.8	46.6
A	220.00	31 13/16	7 1/8	807.4	181.0	A	3,520.00	7 15/16	1 3/4	201.5	45.2
A#/B <sup>d</sup>	233.10	30 15/16	6 15/16	785.2	176.0	A#/B <sup>d</sup>	3,729.20	7 3/4	1 3/4	196.7	44.1
B	246.90	30 1/16	6 3/4	763.0	171.1	B	3,951.00	7 1/2	1 11/16	190.4	42.7
C4	261.60	29 3/16	6 9/16	740.8	166.1	C8	4,186.00	7 5/16	1 5/8	185.6	41.6
C#/D <sup>b</sup>	277.20	28 3/8	6 3/8	720.2	161.5	C#/D <sup>b</sup>	4,434.81	7 1/16	1 9/16	179.2	40.2
D	293.70	27 9/16	6 3/16	699.5	156.8	D	4,698.40	6 7/8	1 9/16	174.5	39.1
D#/E <sup>b</sup>	311.10	26 3/4	6	678.9	152.2	D#/E <sup>b</sup>	4,978.00	6 11/16	1 1/2	169.7	38.1
E	329.61	26	5 13/16	659.9	147.9	E	5,274.00	6 1/2	1 7/16	165.0	37.0
F	349.30	25 1/4	5 11/16	640.8	143.7	F	5,588.00	6 5/16	1 7/16	160.2	35.9
F#/G <sup>d</sup>	370.00	24 9/16	5 1/2	623.4	139.8	F#/G <sup>d</sup>	5,920.00	6 1/8	1 3/8	155.5	34.9
G	392.00	23 7/8	5 3/8	605.9	135.9	G	6,272.00	5 15/16	1 5/16	150.7	33.8
G#/A <sup>d</sup>	415.30	23 3/16	5 3/16	588.5	131.9	G#/A <sup>d</sup>	6,644.80	5 13/16	1 5/16	147.5	33.1
A	440.01	22 1/2	5 1/16	571.1	128.0	A	7,040.00	5 5/8	1 1/4	142.8	32.0
A#/B <sup>d</sup>	466.20	21 7/8	4 7/8	555.2	124.5	A#/B <sup>d</sup>	7,458.40	5 7/16	1 1/4	138.0	30.9
B	493.91	21 1/4	4 3/4	539.3	120.9	B	7,902.01	5 5/16	1 3/16	134.8	30.2
						C9	8,367.01	5 3/16	1 3/16	131.7	29.5

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**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 1.0"

A=440 Hz, tube open at both ends

<b>OD inches = 1.163</b>	<b>ID inches = 1.049</b>	<b>Material = Steel</b>
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**Wall = 0.057 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	92 15/16	20 13/16	2,358.8	528.8	C5	523.30	23 1/4	5 3/16	590.1	132.3
C <sup>#</sup> /D <sup>b</sup>	34.60	90 3/8	20 1/4	2,293.7	514.3	C <sup>#</sup> /D <sup>b</sup>	554.40	22 9/16	5 1/16	572.6	128.4
D	36.70	87 3/4	19 11/16	2,227.1	499.3	D	587.30	21 15/16	4 15/16	556.8	124.8
D <sup>#</sup> /E <sup>b</sup>	38.90	85 1/4	19 1/8	2,163.6	485.1	D <sup>#</sup> /E <sup>b</sup>	622.30	21 5/16	4 3/4	540.9	121.3
E	41.21	82 13/16	18 9/16	2,101.8	471.2	E	659.30	20 11/16	4 5/8	525.0	117.7
F	43.70	80 3/8	18	2,039.9	457.3	F	698.50	20 1/8	4 1/2	510.8	114.5
F <sup>#</sup> /G <sup>b</sup>	46.30	78 1/8	17 1/2	1,982.8	444.5	F <sup>#</sup> /G <sup>b</sup>	740.00	19 9/16	4 3/8	496.5	111.3
G	49.00	75 15/16	17	1,927.3	432.1	G	784.00	19	4 1/4	482.2	108.1
G <sup>#</sup> /A <sup>b</sup>	51.90	73 3/4	16 9/16	1,871.8	419.7	G <sup>#</sup> /A <sup>b</sup>	830.60	18 7/16	4 1/8	467.9	104.9
A	55.01	71 11/16	16 1/16	1,819.4	407.9	A	880.00	17 15/16	4	455.3	102.1
A <sup>#</sup> /B <sup>b</sup>	58.30	69 5/8	15 5/8	1,767.1	396.2	A <sup>#</sup> /B <sup>b</sup>	932.30	17 7/16	3 15/16	442.6	99.2
B	61.70	67 11/16	15 3/16	1,717.9	385.2	B	987.80	16 15/16	3 13/16	429.9	96.4
C2	65.40	65 3/4	14 3/4	1,668.7	374.1	C6	1,046.50	16 7/16	3 11/16	417.2	93.5
C <sup>#</sup> /D <sup>b</sup>	69.30	63 7/8	14 5/16	1,621.1	363.5	C <sup>#</sup> /D <sup>b</sup>	1,108.70	15 15/16	3 9/16	404.5	90.7
D	73.41	62 1/16	13 15/16	1,575.1	353.1	D	1,174.61	15 1/2	3 1/2	393.4	88.2
D <sup>#</sup> /E <sup>b</sup>	77.80	60 1/4	13 1/2	1,529.1	342.8	D <sup>#</sup> /E <sup>b</sup>	1,244.50	15 1/16	3 3/8	382.3	85.7
E	82.40	58 9/16	13 1/8	1,486.3	333.2	E	1,318.50	14 5/8	3 1/4	371.2	83.2
F	87.30	56 7/8	12 3/4	1,443.5	323.6	F	1,397.00	14 1/4	3 3/16	361.7	81.1
F <sup>#</sup> /G <sup>b</sup>	92.50	55 1/4	12 3/8	1,402.2	314.4	F <sup>#</sup> /G <sup>b</sup>	1,480.00	13 13/16	3 1/8	350.6	78.6
G	98.01	53 11/16	12 1/16	1,362.6	305.5	G	1,568.00	13 7/16	3	341.0	76.5
G <sup>#</sup> /A <sup>b</sup>	103.80	52 3/16	11 11/16	1,324.5	297.0	G <sup>#</sup> /A <sup>b</sup>	1,661.20	13 1/16	2 15/16	331.5	74.3
A	110.00	50 11/16	11 3/8	1,286.4	288.4	A	1,760.00	12 11/16	2 7/8	322.0	72.2
A <sup>#</sup> /B <sup>b</sup>	116.50	49 1/4	11 1/16	1,250.0	280.2	A <sup>#</sup> /B <sup>b</sup>	1,864.60	12 5/16	2 3/4	312.5	70.1
B	123.50	47 13/16	10 3/4	1,213.5	272.1	B	1,975.50	11 15/16	2 11/16	303.0	67.9
C3	130.81	46 1/2	10 7/16	1,180.2	264.6	C7	2,093.00	11 5/8	2 5/8	295.0	66.1
C <sup>#</sup> /D <sup>b</sup>	138.60	45 1/8	10 1/8	1,145.3	256.8	C <sup>#</sup> /D <sup>b</sup>	2,217.40	11 5/16	2 9/16	287.1	64.4
D	146.80	43 7/8	9 13/16	1,113.5	249.7	D	2,349.20	10 15/16	2 7/16	277.6	62.2
D <sup>#</sup> /E <sup>b</sup>	155.60	42 5/8	9 9/16	1,081.8	242.5	D <sup>#</sup> /E <sup>b</sup>	2,489.01	10 5/8	2 3/8	269.7	60.5
E	164.80	41 3/8	9 1/4	1,050.1	235.4	E	2,637.00	10 3/8	2 5/16	263.3	59.0
F	174.61	40 1/4	9	1,021.5	229.0	F	2,794.00	10 1/16	2 1/4	255.4	57.3
F <sup>#</sup> /G <sup>b</sup>	185.00	39 1/16	8 3/4	991.4	222.3	F <sup>#</sup> /G <sup>b</sup>	2,960.00	9 3/4	2 3/16	247.5	55.5
G	196.00	37 15/16	8 1/2	962.9	215.9	G	3,136.00	9 1/2	2 1/8	241.1	54.1
G <sup>#</sup> /A <sup>b</sup>	207.70	36 7/8	8 1/4	935.9	209.8	G <sup>#</sup> /A <sup>b</sup>	3,322.41	9 1/4	2 1/16	234.8	52.6
A	220.00	35 13/16	8	908.9	203.8	A	3,520.00	8 15/16	2	226.8	50.9
A <sup>#</sup> /B <sup>b</sup>	233.10	34 13/16	7 13/16	883.5	198.1	A <sup>#</sup> /B <sup>b</sup>	3,729.20	8 11/16	1 15/16	220.5	49.4
B	246.90	33 13/16	7 9/16	858.2	192.4	B	3,951.00	8 7/16	1 7/8	214.1	48.0
C4	261.60	32 7/8	7 3/8	834.4	187.1	C8	4,186.00	8 3/16	1 13/16	207.8	46.6
C <sup>#</sup> /D <sup>b</sup>	277.20	31 15/16	7 3/16	810.6	181.7	C <sup>#</sup> /D <sup>b</sup>	4,434.81	8	1 13/16	203.0	45.5
D	293.70	31	6 15/16	786.8	176.4	D	4,698.40	7 3/4	1 3/4	196.7	44.1
D <sup>#</sup> /E <sup>b</sup>	311.10	30 1/8	6 3/4	764.6	171.4	D <sup>#</sup> /E <sup>b</sup>	4,978.00	7 9/16	1 11/16	191.9	43.0
E	329.61	29 1/4	6 9/16	742.4	166.4	E	5,274.00	7 5/16	1 5/8	185.6	41.6
F	349.30	28 7/16	6 3/8	721.7	161.8	F	5,588.00	7 1/8	1 5/8	180.8	40.5
F <sup>#</sup> /G <sup>b</sup>	370.00	27 5/8	6 3/16	701.1	157.2	F <sup>#</sup> /G <sup>b</sup>	5,920.00	6 15/16	1 9/16	176.1	39.5
G	392.00	26 7/8	6	682.1	152.9	G	6,272.00	6 11/16	1 1/2	169.7	38.1
G <sup>#</sup> /A <sup>b</sup>	415.30	26 1/16	5 13/16	661.5	148.3	G <sup>#</sup> /A <sup>b</sup>	6,644.80	6 1/2	1 7/16	165.0	37.0
A	440.01	25 5/16	5 11/16	642.4	144.0	A	7,040.00	6 5/16	1 7/16	160.2	35.9
A <sup>#</sup> /B <sup>b</sup>	466.20	24 5/8	5 1/2	625.0	140.1	A <sup>#</sup> /B <sup>b</sup>	7,458.40	6 1/8	1 3/8	155.5	34.9
B	493.91	23 15/16	5 3/8	607.5	136.2	B	7,902.01	6	1 3/8	152.3	34.1
						C9	8,367.01	5 13/16	1 5/16	147.5	33.1

