

## Measurements

Here are some measurements for classic string instruments, thanks to Internet.  
At the arrows you'll find what you need to make a decent string setup.

For now, the Dutch viola is basically 114,08 % the size of a Dutch violin.  
That works.

I haven't tested other sizes.

	Full Size Violin	7/8 violin	3/4 violin	1/2 violin	1/4 violin	1/8 violin	Full size cello	7/8 cello	3/4 cello	1/2 cello	large viola (16 1/2")	med. Viola (16")	small viola (15 1/2")
diapason to neck length ratio	2/3	2/3	2/3	2/3	2/3	2/3	7/10	7/10	7/10	7/10	2/3	2/3	2/3
diapason (stop length)	195 mm	190.5 mm	186 mm	177 mm	159-168.6 mm	155-164 mm	400-405 mm	390 mm	370 mm	350 mm	231 mm	225 mm	210 mm
neck length	130 mm	127 mm	124 mm	118.5 mm	106-112.5 mm	103-109.5 mm	280 mm	273 mm	259 mm	245 mm	154 mm	150 mm	140 mm
body length	355 mm	345 mm	335 mm	320 mm	285 mm	255 mm	755 mm	720 mm	690 mm	655 mm	420 mm	405 mm	394 mm
vibrating string length	326 mm	318.5 mm	310 mm	285 mm	260 mm	235 mm	690 mm	672 mm	635 mm	602 mm	380 mm	378.5 mm	356 mm
projection	25-27 mm	24-26 mm	23-25 mm	22-24 mm	21-22 mm	19-20 mm	81 mm	78-81 mm	75-78 mm	69-73 mm	32+ mm	32 mm	31 mm
→ string width @ bridge	33.5 mm	33.2 mm	31 mm	28 mm	26 mm	24 mm	47 mm	46 mm	45 mm	43 mm	38 mm		37 mm
→ string width @ nut	16.5 mm	16.1 mm	15 mm	13.5 mm	13 mm	12.5 mm	22 mm	21.5 mm	21 mm	19.5 mm	17.75 mm	17.25 mm	16.5 mm
→ string height @ fingerboard	e- 3.5 mm g- 5.5 mm		e- 3.2 mm g- 5.1 mm	e- 3 mm g- 4.7 mm	e- 2.7 mm g- 4.3 mm	e- 2.5 mm g- 3.9 mm	a- 5.5 mm c- 8.0 mm		a- 5.1 mm c- 7.4 mm		a- 4.5 mm c- 6.5 mm	a- 4 mm c- 6 mm	a- 4 mm c- 6 mm
→ bridge thickness @ foot	4.2 -4.3 mm		3.9 mm	3.6 mm	3.3 mm	3.0 mm	11 -11.5 mm		10 mm		4.5-5.2 mm	4.5-5.2 mm	4.5-5.2 mm
→ bridge thickness @ string	1.3 mm		1.2 mm	1.1 mm	1.0 mm	0.9 mm	2.6 mm	2.5 mm	2.4 mm		1.5 mm		1.4 mm
→ neck width @ nut	23.5- 24 mm						32+ mm				25 mm		24.5 mm
soundpost diameter	6 mm	5.5- 6 mm	5- 5.5 mm	4.5- 5 mm	4- 4.5 mm	4- 4.5 mm	11 mm		10 mm		7 mm	6.5 mm	6 mm
pegbox wall to collar	11- 12 mm						20-22mm						14 mm

On the next pages are some extra measurements and gradients of the sound boards

There are 3 sets of sound boards:

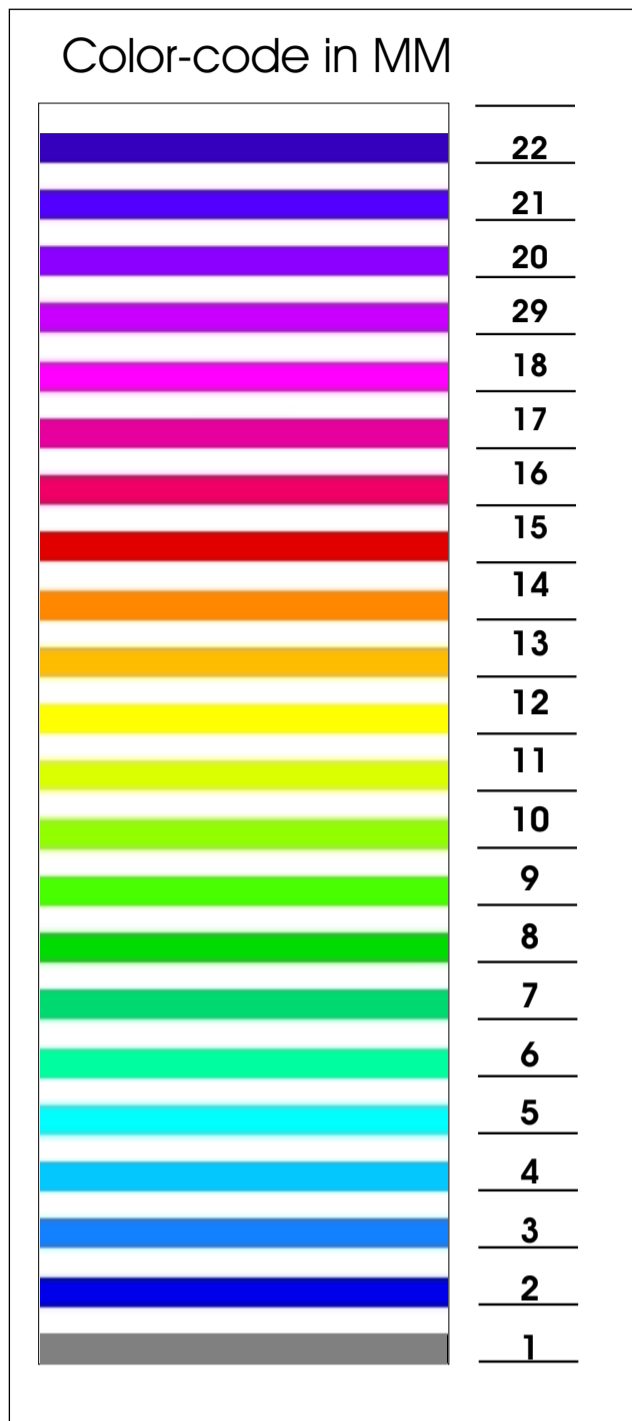
**The 6 mm set** is for high quality (low relative density) tone wood.

It is less forgiving but the instruments are very regular, best for viola's

**The 5.5+ mm set** is my favorite it gives an almost perfect balance in weight.

**The 4 mm set** is more forgiving, best for violins. for lower grade (heavier) woods.

and some measurements of the neck.



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## 4 mm set

### Gradients

There are images of the sound boards in colored gradients.

