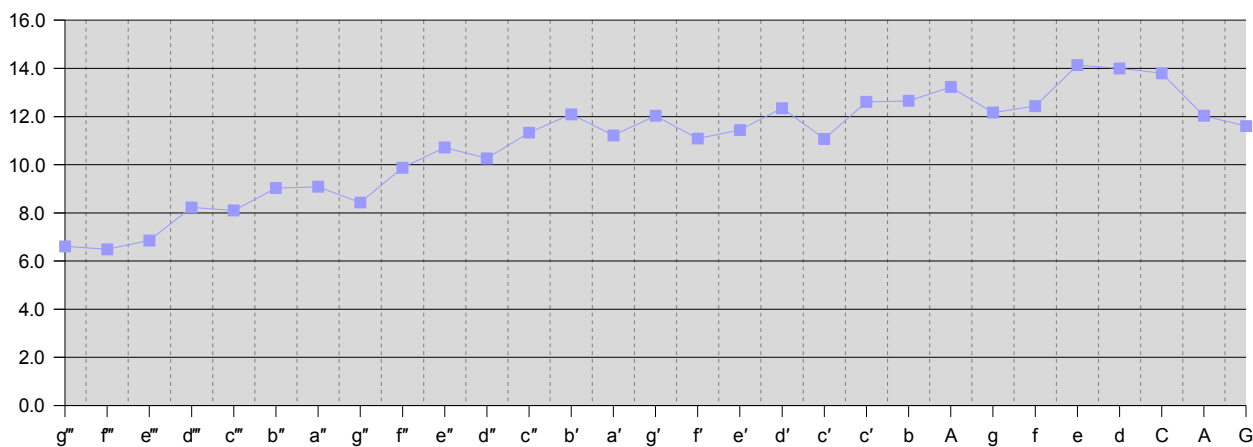


String no.	freq	Note	Length (cm)	Length (in)	Gauge (mm)	Gauge (in)	Tension (kgf)	Metal
1	1568	g'''	7.1	2.8	0.44	0.017	6.6	Yellow brass
2	1396	f'''	7.9	3.1	0.44	0.017	6.5	Yellow brass
3	1318	e'''	8.6	3.4	0.44	0.017	6.9	Yellow brass
4	1174	d'''	9.7	3.8	0.48	0.019	8.2	Yellow brass
5	1046	c'''	10.8	4.3	0.48	0.019	8.1	Yellow brass
6	986	b''	12.1	4.8	0.48	0.019	9.0	Yellow brass
7	880	a''	13.6	5.4	0.48	0.019	9.1	Yellow brass
8	784	g''	14.7	5.8	0.48	0.019	8.4	Yellow brass
9	698	f''	16.5	6.5	0.52	0.02	9.9	Yellow brass
10	659	e''	18.2	7.2	0.52	0.02	10.7	Yellow brass
11	587	d''	20	7.9	0.52	0.02	10.3	Yellow brass
12	523	c''	21.9	8.6	0.56	0.022	11.3	Yellow brass
13	493	b'	24	9.5	0.56	0.022	12.1	Yellow brass
14	440	a'	25.9	10.2	0.56	0.022	11.2	Yellow brass
15	392	g'	28.1	11.1	0.6	0.024	12.0	Yellow brass
16	349	f'	30.3	11.9	0.6	0.024	11.1	Yellow brass
17	329.5	e'	32.6	12.8	0.6	0.024	11.4	Yellow brass
18	293.5	d'	35.1	13.8	0.65	0.026	12.3	Yellow brass
19	261.5	c'	37.3	14.7	0.65	0.026	11.1	Yellow brass
20	261.5	c'	39.8	15.7	0.65	0.026	12.6	Yellow brass
21	246.5	b	42.3	16.7	0.65	0.026	12.7	Yellow brass
22	220	A	45	17.7	0.7	0.028	13.2	Yellow brass
23	196	g	47.5	18.7	0.65	0.026	12.2	Hard Sterling Silver
24	174.5	f	50.1	19.7	0.7	0.028	12.4	Hard Sterling Silver
25	164.75	e	52.8	20.8	0.75	0.03	14.1	Hard Sterling Silver
26	146.75	d	55.3	21.8	0.8	0.032	14.0	Hard Sterling Silver
27	130.75	C	58	22.9	0.85	0.033	13.8	Hard Sterling Silver
28	110	A	60.8	24.0	0.9	0.035	12.0	Hard Sterling Silver
29	98	G	63.5	25.0	0.95	0.037	11.6	Hard Sterling Silver
							average	Total: 314.9

Tension



String lengths (and therefore tensions) are approximate, based on the most accurate measurements yet available, from Paul Dooley 'Reconstructing the medieval Irish harp', *Galpin Society Journal* LXVII, 2014, used with permission

Gauge (mm)	no spares cm	including one spare of each gauge cm	individual strings cm
0.44			23.1
0.44			23.9
0.44	71.6	96.2	24.6
0.48			25.7
0.48			26.8
0.48			28.1
0.48			29.6
0.48	140.9	171.6	30.7
0.52			32.5
0.52			34.2
0.52	102.7	138.7	36
0.56			37.9
0.56			40
0.56	119.8	161.7	41.9
0.6			44.1
0.6			46.3
0.6	139	187.6	48.6
0.65			51.1
0.65			53.3
0.65			55.8
0.65	218.5	276.8	58.3
0.7	61	122	61
0.65	63.5	127	63.5
0.7	66.1	132.2	66.1
0.75	68.8	137.6	68.8
0.8	71.3	142.6	71.3
0.85	74	148	74
0.9	76.8	153.6	76.8
0.95	79.5	159	79.5
	<i>no spares</i>	<i>with spares</i>	<i>each string toggled</i>
	8.54 m brass	11.55 m brass	<i>No spares</i> £142.07
	£2.00 per m	£2.00 per m	£2.50 brass toggle
	subtotal £17.07	subtotal £23.09	29 toggles
	5 m silver	10 m silver	subtotal £72.50
	£25.00 per m	£25.00 per m	<b>TOTAL £214.57</b>
	subtotal £125.00	subtotal £250.00	<i>With spares</i> £273.09
	<b>TOTAL £142.07</b>	<b>TOTAL £273.09</b>	£2.50 brass toggle
	<i>Replace the silver spares with brass</i>		43 toggles
	16.55 m brass	<i>...and add toggles</i>	subtotal £107.50
	£2.00 per m	£2.50 brass toggle	<b>TOTAL £380.59</b>
	subtotal £33.09	43 toggles	
	5 m silver	subtotal £107.50	
	£25.00 per m	<b>TOTAL £265.59</b>	
	subtotal £125.00		
	<b>TOTAL £158.09</b>		

Order your strings at [www.earlygaelicharp.info/emporium/wire](http://www.earlygaelicharp.info/emporium/wire)