[www.home.fuse.net/engineering/Chimes.htm](http://www.home.fuse.net/engineering/Chimes.htm)

**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 1 1/4"

A=440 Hz, tube open at both ends

<b>OD inches = 1.510</b>	<b>ID inches = 1.380</b>	<b>Material = Steel</b>
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**Wall = 0.065 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	106 1/4	23 13/16	2,696.6	604.6	C5	523.30	26 9/16	5 15/16	674.2	151.1
C <sup>#</sup> /D <sup>b</sup>	34.60	103 1/4	23 1/8	2,620.5	587.5	C <sup>#</sup> /D <sup>b</sup>	554.40	25 13/16	5 13/16	655.1	146.9
D	36.70	100 1/4	22 1/2	2,544.3	570.4	D	587.30	25 1/16	5 5/8	636.1	142.6
D <sup>#</sup> /E <sup>b</sup>	38.90	97 3/8	21 13/16	2,471.4	554.1	D <sup>#</sup> /E <sup>b</sup>	622.30	24 3/8	5 7/16	618.6	138.7
E	41.21	94 5/8	21 3/16	2,401.6	538.4	E	659.30	23 11/16	5 5/16	601.2	134.8
F	43.70	91 7/8	20 5/8	2,331.8	522.8	F	698.50	23	5 3/16	583.7	130.9
F <sup>#</sup> /G <sup>b</sup>	46.30	89 1/4	20	2,265.2	507.8	F <sup>#</sup> /G <sup>b</sup>	740.00	22 5/16	5	566.3	127.0
G	49.00	86 3/4	19 7/16	2,201.7	493.6	G	784.00	21 11/16	4 7/8	550.4	123.4
G <sup>#</sup> /A <sup>b</sup>	51.90	84 5/16	18 7/8	2,139.9	479.8	G <sup>#</sup> /A <sup>b</sup>	830.60	21 1/16	4 3/4	534.6	119.8
A	55.01	81 7/8	18 3/8	2,078.0	465.9	A	880.00	20 1/2	4 5/8	520.3	116.6
A <sup>#</sup> /B <sup>b</sup>	58.30	79 9/16	17 13/16	2,019.3	452.7	A <sup>#</sup> /B <sup>b</sup>	932.30	19 7/8	4 7/16	504.4	113.1
B	61.70	77 5/16	17 5/16	1,962.2	439.9	B	987.80	19 5/16	4 5/16	490.2	109.9
C2	65.40	75 1/8	16 13/16	1,906.7	427.5	C6	1,046.50	18 3/4	4 3/16	475.9	106.7
C <sup>#</sup> /D <sup>b</sup>	69.30	73	16 3/8	1,852.7	415.4	C <sup>#</sup> /D <sup>b</sup>	1,108.70	18 1/4	4 1/16	463.2	103.8
D	73.41	70 7/8	15 7/8	1,798.8	403.3	D	1,174.61	17 3/4	4	450.5	101.0
D <sup>#</sup> /E <sup>b</sup>	77.80	68 7/8	15 7/16	1,748.0	391.9	D <sup>#</sup> /E <sup>b</sup>	1,244.50	17 1/4	3 7/8	437.8	98.2
E	82.40	66 15/16	15	1,698.9	380.9	E	1,318.50	16 3/4	3 3/4	425.1	95.3
F	87.30	65	14 9/16	1,649.7	369.9	F	1,397.00	16 1/4	3 5/8	412.4	92.5
F <sup>#</sup> /G <sup>b</sup>	92.50	63 3/16	14 3/16	1,603.7	359.5	F <sup>#</sup> /G <sup>b</sup>	1,480.00	15 13/16	3 9/16	401.3	90.0
G	98.01	61 3/8	13 3/4	1,557.7	349.2	G	1,568.00	15 5/16	3 7/16	388.6	87.1
G <sup>#</sup> /A <sup>b</sup>	103.80	59 5/8	13 3/8	1,513.3	339.3	G <sup>#</sup> /A <sup>b</sup>	1,661.20	14 7/8	3 5/16	377.5	84.6
A	110.00	57 15/16	13	1,470.5	329.7	A	1,760.00	14 1/2	3 1/4	368.0	82.5
A <sup>#</sup> /B <sup>b</sup>	116.50	56 1/4	12 5/8	1,427.6	320.1	A <sup>#</sup> /B <sup>b</sup>	1,864.60	14 1/16	3 1/8	356.9	80.0
B	123.50	54 11/16	12 1/4	1,388.0	311.2	B	1,975.50	13 11/16	3 1/16	347.4	77.9
C3	130.81	53 1/8	11 15/16	1,348.3	302.3	C7	2,093.00	13 1/4	3	336.3	75.4
C <sup>#</sup> /D <sup>b</sup>	138.60	51 5/8	11 9/16	1,310.2	293.8	C <sup>#</sup> /D <sup>b</sup>	2,217.40	12 7/8	2 7/8	326.8	73.3
D	146.80	50 1/8	11 1/4	1,272.2	285.2	D	2,349.20	12 9/16	2 13/16	318.8	71.5
D <sup>#</sup> /E <sup>b</sup>	155.60	48 11/16	10 15/16	1,235.7	277.0	D <sup>#</sup> /E <sup>b</sup>	2,489.01	12 3/16	2 3/4	309.3	69.3
E	164.80	47 5/16	10 5/8	1,200.8	269.2	E	2,637.00	11 13/16	2 5/8	299.8	67.2
F	174.61	46	10 5/16	1,167.5	261.7	F	2,794.00	11 1/2	2 9/16	291.9	65.4
F <sup>#</sup> /G <sup>b</sup>	185.00	44 11/16	10	1,134.2	254.3	F <sup>#</sup> /G <sup>b</sup>	2,960.00	11 3/16	2 1/2	283.9	63.7
G	196.00	43 3/8	9 3/4	1,100.9	246.8	G	3,136.00	10 7/8	2 7/16	276.0	61.9
G <sup>#</sup> /A <sup>b</sup>	207.70	42 1/8	9 7/16	1,069.1	239.7	G <sup>#</sup> /A <sup>b</sup>	3,322.41	10 9/16	2 3/8	268.1	60.1
A	220.00	40 15/16	9 3/16	1,039.0	232.9	A	3,520.00	10 1/4	2 5/16	260.1	58.3
A <sup>#</sup> /B <sup>b</sup>	233.10	39 13/16	8 15/16	1,010.4	226.5	A <sup>#</sup> /B <sup>b</sup>	3,729.20	9 15/16	2 1/4	252.2	56.5
B	246.90	38 11/16	8 11/16	981.9	220.1	B	3,951.00	9 11/16	2 3/16	245.9	55.1
C4	261.60	37 9/16	8 7/16	953.3	213.7	C8	4,186.00	9 3/8	2 1/8	237.9	53.3
C <sup>#</sup> /D <sup>b</sup>	277.20	36 1/2	8 3/16	926.4	207.7	C <sup>#</sup> /D <sup>b</sup>	4,434.81	9 1/8	2 1/16	231.6	51.9
D	293.70	35 7/16	7 15/16	899.4	201.6	D	4,698.40	8 7/8	2	225.2	50.5
D <sup>#</sup> /E <sup>b</sup>	311.10	34 7/16	7 3/4	874.0	196.0	D <sup>#</sup> /E <sup>b</sup>	4,978.00	8 5/8	1 15/16	218.9	49.1
E	329.61	33 7/16	7 1/2	848.6	190.3	E	5,274.00	8 3/8	1 7/8	212.6	47.7
F	349.30	32 1/2	7 5/16	824.9	184.9	F	5,588.00	8 1/8	1 13/16	206.2	46.2
F <sup>#</sup> /G <sup>b</sup>	370.00	31 9/16	7 1/16	801.1	179.6	F <sup>#</sup> /G <sup>b</sup>	5,920.00	7 7/8	1 3/4	199.9	44.8
G	392.00	30 11/16	6 7/8	778.8	174.6	G	6,272.00	7 11/16	1 3/4	195.1	43.7
G <sup>#</sup> /A <sup>b</sup>	415.30	29 13/16	6 11/16	756.6	169.6	G <sup>#</sup> /A <sup>b</sup>	6,644.80	7 7/16	1 11/16	188.8	42.3
A	440.01	28 15/16	6 1/2	734.4	164.7	A	7,040.00	7 1/4	1 5/8	184.0	41.3
A <sup>#</sup> /B <sup>b</sup>	466.20	28 1/8	6 5/16	713.8	160.0	A <sup>#</sup> /B <sup>b</sup>	7,458.40	7 1/16	1 9/16	179.2	40.2
B	493.91	27 5/16	6 1/8	693.2	155.4	B	7,902.01	6 13/16	1 1/2	172.9	38.8
						C9	8,367.01	6 5/8	1 1/2	168.1	37.7