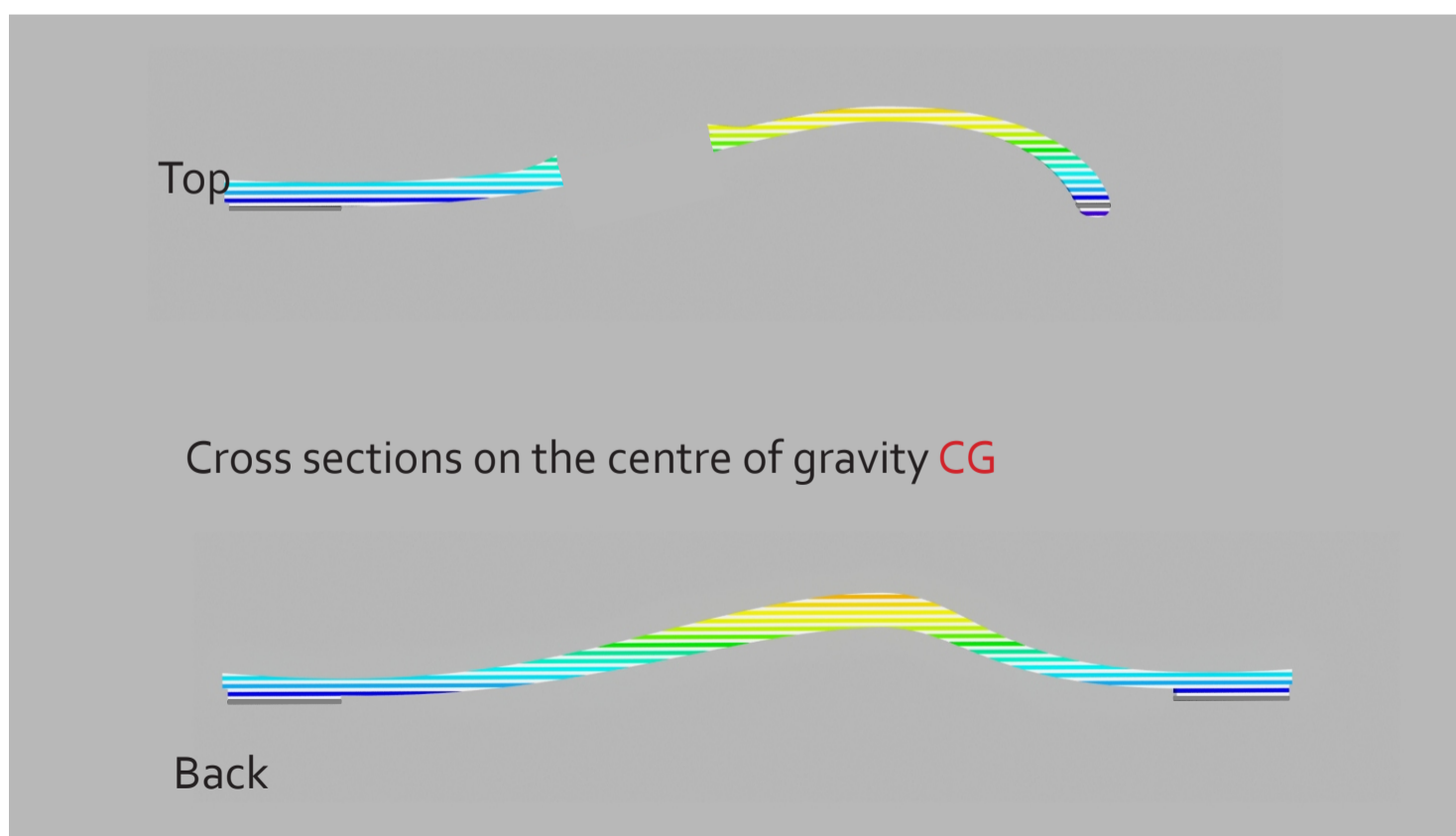
Grey is glue level.

The color pattern repeats is self.

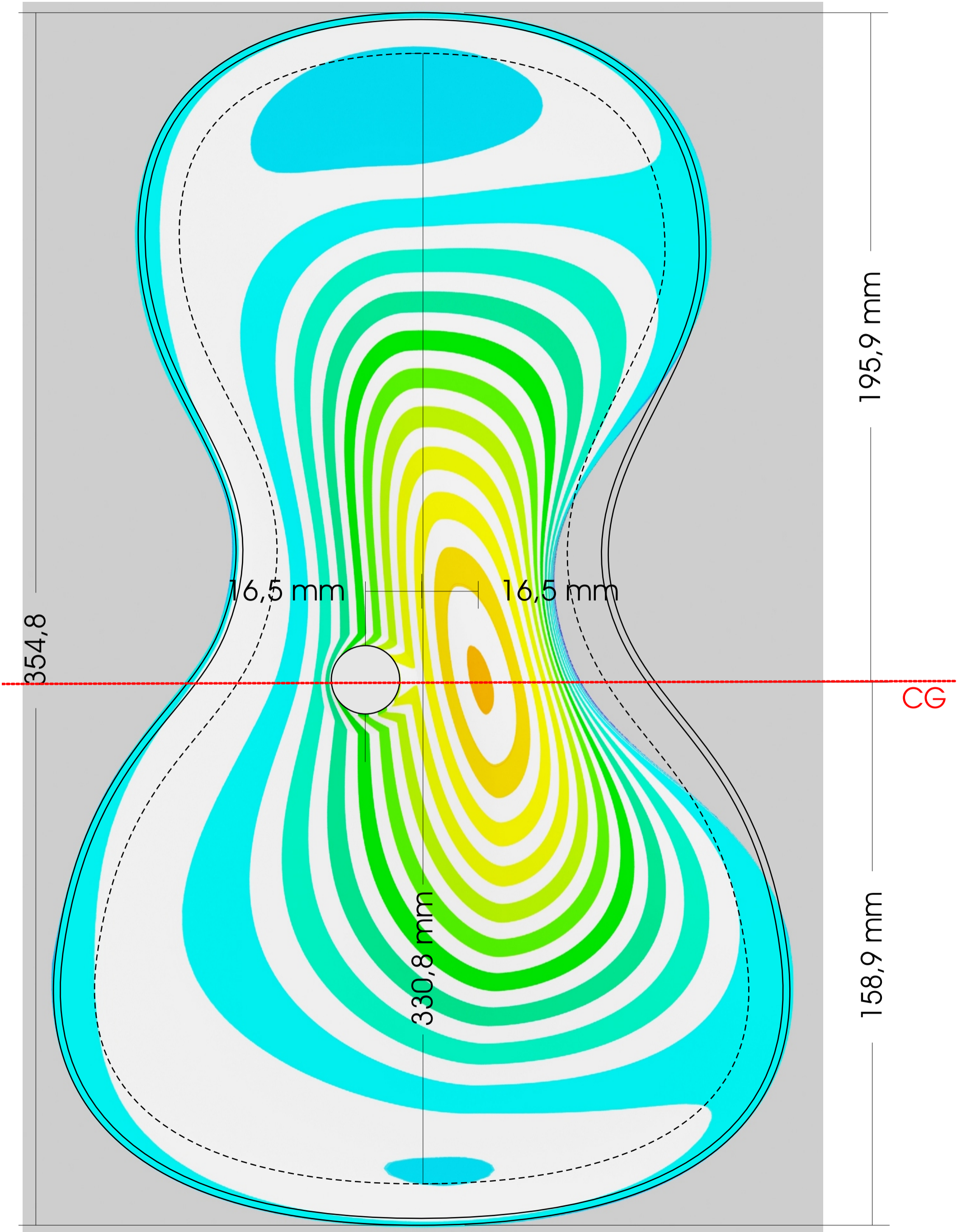
So in the top sound board there is a purple level *Under* the glue level.

The bridge is placed at or close to the center of gravity.