[www.home.fuse.net/engineering/Chimes.htm](http://www.home.fuse.net/engineering/Chimes.htm)

**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 1 1/2"

A=440 Hz, tube open at both ends

<b>OD inches = 1.740</b>	<b>ID inches = 1.610</b>	<b>Material = Steel</b>
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**Wall = 0.065 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	114 3/8	25 5/8	2,902.8	650.8	C5	523.30	28 9/16	6 3/8	724.9	162.5
C#/D <sup>b</sup>	34.60	111 3/16	24 15/16	2,821.9	632.7	C#/D <sup>b</sup>	554.40	27 3/4	6 1/4	704.3	157.9
D	36.70	107 15/16	24 3/16	2,739.5	614.2	D	587.30	27	6 1/16	685.3	153.6
D#/E <sup>b</sup>	38.90	104 7/8	23 1/2	2,661.7	596.8	D#/E <sup>b</sup>	622.30	26 3/16	5 7/8	664.6	149.0
E	41.21	101 7/8	22 13/16	2,585.6	579.7	E	659.30	25 7/16	5 11/16	645.6	144.7
F	43.70	98 15/16	22 3/16	2,511.0	563.0	F	698.50	24 3/4	5 9/16	628.2	140.8
F#/G <sup>d</sup>	46.30	96 1/8	21 9/16	2,439.7	547.0	F#/G <sup>d</sup>	740.00	24 1/16	5 3/8	610.7	136.9
G	49.00	93 7/16	20 15/16	2,371.4	531.7	G	784.00	23 3/8	5 1/4	593.3	133.0
G#/A <sup>d</sup>	51.90	90 3/4	20 3/8	2,303.2	516.4	G#/A <sup>d</sup>	830.60	22 11/16	5 1/16	575.8	129.1
A	55.01	88 3/16	19 3/4	2,238.2	501.8	A	880.00	22 1/16	4 15/16	559.9	125.5
A#/B <sup>d</sup>	58.30	85 5/8	19 3/16	2,173.2	487.2	A#/B <sup>d</sup>	932.30	21 7/16	4 13/16	544.1	122.0
B	61.70	83 1/4	18 11/16	2,112.9	473.7	B	987.80	20 13/16	4 11/16	528.2	118.4
C2	65.40	80 7/8	18 1/8	2,052.6	460.2	C6	1,046.50	20 3/16	4 1/2	512.4	114.9
C#/D <sup>b</sup>	69.30	78 9/16	17 5/8	1,993.9	447.0	C#/D <sup>b</sup>	1,108.70	19 5/8	4 3/8	498.1	111.7
D	73.41	76 5/16	17 1/8	1,936.8	434.2	D	1,174.61	19 1/16	4 1/4	483.8	108.5
D#/E <sup>b</sup>	77.80	74 1/8	16 5/8	1,881.3	421.8	D#/E <sup>b</sup>	1,244.50	18 9/16	4 3/16	471.1	105.6
E	82.40	72 1/16	16 3/16	1,828.9	410.0	E	1,318.50	18	4 1/16	456.8	102.4
F	87.30	70	15 11/16	1,776.6	398.3	F	1,397.00	17 1/2	3 15/16	444.2	99.6
F#/G <sup>d</sup>	92.50	68	15 1/4	1,725.8	386.9	F#/G <sup>d</sup>	1,480.00	17	3 13/16	431.5	96.7
G	98.01	66 1/16	14 13/16	1,676.7	375.9	G	1,568.00	16 1/2	3 11/16	418.8	93.9
G#/A <sup>d</sup>	103.80	64 3/16	14 3/8	1,629.1	365.2	G#/A <sup>d</sup>	1,661.20	16 1/16	3 5/8	407.7	91.4
A	110.00	62 3/8	14	1,583.1	354.9	A	1,760.00	15 9/16	3 1/2	395.0	88.6
A#/B <sup>d</sup>	116.50	60 9/16	13 9/16	1,537.1	344.6	A#/B <sup>d</sup>	1,864.60	15 1/8	3 3/8	383.9	86.1
B	123.50	58 13/16	13 3/16	1,492.7	334.7	B	1,975.50	14 11/16	3 5/16	372.8	83.6
C3	130.81	57 3/16	12 13/16	1,451.4	325.4	C7	2,093.00	14 5/16	3 3/16	363.3	81.4
C#/D <sup>b</sup>	138.60	55 9/16	12 7/16	1,410.2	316.2	C#/D <sup>b</sup>	2,217.40	13 7/8	3 1/8	352.1	79.0
D	146.80	54	12 1/8	1,370.5	307.3	D	2,349.20	13 1/2	3	342.6	76.8
D#/E <sup>b</sup>	155.60	52 7/16	11 3/4	1,330.9	298.4	D#/E <sup>b</sup>	2,489.01	13 1/8	2 15/16	333.1	74.7
E	164.80	50 15/16	11 7/16	1,292.8	289.8	E	2,637.00	12 3/4	2 7/8	323.6	72.5
F	174.61	49 1/2	11 1/8	1,256.3	281.7	F	2,794.00	12 3/8	2 3/4	314.1	70.4
F#/G <sup>d</sup>	185.00	48 1/16	10 3/4	1,219.8	273.5	F#/G <sup>d</sup>	2,960.00	12	2 11/16	304.6	68.3
G	196.00	46 11/16	10 7/16	1,184.9	265.7	G	3,136.00	11 11/16	2 5/8	296.6	66.5
G#/A <sup>d</sup>	207.70	45 3/8	10 3/16	1,151.6	258.2	G#/A <sup>d</sup>	3,322.41	11 3/8	2 9/16	288.7	64.7
A	220.00	44 1/16	9 7/8	1,118.3	250.7	A	3,520.00	11	2 7/16	279.2	62.6
A#/B <sup>d</sup>	233.10	42 13/16	9 5/8	1,086.6	243.6	A#/B <sup>d</sup>	3,729.20	10 11/16	2 3/8	271.2	60.8
B	246.90	41 5/8	9 5/16	1,056.4	236.9	B	3,951.00	10 3/8	2 5/16	263.3	59.0
C4	261.60	40 7/16	9 1/16	1,026.3	230.1	C8	4,186.00	10 1/8	2 1/4	257.0	57.6
C#/D <sup>b</sup>	277.20	39 1/4	8 13/16	996.2	223.3	C#/D <sup>b</sup>	4,434.81	9 13/16	2 3/16	249.0	55.8
D	293.70	38 3/16	8 9/16	969.2	217.3	D	4,698.40	9 9/16	2 1/8	242.7	54.4
D#/E <sup>b</sup>	311.10	37 1/16	8 5/16	940.6	210.9	D#/E <sup>b</sup>	4,978.00	9 1/4	2 1/16	234.8	52.6
E	329.61	36	8 1/16	913.7	204.8	E	5,274.00	9	2	228.4	51.2
F	349.30	35	7 7/8	888.3	199.2	F	5,588.00	8 3/4	1 15/16	222.1	49.8
F#/G <sup>d</sup>	370.00	34	7 5/8	862.9	193.5	F#/G <sup>d</sup>	5,920.00	8 1/2	1 7/8	215.7	48.4
G	392.00	33	7 3/8	837.5	187.8	G	6,272.00	8 1/4	1 7/8	209.4	46.9
G#/A <sup>d</sup>	415.30	32 1/16	7 3/16	813.7	182.4	G#/A <sup>d</sup>	6,644.80	8	1 13/16	203.0	45.5
A	440.01	31 3/16	7	791.5	177.5	A	7,040.00	7 13/16	1 3/4	198.3	44.5
A#/B <sup>d</sup>	466.20	30 5/16	6 13/16	769.3	172.5	A#/B <sup>d</sup>	7,458.40	7 9/16	1 11/16	191.9	43.0
B	493.91	29 7/16	6 5/8	747.1	167.5	B	7,902.01	7 3/8	1 5/8	187.2	42.0
						C9	8,367.01	7 1/8	1 5/8	180.8	40.5

[www.home.fuse.net/engineering/Chimes.htm](http://www.home.fuse.net/engineering/Chimes.htm)

**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 2.0"

A=440 Hz, tube open at both ends

<b>OD inches = 2.197</b>	<b>ID inches = 2.067</b>	<b>Material = Steel</b>
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**Wall = 0.065 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	129	28 15/16	3,274.0	734.0	C5	523.30	32 1/4	7 1/4	818.5	183.5
C <sup>#</sup> /D <sup>b</sup>	34.60	125 3/8	28 1/8	3,182.0	713.4	C <sup>#</sup> /D <sup>b</sup>	554.40	31 5/16	7	794.7	178.2
D	36.70	121 3/4	27 5/16	3,090.0	692.8	D	587.30	30 7/16	6 13/16	772.5	173.2
D <sup>#</sup> /E <sup>b</sup>	38.90	118 1/4	26 1/2	3,001.2	672.9	D <sup>#</sup> /E <sup>b</sup>	622.30	29 9/16	6 5/8	750.3	168.2
E	41.21	114 15/16	25 3/4	2,917.1	654.0	E	659.30	28 3/4	6 7/16	729.7	163.6
F	43.70	111 9/16	25	2,831.5	634.8	F	698.50	27 15/16	6 1/4	709.1	159.0
F <sup>#</sup> /G <sup>b</sup>	46.30	108 7/16	24 5/16	2,752.1	617.0	F <sup>#</sup> /G <sup>b</sup>	740.00	27 1/8	6 1/16	688.4	154.3
G	49.00	105 3/8	23 5/8	2,674.4	599.6	G	784.00	26 3/8	5 15/16	669.4	150.1
G <sup>#</sup> /A <sup>b</sup>	51.90	102 3/8	22 15/16	2,598.3	582.5	G <sup>#</sup> /A <sup>b</sup>	830.60	25 5/8	5 3/4	650.4	145.8
A	55.01	99 7/16	22 5/16	2,523.7	565.8	A	880.00	24 7/8	5 9/16	631.3	141.5
A <sup>#</sup> /B <sup>b</sup>	58.30	96 5/8	21 11/16	2,452.3	549.8	A <sup>#</sup> /B <sup>b</sup>	932.30	24 3/16	5 7/16	613.9	137.6
B	61.70	93 15/16	21 1/16	2,384.1	534.5	B	987.80	23 1/2	5 1/4	596.4	133.7
C2	65.40	91 3/16	20 7/16	2,314.3	518.9	C6	1,046.50	22 13/16	5 1/8	579.0	129.8
C <sup>#</sup> /D <sup>b</sup>	69.30	88 5/8	19 7/8	2,249.3	504.3	C <sup>#</sup> /D <sup>b</sup>	1,108.70	22 1/8	4 15/16	561.5	125.9
D	73.41	86 1/8	19 5/16	2,185.9	490.1	D	1,174.61	21 1/2	4 13/16	545.7	122.3
D <sup>#</sup> /E <sup>b</sup>	77.80	83 5/8	18 3/4	2,122.4	475.8	D <sup>#</sup> /E <sup>b</sup>	1,244.50	20 15/16	4 11/16	531.4	119.1
E	82.40	81 1/4	18 3/16	2,062.1	462.3	E	1,318.50	20 5/16	4 9/16	515.5	115.6
F	87.30	78 15/16	17 11/16	2,003.4	449.2	F	1,397.00	19 3/4	4 7/16	501.3	112.4
F <sup>#</sup> /G <sup>b</sup>	92.50	76 11/16	17 3/16	1,946.3	436.4	F <sup>#</sup> /G <sup>b</sup>	1,480.00	19 3/16	4 5/16	487.0	109.2
G	98.01	74 1/2	16 11/16	1,890.8	423.9	G	1,568.00	18 5/8	4 3/16	472.7	106.0
G <sup>#</sup> /A <sup>b</sup>	103.80	72 3/8	16 1/4	1,836.9	411.8	G <sup>#</sup> /A <sup>b</sup>	1,661.20	18 1/8	4 1/16	460.0	103.1
A	110.00	70 5/16	15 3/4	1,784.5	400.1	A	1,760.00	17 9/16	3 15/16	445.7	99.9
A <sup>#</sup> /B <sup>b</sup>	116.50	68 5/16	15 5/16	1,733.8	388.7	A <sup>#</sup> /B <sup>b</sup>	1,864.60	17 1/16	3 13/16	433.0	97.1
B	123.50	66 3/8	14 7/8	1,684.6	377.7	B	1,975.50	16 5/8	3 3/4	421.9	94.6
C3	130.81	64 1/2	14 7/16	1,637.0	367.0	C7	2,093.00	16 1/8	3 5/8	409.3	91.8
C <sup>#</sup> /D <sup>b</sup>	138.60	62 11/16	14 1/16	1,591.0	356.7	C <sup>#</sup> /D <sup>b</sup>	2,217.40	15 11/16	3 1/2	398.1	89.3
D	146.80	60 7/8	13 5/8	1,545.0	346.4	D	2,349.20	15 1/4	3 7/16	387.0	86.8
D <sup>#</sup> /E <sup>b</sup>	155.60	59 1/8	13 1/4	1,500.6	336.4	D <sup>#</sup> /E <sup>b</sup>	2,489.01	14 13/16	3 5/16	375.9	84.3
E	164.80	57 7/16	12 7/8	1,457.8	326.8	E	2,637.00	14 3/8	3 1/4	364.8	81.8
F	174.61	55 13/16	12 1/2	1,416.5	317.6	F	2,794.00	13 15/16	3 1/8	353.7	79.3
F <sup>#</sup> /G <sup>b</sup>	185.00	54 1/4	12 3/16	1,376.9	308.7	F <sup>#</sup> /G <sup>b</sup>	2,960.00	13 9/16	3 1/16	344.2	77.2
G	196.00	52 11/16	11 13/16	1,337.2	299.8	G	3,136.00	13 3/16	2 15/16	334.7	75.0
G <sup>#</sup> /A <sup>b</sup>	207.70	51 3/16	11 1/2	1,299.1	291.3	G <sup>#</sup> /A <sup>b</sup>	3,322.41	12 13/16	2 7/8	325.2	72.9
A	220.00	49 3/4	11 1/8	1,262.7	283.1	A	3,520.00	12 7/16	2 13/16	315.7	70.8
A <sup>#</sup> /B <sup>b</sup>	233.10	48 5/16	10 13/16	1,226.2	274.9	A <sup>#</sup> /B <sup>b</sup>	3,729.20	12 1/16	2 11/16	306.1	68.6
B	246.90	46 15/16	10 1/2	1,191.3	267.1	B	3,951.00	11 3/4	2 5/8	298.2	66.9
C4	261.60	45 5/8	10 1/4	1,158.0	259.6	C8	4,186.00	11 3/8	2 9/16	288.7	64.7
C <sup>#</sup> /D <sup>b</sup>	277.20	44 5/16	9 15/16	1,124.7	252.1	C <sup>#</sup> /D <sup>b</sup>	4,434.81	11 1/16	2 1/2	280.8	62.9
D	293.70	43 1/16	9 5/8	1,092.9	245.0	D	4,698.40	10 3/4	2 7/16	272.8	61.2
D <sup>#</sup> /E <sup>b</sup>	311.10	41 13/16	9 3/8	1,061.2	237.9	D <sup>#</sup> /E <sup>b</sup>	4,978.00	10 7/16	2 5/16	264.9	59.4
E	329.61	40 5/8	9 1/8	1,031.1	231.2	E	5,274.00	10 3/16	2 5/16	258.6	58.0
F	349.30	39 7/16	8 13/16	1,000.9	224.4	F	5,588.00	9 7/8	2 3/16	250.6	56.2
F <sup>#</sup> /G <sup>b</sup>	370.00	38 3/8	8 5/8	974.0	218.4	F <sup>#</sup> /G <sup>b</sup>	5,920.00	9 9/16	2 1/8	242.7	54.4
G	392.00	37 1/4	8 3/8	945.4	212.0	G	6,272.00	9 5/16	2 1/16	236.4	53.0
G <sup>#</sup> /A <sup>b</sup>	415.30	36 3/16	8 1/8	918.4	205.9	G <sup>#</sup> /A <sup>b</sup>	6,644.80	9 1/16	2 1/16	230.0	51.6
A	440.01	35 3/16	7 7/8	893.1	200.2	A	7,040.00	8 13/16	2	223.7	50.1
A <sup>#</sup> /B <sup>b</sup>	466.20	34 3/16	7 11/16	867.7	194.5	A <sup>#</sup> /B <sup>b</sup>	7,458.40	8 9/16	1 15/16	217.3	48.7
B	493.91	33 3/16	7 7/16	842.3	188.8	B	7,902.01	8 5/16	1 7/8	211.0	47.3
						C9	8,367.01	8 1/16	1 13/16	204.6	45.9