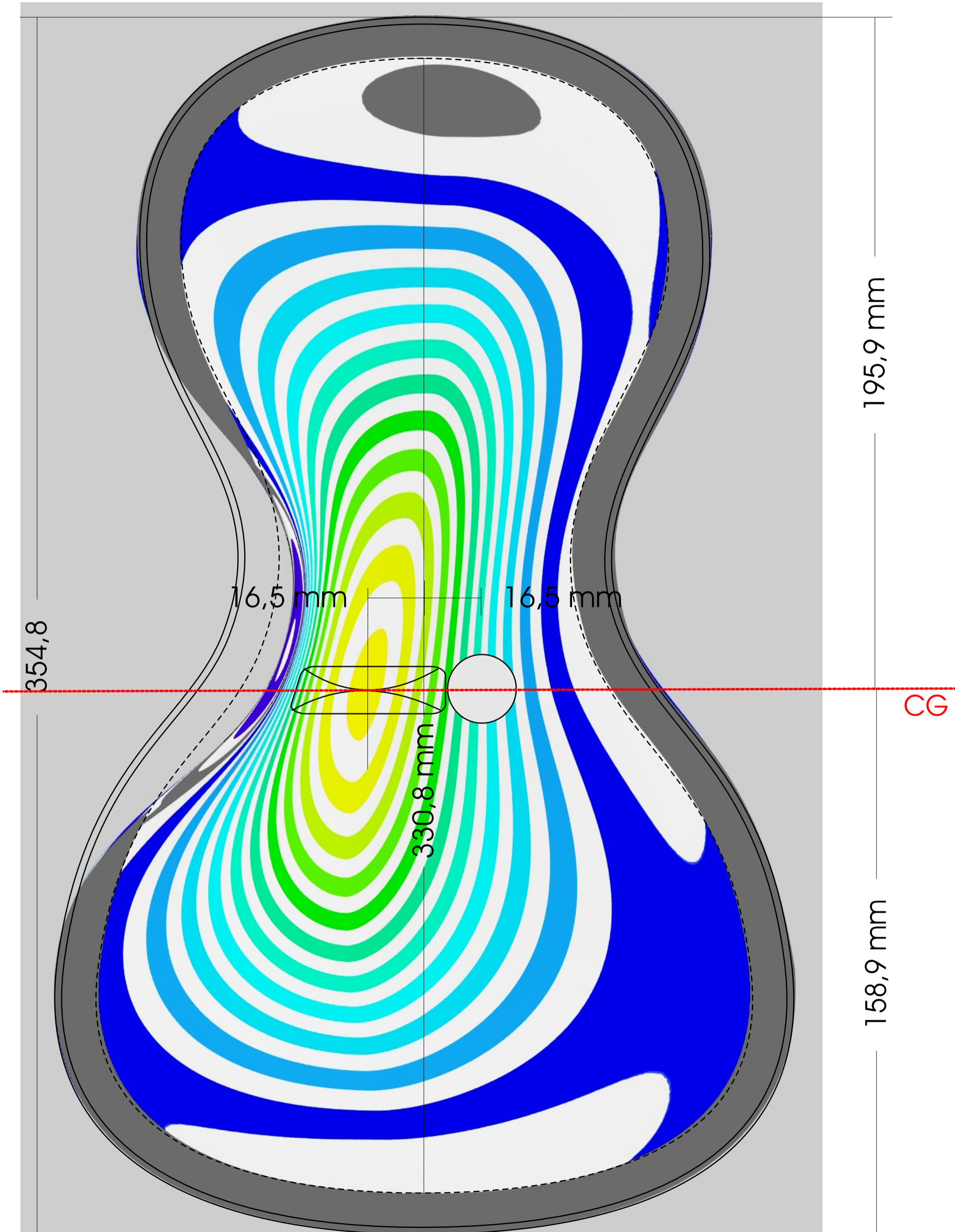
Both boards should have the same weight.