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**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 2 1/2"

A=440 Hz, tube open at both ends

<b>OD inches = 2.875</b>	<b>ID inches = 2.731</b>	<b>Material = Steel</b>
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**Wall = 0.072 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	147 7/8	33 1/8	3,753.1	841.4	C5	523.30	37	8 5/16	939.1	210.5
C <sup>#</sup> /D <sup>b</sup>	34.60	143 3/4	32 1/4	3,648.4	818.0	C <sup>#</sup> /D <sup>b</sup>	554.40	35 15/16	8 1/16	912.1	204.5
D	36.70	139 5/8	31 5/16	3,543.7	794.5	D	587.30	34 7/8	7 13/16	885.1	198.4
D <sup>#</sup> /E <sup>b</sup>	38.90	135 5/8	30 7/16	3,442.2	771.7	D <sup>#</sup> /E <sup>b</sup>	622.30	33 7/8	7 5/8	859.7	192.8
E	41.21	131 3/4	29 9/16	3,343.8	749.7	E	659.30	32 15/16	7 3/8	836.0	187.4
F	43.70	127 15/16	28 11/16	3,247.1	728.0	F	698.50	32	7 3/16	812.2	182.1
F <sup>#</sup> /G <sup>b</sup>	46.30	124 5/16	27 7/8	3,155.1	707.4	F <sup>#</sup> /G <sup>b</sup>	740.00	31 1/16	6 15/16	788.4	176.8
G	49.00	120 13/16	27 1/16	3,066.2	687.4	G	784.00	30 3/16	6 3/4	766.2	171.8
G <sup>#</sup> /A <sup>b</sup>	51.90	117 3/8	26 5/16	2,979.0	667.9	G <sup>#</sup> /A <sup>b</sup>	830.60	29 3/8	6 9/16	745.5	167.1
A	55.01	114	25 9/16	2,893.3	648.7	A	880.00	28 1/2	6 3/8	723.3	162.2
A <sup>#</sup> /B <sup>b</sup>	58.30	110 3/4	24 13/16	2,810.8	630.2	A <sup>#</sup> /B <sup>b</sup>	932.30	27 11/16	6 3/16	702.7	157.5
B	61.70	107 11/16	24 1/8	2,733.1	612.8	B	987.80	26 15/16	6 1/16	683.7	153.3
C2	65.40	104 9/16	23 7/16	2,653.8	595.0	C6	1,046.50	26 1/8	5 7/8	663.1	148.7
C <sup>#</sup> /D <sup>b</sup>	69.30	101 5/8	22 13/16	2,579.2	578.3	C <sup>#</sup> /D <sup>b</sup>	1,108.70	25 3/8	5 11/16	644.0	144.4
D	73.41	98 11/16	22 1/8	2,504.7	561.6	D	1,174.61	24 11/16	5 9/16	626.6	140.5
D <sup>#</sup> /E <sup>b</sup>	77.80	95 7/8	21 1/2	2,433.3	545.5	D <sup>#</sup> /E <sup>b</sup>	1,244.50	24	5 3/8	609.1	136.6
E	82.40	93 3/16	20 7/8	2,365.1	530.3	E	1,318.50	23 5/16	5 1/4	591.7	132.7
F	87.30	90 1/2	20 5/16	2,296.9	515.0	F	1,397.00	22 5/8	5 1/16	574.2	128.7
F <sup>#</sup> /G <sup>b</sup>	92.50	87 15/16	19 11/16	2,231.9	500.4	F <sup>#</sup> /G <sup>b</sup>	1,480.00	22	4 15/16	558.4	125.2
G	98.01	85 7/16	19 1/8	2,168.4	486.2	G	1,568.00	21 3/8	4 13/16	542.5	121.6
G <sup>#</sup> /A <sup>b</sup>	103.80	83	18 5/8	2,106.5	472.3	G <sup>#</sup> /A <sup>b</sup>	1,661.20	20 3/4	4 5/8	526.6	118.1
A	110.00	80 5/8	18 1/16	2,046.3	458.8	A	1,760.00	20 3/16	4 1/2	512.4	114.9
A <sup>#</sup> /B <sup>b</sup>	116.50	78 3/8	17 9/16	1,989.2	446.0	A <sup>#</sup> /B <sup>b</sup>	1,864.60	19 9/16	4 3/8	496.5	111.3
B	123.50	76 1/8	17 1/16	1,932.1	433.2	B	1,975.50	19	4 1/4	482.2	108.1
C3	130.81	73 15/16	16 9/16	1,876.5	420.7	C7	2,093.00	18 1/2	4 1/8	469.5	105.3
C <sup>#</sup> /D <sup>b</sup>	138.60	71 13/16	16 1/8	1,822.6	408.6	C <sup>#</sup> /D <sup>b</sup>	2,217.40	17 15/16	4	455.3	102.1
D	146.80	69 13/16	15 5/8	1,771.8	397.2	D	2,349.20	17 7/16	3 15/16	442.6	99.2
D <sup>#</sup> /E <sup>b</sup>	155.60	67 13/16	15 3/16	1,721.1	385.9	D <sup>#</sup> /E <sup>b</sup>	2,489.01	16 15/16	3 13/16	429.9	96.4
E	164.80	65 7/8	14 3/4	1,671.9	374.8	E	2,637.00	16 1/2	3 11/16	418.8	93.9
F	174.61	64	14 3/8	1,624.3	364.2	F	2,794.00	16	3 9/16	406.1	91.0
F <sup>#</sup> /G <sup>b</sup>	185.00	62 3/16	13 15/16	1,578.3	353.9	F <sup>#</sup> /G <sup>b</sup>	2,960.00	15 9/16	3 1/2	395.0	88.6
G	196.00	60 7/16	13 9/16	1,533.9	343.9	G	3,136.00	15 1/8	3 3/8	383.9	86.1
G <sup>#</sup> /A <sup>b</sup>	207.70	58 11/16	13 3/16	1,489.5	333.9	G <sup>#</sup> /A <sup>b</sup>	3,322.41	14 11/16	3 5/16	372.8	83.6
A	220.00	57	12 3/4	1,446.7	324.3	A	3,520.00	14 1/4	3 3/16	361.7	81.1
A <sup>#</sup> /B <sup>b</sup>	233.10	55 3/8	12 7/16	1,405.4	315.1	A <sup>#</sup> /B <sup>b</sup>	3,729.20	13 7/8	3 1/8	352.1	79.0
B	246.90	53 13/16	12 1/16	1,365.8	306.2	B	3,951.00	13 7/16	3	341.0	76.5
C4	261.60	52 5/16	11 3/4	1,327.7	297.7	C8	4,186.00	13 1/16	2 15/16	331.5	74.3
C <sup>#</sup> /D <sup>b</sup>	277.20	50 13/16	11 3/8	1,289.6	289.1	C <sup>#</sup> /D <sup>b</sup>	4,434.81	12 11/16	2 7/8	322.0	72.2
D	293.70	49 3/8	11 1/16	1,253.1	281.0	D	4,698.40	12 5/16	2 3/4	312.5	70.1
D <sup>#</sup> /E <sup>b</sup>	311.10	47 15/16	10 3/4	1,216.7	272.8	D <sup>#</sup> /E <sup>b</sup>	4,978.00	12	2 11/16	304.6	68.3
E	329.61	46 9/16	10 7/16	1,181.8	264.9	E	5,274.00	11 5/8	2 5/8	295.0	66.1
F	349.30	45 1/4	10 1/8	1,148.4	257.5	F	5,588.00	11 5/16	2 9/16	287.1	64.4
F <sup>#</sup> /G <sup>b</sup>	370.00	43 15/16	9 7/8	1,115.1	250.0	F <sup>#</sup> /G <sup>b</sup>	5,920.00	11	2 7/16	279.2	62.6
G	392.00	42 11/16	9 9/16	1,083.4	242.9	G	6,272.00	10 11/16	2 3/8	271.2	60.8
G <sup>#</sup> /A <sup>b</sup>	415.30	41 1/2	9 5/16	1,053.3	236.1	G <sup>#</sup> /A <sup>b</sup>	6,644.80	10 3/8	2 5/16	263.3	59.0
A	440.01	40 5/16	9 1/16	1,023.1	229.4	A	7,040.00	10 1/16	2 1/4	255.4	57.3
A <sup>#</sup> /B <sup>b</sup>	466.20	39 3/16	8 13/16	994.6	223.0	A <sup>#</sup> /B <sup>b</sup>	7,458.40	9 13/16	2 3/16	249.0	55.8
B	493.91	38 1/16	8 9/16	966.0	216.6	B	7,902.01	9 1/2	2 1/8	241.1	54.1
						C9	8,367.01	9 1/4	2 1/16	234.8	52.6

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**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.



## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 3.0"

A=440 Hz, tube open at both ends

<b>OD inches = 3.500</b>	<b>ID inches = 3.356</b>	<b>Material = Steel</b>
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**Wall = 0.072 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	163 9/16	36 11/16	4,151.2	930.7	C5	523.30	40 7/8	9 3/16	1,037.4	232.6
C#/D <sup>b</sup>	34.60	159	35 5/8	4,035.4	904.7	C#/D <sup>b</sup>	554.40	39 3/4	8 15/16	1,008.9	226.2
D	36.70	154 3/8	34 5/8	3,918.0	878.4	D	587.30	38 9/16	8 5/8	978.7	219.4
D#/E <sup>b</sup>	38.90	149 15/16	33 5/8	3,805.4	853.2	D#/E <sup>b</sup>	622.30	37 1/2	8 7/16	951.8	213.4
E	41.21	145 11/16	32 11/16	3,697.5	829.0	E	659.30	36 7/16	8 3/16	924.8	207.3
F	43.70	141 1/2	31 3/4	3,591.3	805.2	F	698.50	35 3/8	7 15/16	897.8	201.3
F#/G <sup>d</sup>	46.30	137 7/16	30 13/16	3,488.2	782.0	F#/G <sup>d</sup>	740.00	34 3/8	7 11/16	872.4	195.6
G	49.00	133 5/8	29 15/16	3,391.4	760.4	G	784.00	33 3/8	7 1/2	847.1	189.9
G#/A <sup>d</sup>	51.90	129 13/16	29 1/8	3,294.6	738.7	G#/A <sup>d</sup>	830.60	32 7/16	7 1/4	823.3	184.6
A	55.01	126 1/8	28 1/4	3,201.1	717.7	A	880.00	31 1/2	7 1/16	799.5	179.2
A#/B <sup>d</sup>	58.30	122 1/2	27 7/16	3,109.1	697.0	A#/B <sup>d</sup>	932.30	30 5/8	6 7/8	777.3	174.3
B	61.70	119 1/16	26 11/16	3,021.8	677.5	B	987.80	29 3/4	6 11/16	755.1	169.3
C2	65.40	115 5/8	25 15/16	2,934.6	657.9	C6	1,046.50	28 15/16	6 1/2	734.4	164.7
C#/D <sup>b</sup>	69.30	112 3/8	25 3/16	2,852.1	639.4	C#/D <sup>b</sup>	1,108.70	28 1/16	6 5/16	712.2	159.7
D	73.41	109 1/8	24 7/16	2,769.6	620.9	D	1,174.61	27 5/16	6 1/8	693.2	155.4
D#/E <sup>b</sup>	77.80	106 1/16	23 3/4	2,691.9	603.5	D#/E <sup>b</sup>	1,244.50	26 1/2	5 15/16	672.6	150.8
E	82.40	103	23 1/16	2,614.1	586.1	E	1,318.50	25 3/4	5 3/4	653.5	146.5
F	87.30	100 1/8	22 7/16	2,541.2	569.7	F	1,397.00	25	5 5/8	634.5	142.3
F#/G <sup>d</sup>	92.50	97 1/4	21 13/16	2,468.2	553.4	F#/G <sup>d</sup>	1,480.00	24 5/16	5 7/16	617.1	138.3
G	98.01	94 1/2	21 3/16	2,398.4	537.7	G	1,568.00	23 5/8	5 5/16	599.6	134.4
G#/A <sup>d</sup>	103.80	91 13/16	20 9/16	2,330.2	522.4	G#/A <sup>d</sup>	1,661.20	22 15/16	5 1/8	582.2	130.5
A	110.00	89 3/16	20	2,263.6	507.5	A	1,760.00	22 5/16	5	566.3	127.0
A#/B <sup>d</sup>	116.50	86 5/8	19 7/16	2,198.5	492.9	A#/B <sup>d</sup>	1,864.60	21 11/16	4 7/8	550.4	123.4
B	123.50	84 3/16	18 7/8	2,136.7	479.0	B	1,975.50	21 1/16	4 3/4	534.6	119.8
C3	130.81	81 3/4	18 5/16	2,074.8	465.2	C7	2,093.00	20 7/16	4 9/16	518.7	116.3
C#/D <sup>b</sup>	138.60	79 7/16	17 13/16	2,016.1	452.0	C#/D <sup>b</sup>	2,217.40	19 7/8	4 7/16	504.4	113.1
D	146.80	77 3/16	17 5/16	1,959.0	439.2	D	2,349.20	19 5/16	4 5/16	490.2	109.9
D#/E <sup>b</sup>	155.60	75	16 13/16	1,903.5	426.8	D#/E <sup>b</sup>	2,489.01	18 3/4	4 3/16	475.9	106.7
E	164.80	72 7/8	16 5/16	1,849.6	414.7	E	2,637.00	18 3/16	4 1/16	461.6	103.5
F	174.61	70 3/4	15 7/8	1,795.6	402.6	F	2,794.00	17 11/16	3 15/16	448.9	100.6
F#/G <sup>d</sup>	185.00	68 3/4	15 7/16	1,744.9	391.2	F#/G <sup>d</sup>	2,960.00	17 3/16	3 7/8	436.2	97.8
G	196.00	66 13/16	15	1,695.7	380.2	G	3,136.00	16 11/16	3 3/4	423.5	95.0
G#/A <sup>d</sup>	207.70	64 7/8	14 9/16	1,646.5	369.2	G#/A <sup>d</sup>	3,322.41	16 1/4	3 5/8	412.4	92.5
A	220.00	63 1/16	14 1/8	1,600.5	358.8	A	3,520.00	15 3/4	3 1/2	399.7	89.6
A#/B <sup>d</sup>	233.10	61 1/4	13 3/4	1,554.5	348.5	A#/B <sup>d</sup>	3,729.20	15 5/16	3 7/16	388.6	87.1
B	246.90	59 1/2	13 5/16	1,510.1	338.6	B	3,951.00	14 7/8	3 5/16	377.5	84.6
C4	261.60	57 13/16	12 15/16	1,467.3	329.0	C8	4,186.00	14 7/16	3 1/4	366.4	82.2
C#/D <sup>b</sup>	277.20	56 3/16	12 5/8	1,426.0	319.7	C#/D <sup>b</sup>	4,434.81	14 1/16	3 1/8	356.9	80.0
D	293.70	54 9/16	12 1/4	1,384.8	310.5	D	4,698.40	13 5/8	3 1/16	345.8	77.5
D#/E <sup>b</sup>	311.10	53	11 7/8	1,345.1	301.6	D#/E <sup>b</sup>	4,978.00	13 1/4	3	336.3	75.4
E	329.61	51 1/2	11 9/16	1,307.1	293.0	E	5,274.00	12 7/8	2 7/8	326.8	73.3
F	349.30	50 1/16	11 1/4	1,270.6	284.9	F	5,588.00	12 1/2	2 13/16	317.3	71.1
F#/G <sup>d</sup>	370.00	48 5/8	10 7/8	1,234.1	276.7	F#/G <sup>d</sup>	5,920.00	12 1/8	2 11/16	307.7	69.0
G	392.00	47 1/4	10 9/16	1,199.2	268.9	G	6,272.00	11 13/16	2 5/8	299.8	67.2
G#/A <sup>d</sup>	415.30	45 7/8	10 5/16	1,164.3	261.0	G#/A <sup>d</sup>	6,644.80	11 1/2	2 9/16	291.9	65.4
A	440.01	44 9/16	10	1,131.0	253.6	A	7,040.00	11 1/8	2 1/2	282.4	63.3
A#/B <sup>d</sup>	466.20	43 5/16	9 11/16	1,099.3	246.5	A#/B <sup>d</sup>	7,458.40	10 13/16	2 7/16	274.4	61.5
B	493.91	42 1/16	9 7/16	1,067.5	239.3	B	7,902.01	10 1/2	2 3/8	266.5	59.7
						C9	8,367.01	10 1/4	2 5/16	260.1	58.3

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**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 3 1/2"

A=440 Hz, tube open at both ends

<b>OD inches = 4.000</b>	<b>ID inches = 3.834</b>	<b>Material = Steel</b>
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**Wall = 0.083 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	174 13/16	39 3/16	4,436.7	994.7	C5	523.30	43 11/16	9 13/16	1,108.8	248.6
C <sup>#</sup> /D <sup>b</sup>	34.60	169 15/16	38 1/8	4,313.0	967.0	C <sup>#</sup> /D <sup>b</sup>	554.40	42 7/16	9 1/2	1,077.1	241.5
D	36.70	165	37	4,187.7	938.9	D	587.30	41 1/4	9 1/4	1,046.9	234.7
D <sup>#</sup> /E <sup>b</sup>	38.90	160 5/16	35 15/16	4,068.7	912.2	D <sup>#</sup> /E <sup>b</sup>	622.30	40 1/16	9	1,016.8	228.0
E	41.21	155 3/4	34 15/16	3,952.9	886.2	E	659.30	38 15/16	8 3/4	988.2	221.6
F	43.70	151 1/4	33 15/16	3,838.7	860.6	F	698.50	37 13/16	8 1/2	959.7	215.2
F <sup>#</sup> /G <sup>b</sup>	46.30	146 15/16	32 15/16	3,729.3	836.1	F <sup>#</sup> /G <sup>b</sup>	740.00	36 3/4	8 1/4	932.7	209.1
G	49.00	142 13/16	32	3,624.6	812.6	G	784.00	35 11/16	8	905.7	203.1
G <sup>#</sup> /A <sup>b</sup>	51.90	138 3/4	31 1/8	3,521.5	789.5	G <sup>#</sup> /A <sup>b</sup>	830.60	34 11/16	7 3/4	880.4	197.4
A	55.01	134 13/16	30 1/4	3,421.5	767.1	A	880.00	33 11/16	7 9/16	855.0	191.7
A <sup>#</sup> /B <sup>b</sup>	58.30	130 15/16	29 3/8	3,323.2	745.1	A <sup>#</sup> /B <sup>b</sup>	932.30	32 3/4	7 5/16	831.2	186.4
B	61.70	127 1/4	28 1/2	3,229.6	724.1	B	987.80	31 13/16	7 1/8	807.4	181.0
C2	65.40	123 5/8	27 11/16	3,137.6	703.5	C6	1,046.50	30 7/8	6 15/16	783.6	175.7
C <sup>#</sup> /D <sup>b</sup>	69.30	120 1/16	26 15/16	3,047.2	683.2	C <sup>#</sup> /D <sup>b</sup>	1,108.70	30	6 3/4	761.4	170.7
D	73.41	116 11/16	26 3/16	2,961.5	664.0	D	1,174.61	29 3/16	6 9/16	740.8	166.1
D <sup>#</sup> /E <sup>b</sup>	77.80	113 5/16	25 3/8	2,875.9	644.8	D <sup>#</sup> /E <sup>b</sup>	1,244.50	28 5/16	6 3/8	718.6	161.1
E	82.40	110 1/8	24 11/16	2,795.0	626.6	E	1,318.50	27 9/16	6 3/16	699.5	156.8
F	87.30	107	24	2,715.7	608.9	F	1,397.00	26 3/4	6	678.9	152.2
F <sup>#</sup> /G <sup>b</sup>	92.50	103 15/16	23 5/16	2,637.9	591.4	F <sup>#</sup> /G <sup>b</sup>	1,480.00	26	5 13/16	659.9	147.9
G	98.01	101	22 5/8	2,563.4	574.7	G	1,568.00	25 1/4	5 11/16	640.8	143.7
G <sup>#</sup> /A <sup>b</sup>	103.80	98 1/8	22	2,490.4	558.4	G <sup>#</sup> /A <sup>b</sup>	1,661.20	24 1/2	5 1/2	621.8	139.4
A	110.00	95 5/16	21 3/8	2,419.0	542.3	A	1,760.00	23 13/16	5 5/16	604.4	135.5
A <sup>#</sup> /B <sup>b</sup>	116.50	92 5/8	20 3/4	2,350.8	527.1	A <sup>#</sup> /B <sup>b</sup>	1,864.60	23 1/8	5 3/16	586.9	131.6
B	123.50	89 15/16	20 3/16	2,282.6	511.8	B	1,975.50	22 1/2	5 1/16	571.1	128.0
C3	130.81	87 7/16	19 5/8	2,219.2	497.5	C7	2,093.00	21 7/8	4 7/8	555.2	124.5
C <sup>#</sup> /D <sup>b</sup>	138.60	84 15/16	19 1/16	2,155.7	483.3	C <sup>#</sup> /D <sup>b</sup>	2,217.40	21 1/4	4 3/4	539.3	120.9
D	146.80	82 1/2	18 1/2	2,093.9	469.4	D	2,349.20	20 5/8	4 5/8	523.5	117.4
D <sup>#</sup> /E <sup>b</sup>	155.60	80 1/8	17 15/16	2,033.6	455.9	D <sup>#</sup> /E <sup>b</sup>	2,489.01	20 1/16	4 1/2	509.2	114.2
E	164.80	77 7/8	17 7/16	1,976.5	443.1	E	2,637.00	19 7/16	4 3/8	493.3	110.6
F	174.61	75 11/16	17	1,920.9	430.7	F	2,794.00	18 15/16	4 1/4	480.6	107.8
F <sup>#</sup> /G <sup>b</sup>	185.00	73 1/2	16 1/2	1,865.4	418.2	F <sup>#</sup> /G <sup>b</sup>	2,960.00	18 3/8	4 1/8	466.4	104.6
G	196.00	71 7/16	16	1,813.1	406.5	G	3,136.00	17 7/8	4	453.7	101.7
G <sup>#</sup> /A <sup>b</sup>	207.70	69 3/8	15 9/16	1,760.7	394.8	G <sup>#</sup> /A <sup>b</sup>	3,322.41	17 3/8	3 7/8	441.0	98.9
A	220.00	67 3/8	15 1/8	1,710.0	383.4	A	3,520.00	16 7/8	3 13/16	428.3	96.0
A <sup>#</sup> /B <sup>b</sup>	233.10	65 1/2	14 11/16	1,662.4	372.7	A <sup>#</sup> /B <sup>b</sup>	3,729.20	16 3/8	3 11/16	415.6	93.2
B	246.90	63 5/8	14 1/4	1,614.8	362.0	B	3,951.00	15 7/8	3 9/16	402.9	90.3
C4	261.60	61 13/16	13 7/8	1,568.8	351.7	C8	4,186.00	15 7/16	3 7/16	391.8	87.8
C <sup>#</sup> /D <sup>b</sup>	277.20	60 1/16	13 7/16	1,524.4	341.8	C <sup>#</sup> /D <sup>b</sup>	4,434.81	15	3 3/8	380.7	85.4
D	293.70	58 5/16	13 1/16	1,480.0	331.8	D	4,698.40	14 9/16	3 1/4	369.6	82.9
D <sup>#</sup> /E <sup>b</sup>	311.10	56 11/16	12 11/16	1,438.7	322.6	D <sup>#</sup> /E <sup>b</sup>	4,978.00	14 3/16	3 3/16	360.1	80.7
E	329.61	55 1/16	12 3/8	1,397.5	313.3	E	5,274.00	13 3/4	3 1/16	349.0	78.2
F	349.30	53 1/2	12	1,357.8	304.4	F	5,588.00	13 3/8	3	339.5	76.1
F <sup>#</sup> /G <sup>b</sup>	370.00	52	11 11/16	1,319.8	295.9	F <sup>#</sup> /G <sup>b</sup>	5,920.00	13	2 15/16	329.9	74.0
G	392.00	50 1/2	11 5/16	1,281.7	287.4	G	6,272.00	12 5/8	2 13/16	320.4	71.8
G <sup>#</sup> /A <sup>b</sup>	415.30	49 1/16	11	1,245.2	279.2	G <sup>#</sup> /A <sup>b</sup>	6,644.80	12 1/4	2 3/4	310.9	69.7
A	440.01	47 11/16	10 11/16	1,210.3	271.4	A	7,040.00	11 15/16	2 11/16	303.0	67.9
A <sup>#</sup> /B <sup>b</sup>	466.20	46 5/16	10 3/8	1,175.4	263.5	A <sup>#</sup> /B <sup>b</sup>	7,458.40	11 9/16	2 9/16	293.5	65.8
B	493.91	45	10 1/16	1,142.1	256.1	B	7,902.01	11 1/4	2 1/2	285.5	64.0
						C9	8,367.01	10 15/16	2 7/16	277.6	62.2

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**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.