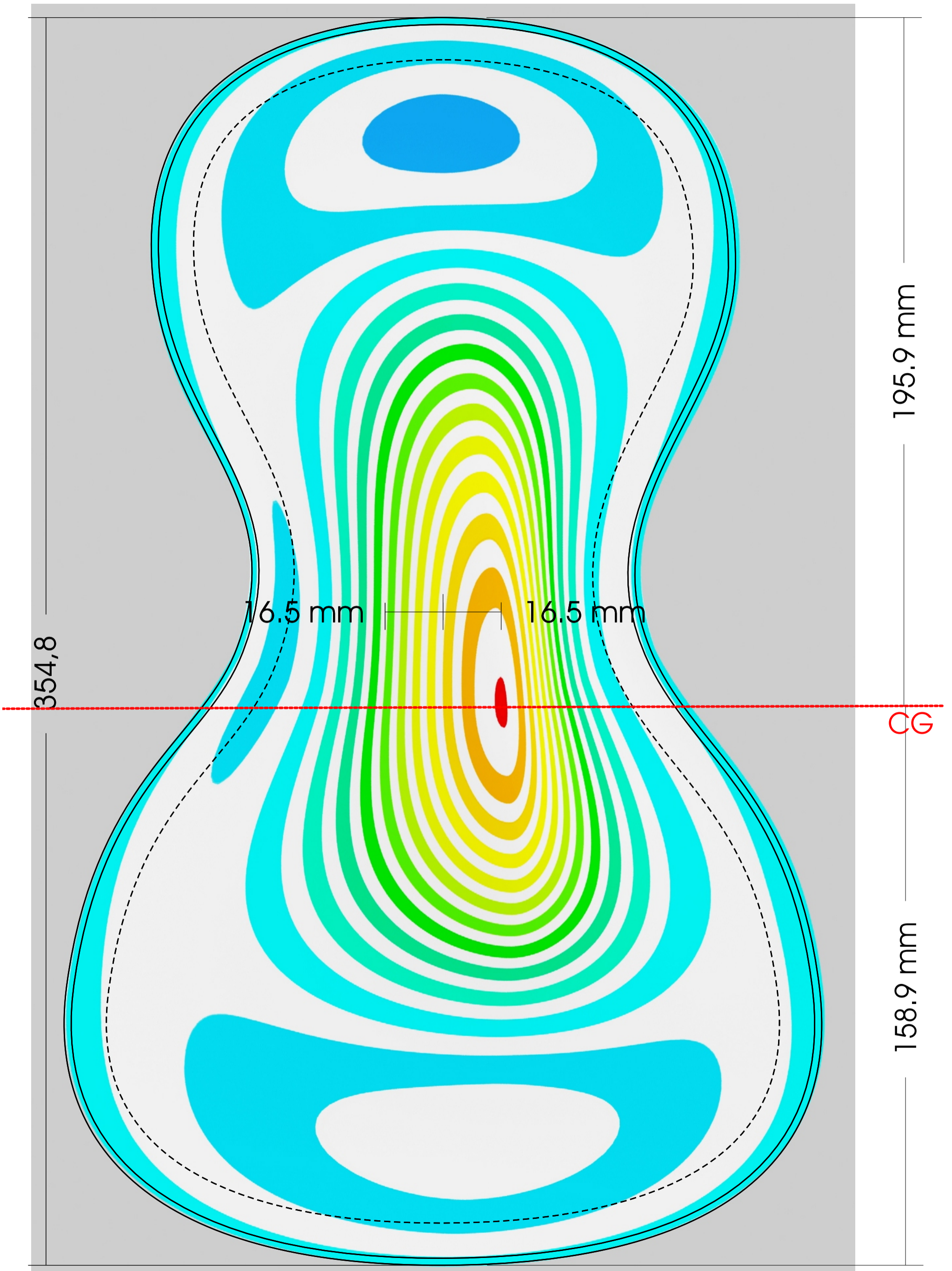
# Outside Top 4mm



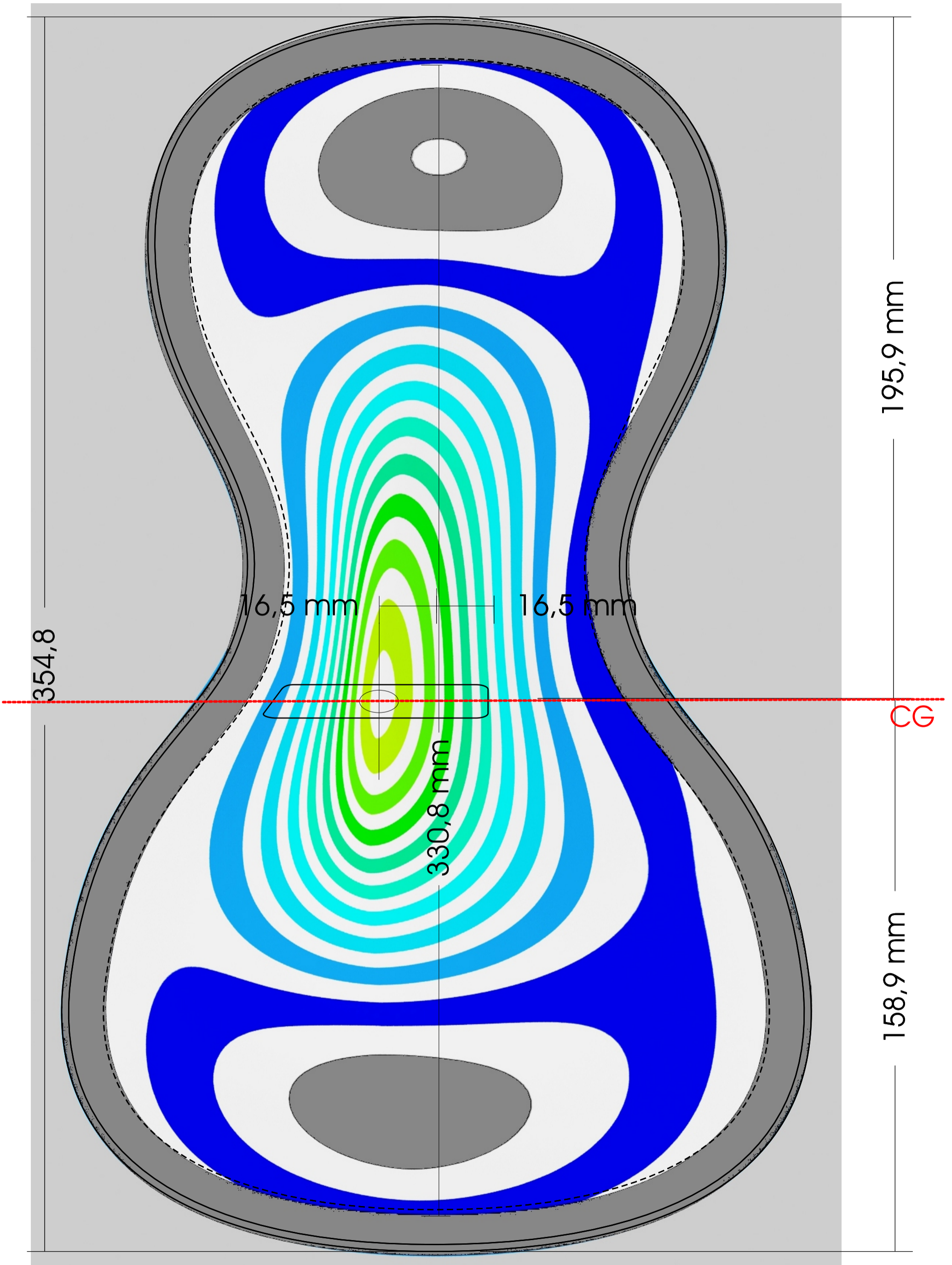
# Inside Top 4mm

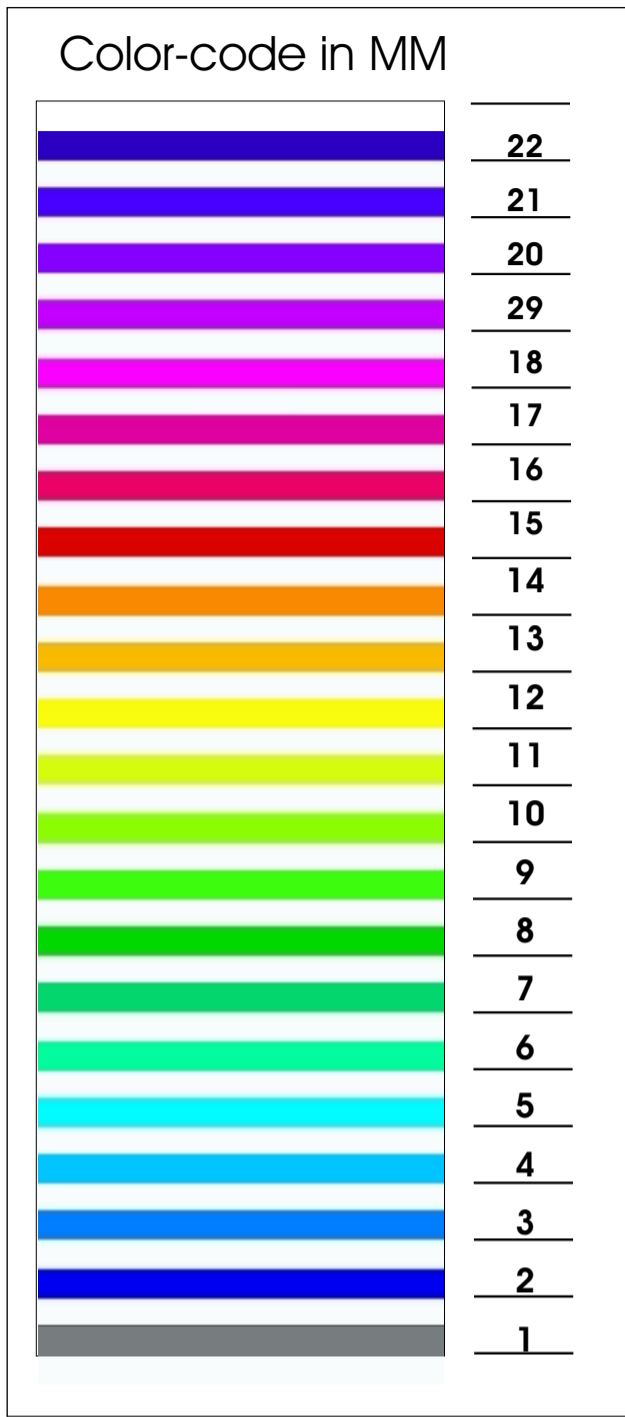


# Outside Back 4mm



# Inside Back 4mm





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## 5.5+ mm set

### Gradients

There are images of the sound boards in colored gradients.