## Tubular Wind Chime Dimensions

EMT aka thin-wall steel conduit, Nominal size = 4.0"

A=440 Hz, tube open at both ends

<b>OD inches = 4.500</b>	<b>ID inches = 4.334</b>	<b>Material = Steel</b>
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**Wall = 0.083 inches** \* Tubing length calculated for fundamental frequency \*\* Hang Point is for fundamental frequency node

Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm	Octave Note	A=440 Freq. Hz	Length * inches	Hang Point** inches	Length * mm	Hang Point** mm
C1	32.70	185 5/8	41 5/8	4,711.2	1,056.2	C5	523.30	46 7/16	10 7/16	1,178.6	264.2
C#/D <sup>b</sup>	34.60	180 1/2	40 7/16	4,581.1	1,027.1	C#/D <sup>b</sup>	554.40	45 1/16	10 1/8	1,143.7	256.4
D	36.70	175 1/4	39 5/16	4,447.8	997.2	D	587.30	43 13/16	9 13/16	1,112.0	249.3
D#/E <sup>b</sup>	38.90	170 3/16	38 1/8	4,319.4	968.4	D#/E <sup>b</sup>	622.30	42 9/16	9 9/16	1,080.2	242.2
E	41.21	165 3/8	37 1/16	4,197.2	941.0	E	659.30	41 3/8	9 1/4	1,050.1	235.4
F	43.70	160 9/16	36	4,075.1	913.6	F	698.50	40 3/16	9	1,020.0	228.7
F#/G <sup>d</sup>	46.30	156	35	3,959.3	887.7	F#/G <sup>d</sup>	740.00	39	8 3/4	989.8	221.9
G	49.00	151 11/16	34	3,849.8	863.1	G	784.00	37 15/16	8 1/2	962.9	215.9
G#/A <sup>d</sup>	51.90	147 3/8	33 1/16	3,740.4	838.6	G#/A <sup>d</sup>	830.60	36 13/16	8 1/4	934.3	209.5
A	55.01	143 1/8	32 1/16	3,632.5	814.4	A	880.00	35 13/16	8	908.9	203.8
A#/B <sup>d</sup>	58.30	139 1/16	31 3/16	3,529.4	791.3	A#/B <sup>d</sup>	932.30	34 3/4	7 13/16	882.0	197.7
B	61.70	135 1/8	30 5/16	3,429.5	768.9	B	987.80	33 3/4	7 9/16	856.6	192.0
C2	65.40	131 1/4	29 7/16	3,331.1	746.8	C6	1,046.50	32 13/16	7 3/8	832.8	186.7
C#/D <sup>b</sup>	69.30	127 1/2	28 9/16	3,236.0	725.5	C#/D <sup>b</sup>	1,108.70	31 7/8	7 1/8	809.0	181.4
D	73.41	123 7/8	27 3/4	3,143.9	704.9	D	1,174.61	31	6 15/16	786.8	176.4
D#/E <sup>b</sup>	77.80	120 3/8	27	3,055.1	685.0	D#/E <sup>b</sup>	1,244.50	30 1/16	6 3/4	763.0	171.1
E	82.40	116 15/16	26 3/16	2,967.9	665.4	E	1,318.50	29 1/4	6 9/16	742.4	166.4
F	87.30	113 5/8	25 1/2	2,883.8	646.5	F	1,397.00	28 3/8	6 3/8	720.2	161.5
F#/G <sup>d</sup>	92.50	110 3/8	24 3/4	2,801.3	628.1	F#/G <sup>d</sup>	1,480.00	27 5/8	6 3/16	701.1	157.2
G	98.01	107 1/4	24 1/16	2,722.0	610.3	G	1,568.00	26 13/16	6	680.5	152.6
G#/A <sup>d</sup>	103.80	104 3/16	23 3/8	2,644.3	592.8	G#/A <sup>d</sup>	1,661.20	26 1/16	5 13/16	661.5	148.3
A	110.00	101 1/4	22 11/16	2,569.7	576.1	A	1,760.00	25 5/16	5 11/16	642.4	144.0
A#/B <sup>d</sup>	116.50	98 3/8	22 1/16	2,496.8	559.8	A#/B <sup>d</sup>	1,864.60	24 9/16	5 1/2	623.4	139.8
B	123.50	95 1/2	21 7/16	2,423.8	543.4	B	1,975.50	23 7/8	5 3/8	605.9	135.9
C3	130.81	92 13/16	20 13/16	2,355.6	528.1	C7	2,093.00	23 3/16	5 3/16	588.5	131.9
C#/D <sup>b</sup>	138.60	90 3/16	20 1/4	2,289.0	513.2	C#/D <sup>b</sup>	2,217.40	22 9/16	5 1/16	572.6	128.4
D	146.80	87 5/8	19 5/8	2,223.9	498.6	D	2,349.20	21 7/8	4 7/8	555.2	124.5
D#/E <sup>b</sup>	155.60	85 1/8	19 1/16	2,160.5	484.4	D#/E <sup>b</sup>	2,489.01	21 1/4	4 3/4	539.3	120.9
E	164.80	82 11/16	18 9/16	2,098.6	470.5	E	2,637.00	20 11/16	4 5/8	525.0	117.7
F	174.61	80 5/16	18	2,038.3	457.0	F	2,794.00	20 1/16	4 1/2	509.2	114.2
F#/G <sup>d</sup>	185.00	78 1/16	17 1/2	1,981.2	444.2	F#/G <sup>d</sup>	2,960.00	19 1/2	4 3/8	494.9	111.0
G	196.00	75 13/16	17	1,924.1	431.4	G	3,136.00	18 15/16	4 1/4	480.6	107.8
G#/A <sup>d</sup>	207.70	73 11/16	16 1/2	1,870.2	419.3	G#/A <sup>d</sup>	3,322.41	18 7/16	4 1/8	467.9	104.9
A	220.00	71 9/16	16 1/16	1,816.3	407.2	A	3,520.00	17 7/8	4	453.7	101.7
A#/B <sup>d</sup>	233.10	69 9/16	15 5/8	1,765.5	395.8	A#/B <sup>d</sup>	3,729.20	17 3/8	3 7/8	441.0	98.9
B	246.90	67 9/16	15 1/8	1,714.7	384.4	B	3,951.00	16 7/8	3 13/16	428.3	96.0
C4	261.60	65 5/8	14 11/16	1,665.6	373.4	C8	4,186.00	16 7/16	3 11/16	417.2	93.5
C#/D <sup>b</sup>	277.20	63 3/4	14 5/16	1,618.0	362.7	C#/D <sup>b</sup>	4,434.81	15 15/16	3 9/16	404.5	90.7
D	293.70	61 15/16	13 7/8	1,572.0	352.4	D	4,698.40	15 1/2	3 1/2	393.4	88.2
D#/E <sup>b</sup>	311.10	60 3/16	13 1/2	1,527.6	342.5	D#/E <sup>b</sup>	4,978.00	15 1/16	3 3/8	382.3	85.7
E	329.61	58 1/2	13 1/8	1,484.7	332.9	E	5,274.00	14 5/8	3 1/4	371.2	83.2
F	349.30	56 13/16	12 3/4	1,441.9	323.3	F	5,588.00	14 3/16	3 3/16	360.1	80.7
F#/G <sup>d</sup>	370.00	55 3/16	12 3/8	1,400.7	314.0	F#/G <sup>d</sup>	5,920.00	13 13/16	3 1/8	350.6	78.6
G	392.00	53 5/8	12	1,361.0	305.1	G	6,272.00	13 3/8	3	339.5	76.1
G#/A <sup>d</sup>	415.30	52 1/16	11 11/16	1,321.3	296.2	G#/A <sup>d</sup>	6,644.80	13	2 15/16	329.9	74.0
A	440.01	50 5/8	11 3/8	1,284.9	288.1	A	7,040.00	12 5/8	2 13/16	320.4	71.8
A#/B <sup>d</sup>	466.20	49 3/16	11	1,248.4	279.9	A#/B <sup>d</sup>	7,458.40	12 5/16	2 3/4	312.5	70.1
B	493.91	47 3/4	10 11/16	1,211.9	271.7	B	7,902.01	11 15/16	2 11/16	303.0	67.9
						C9	8,367.01	11 5/8	2 5/8	295.0	66.1

[www.home.fuse.net/engineering/Chimes.htm](http://www.home.fuse.net/engineering/Chimes.htm)

**Caution**, these values allow you to get close to the desired note (typically within 1%) but if you desire an exact note, cut slightly long and grind to the final frequency, but not required for wind chimes. Do not use these calculations for an orchestra or a musical setting unless you are certain they use A=440 Hz. An orchestra or symphony may brighten slightly and will typically tune for A=442, 43 or 44.