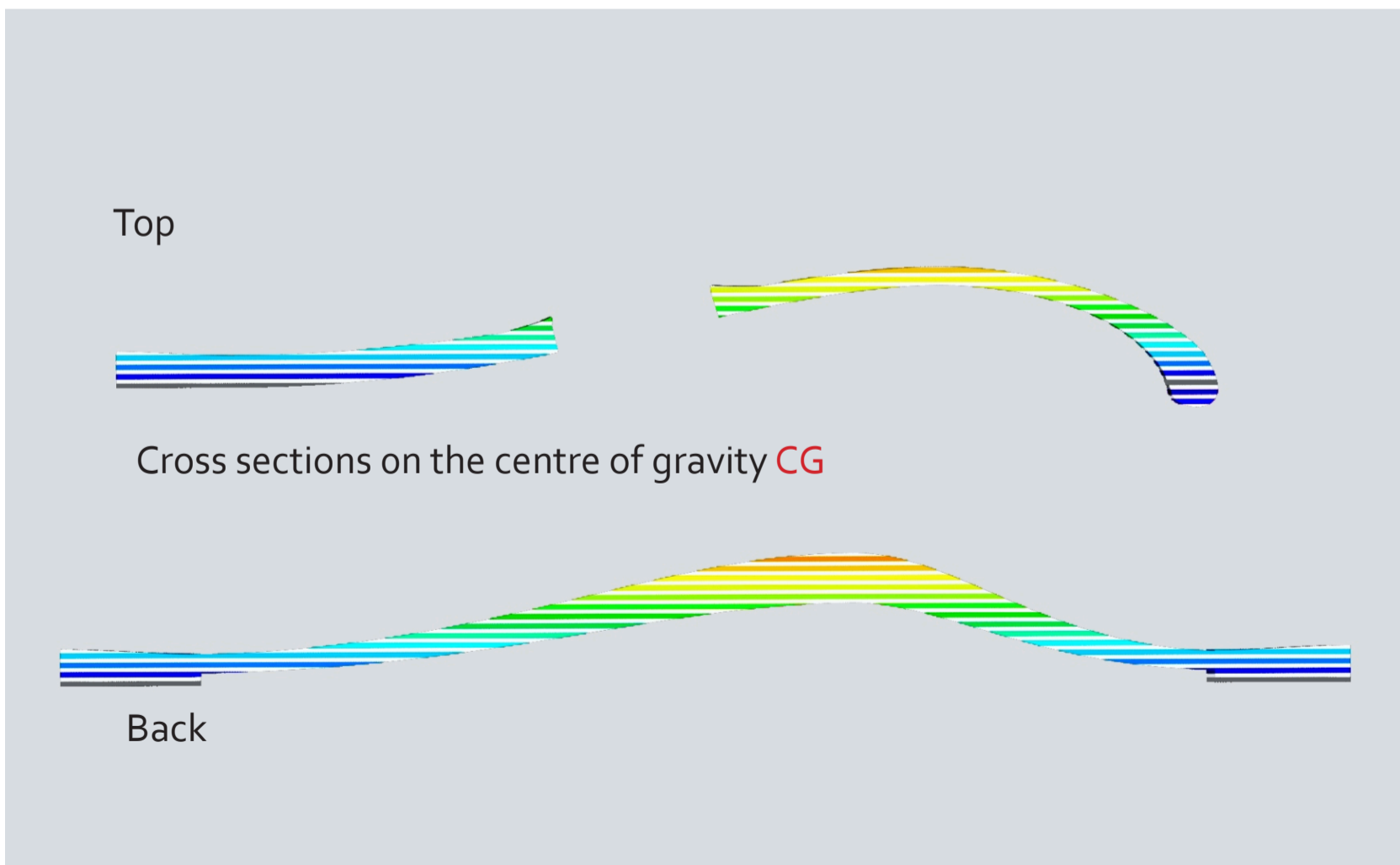
Grey is glue level.

The color pattern repeats is self.

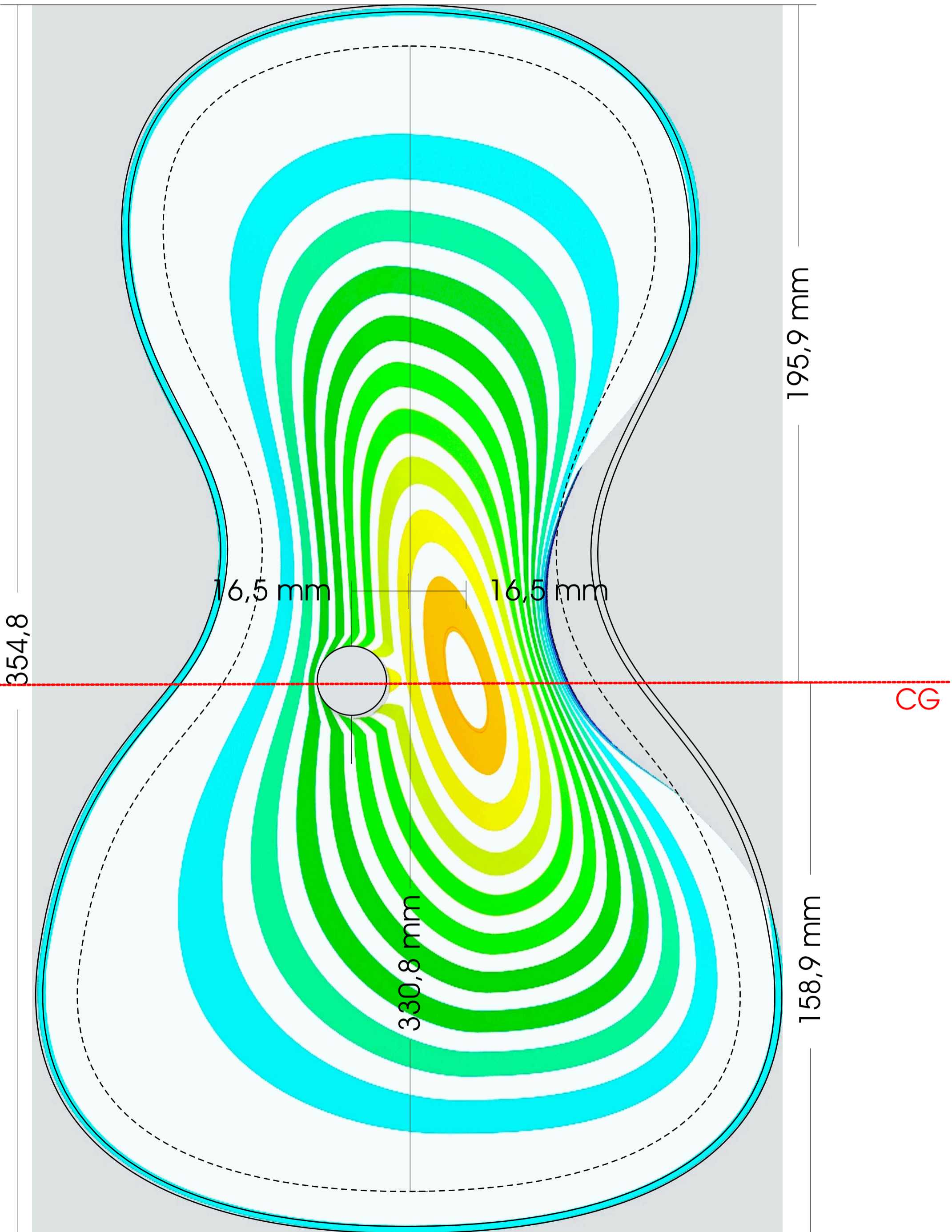
So in the top sound board there is a purple level *Under* the glue level.

The bridge is placed at or close to the center of gravity.

Both boards should have the same weight.

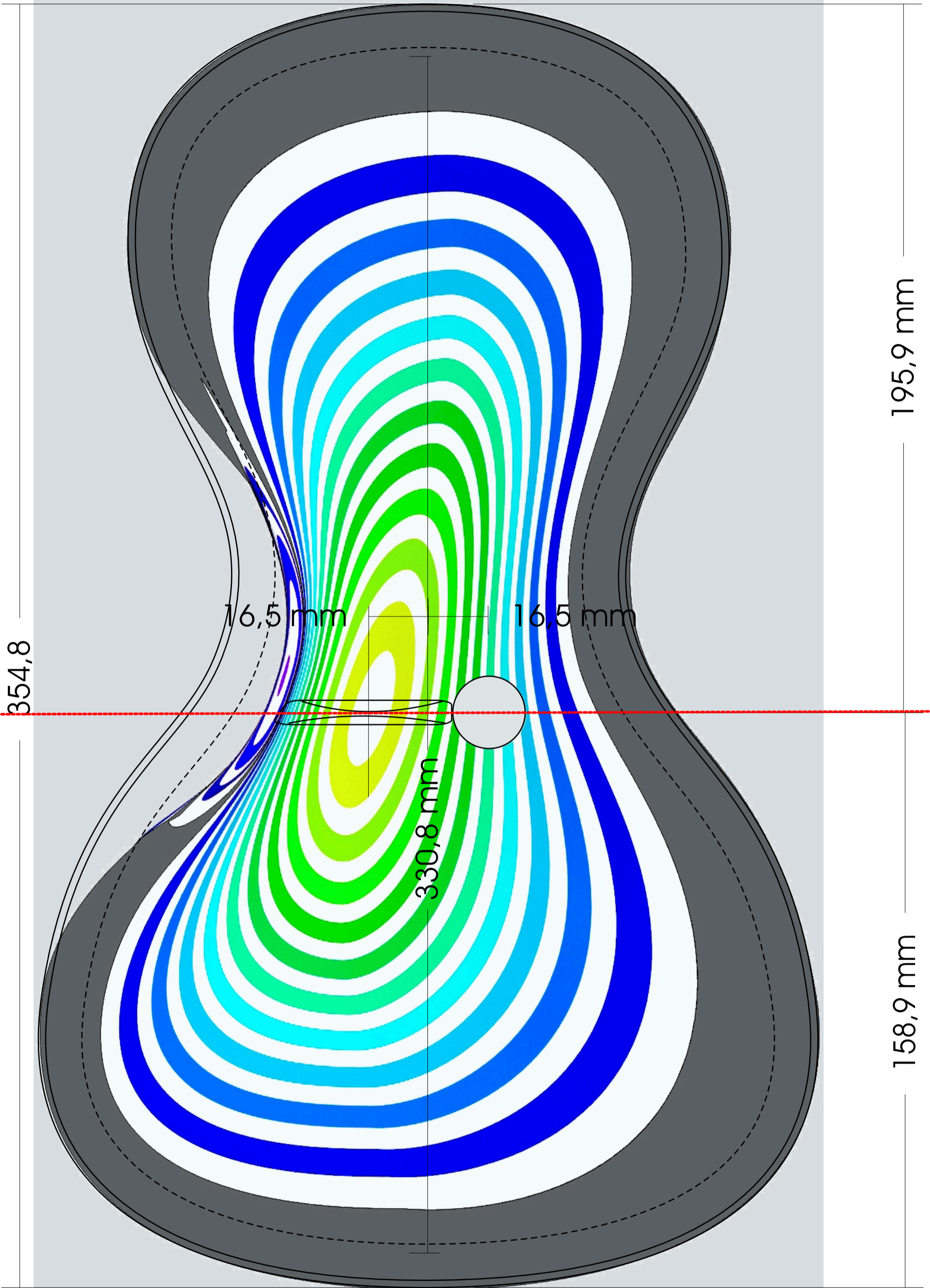


# Outside Top 5.5+mm

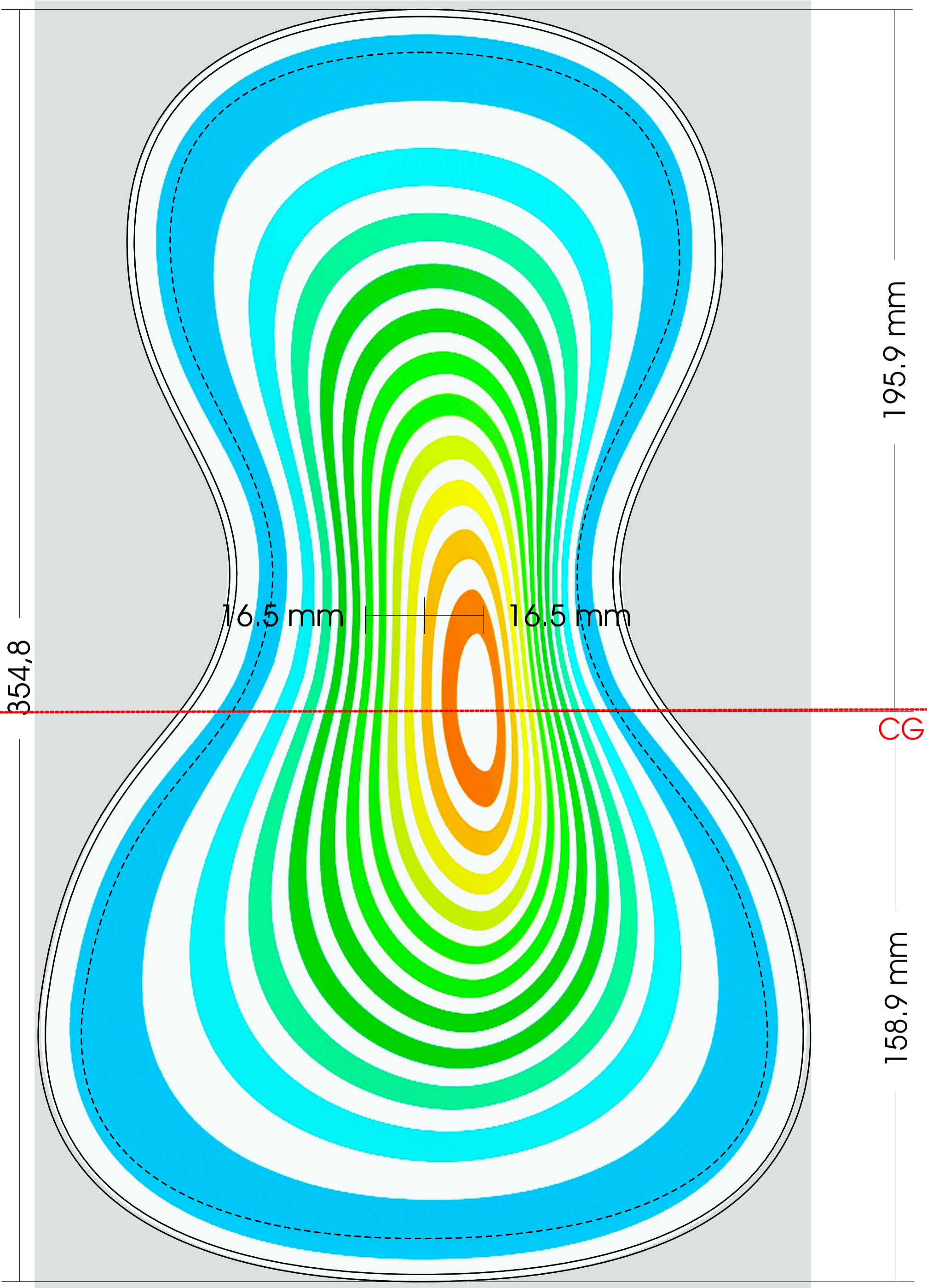




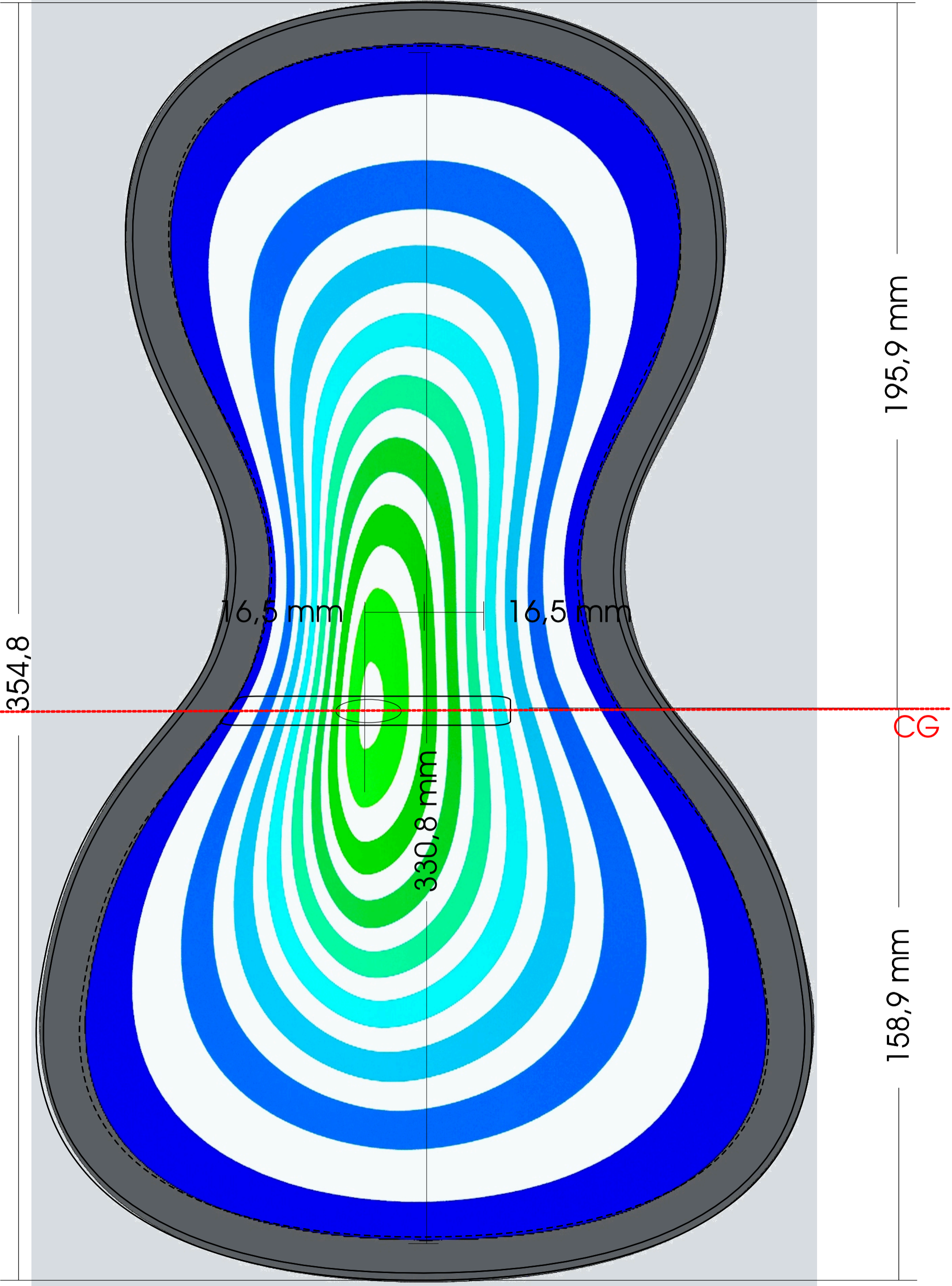
# Inside Top 5.5+mm



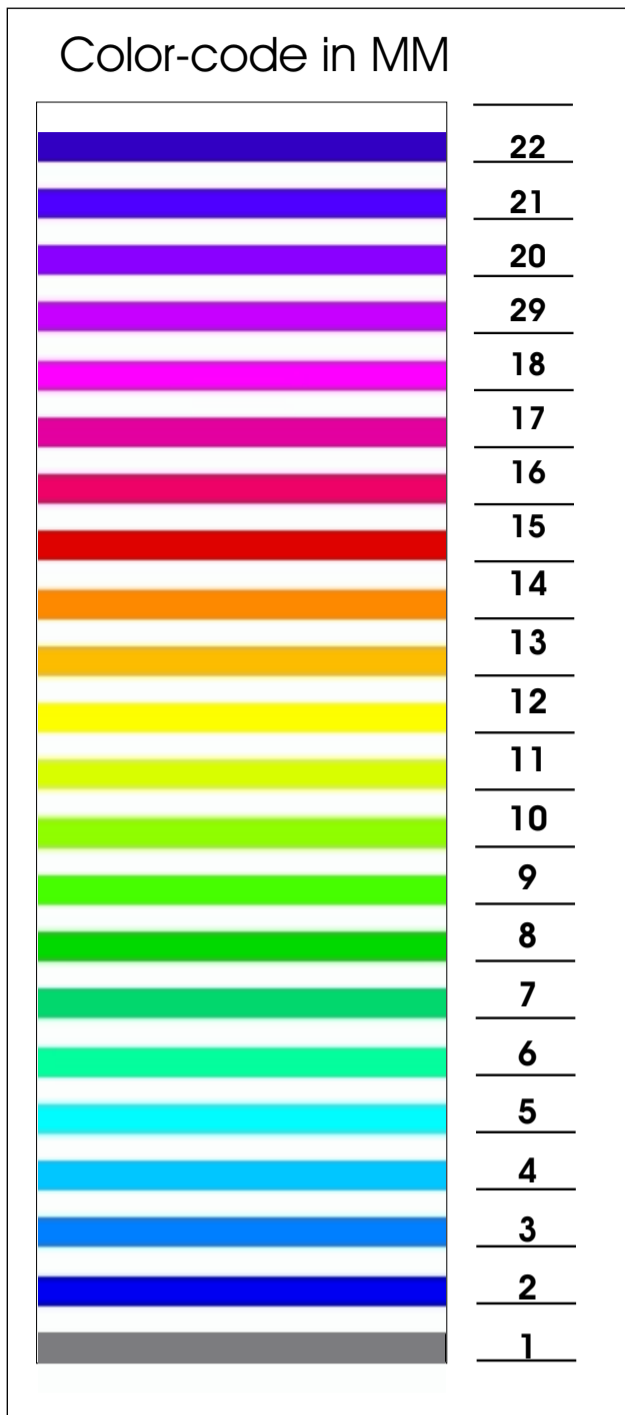
# Outside Back 5.5+mm



# Inside Back 5.5+mm



## 6 mm set



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## Gradients

There are images of the sound boards in colored gradients.

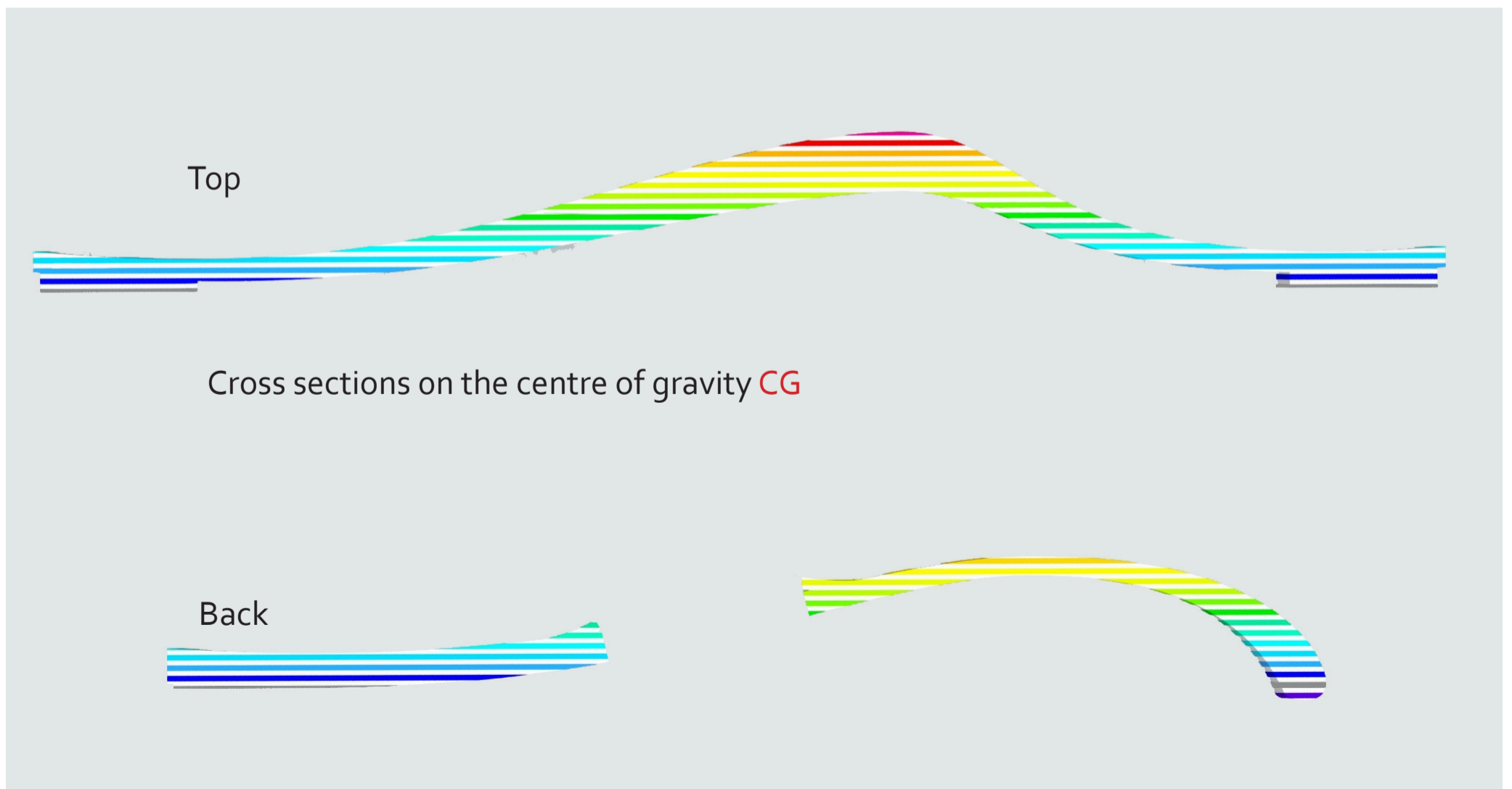
Grey is glue level.

The color pattern repeats is self.

So in the top sound board there is a purple level *Under* the glue level.

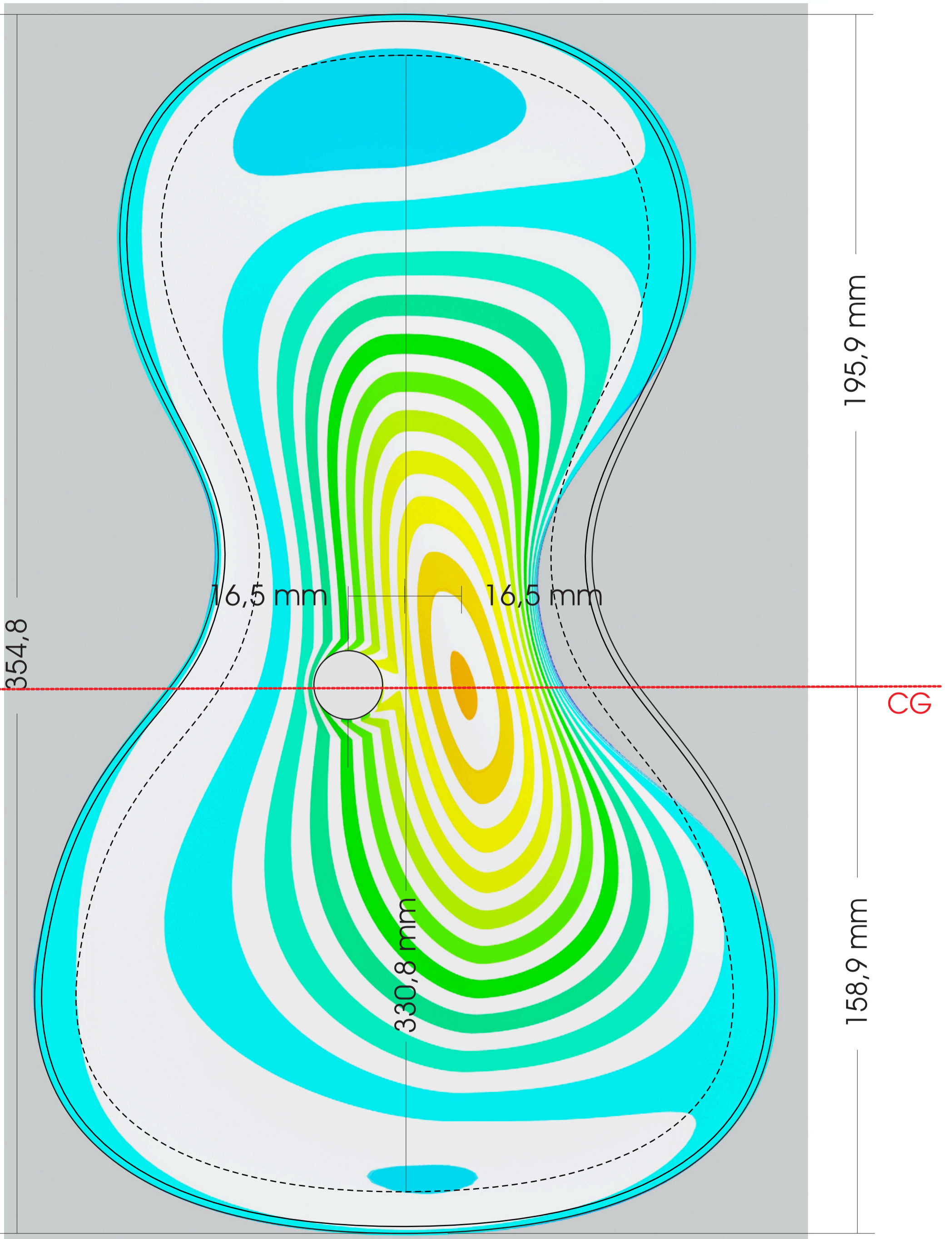
The bridge is placed at or close to the center of gravity.

Both boards should have the same weight.

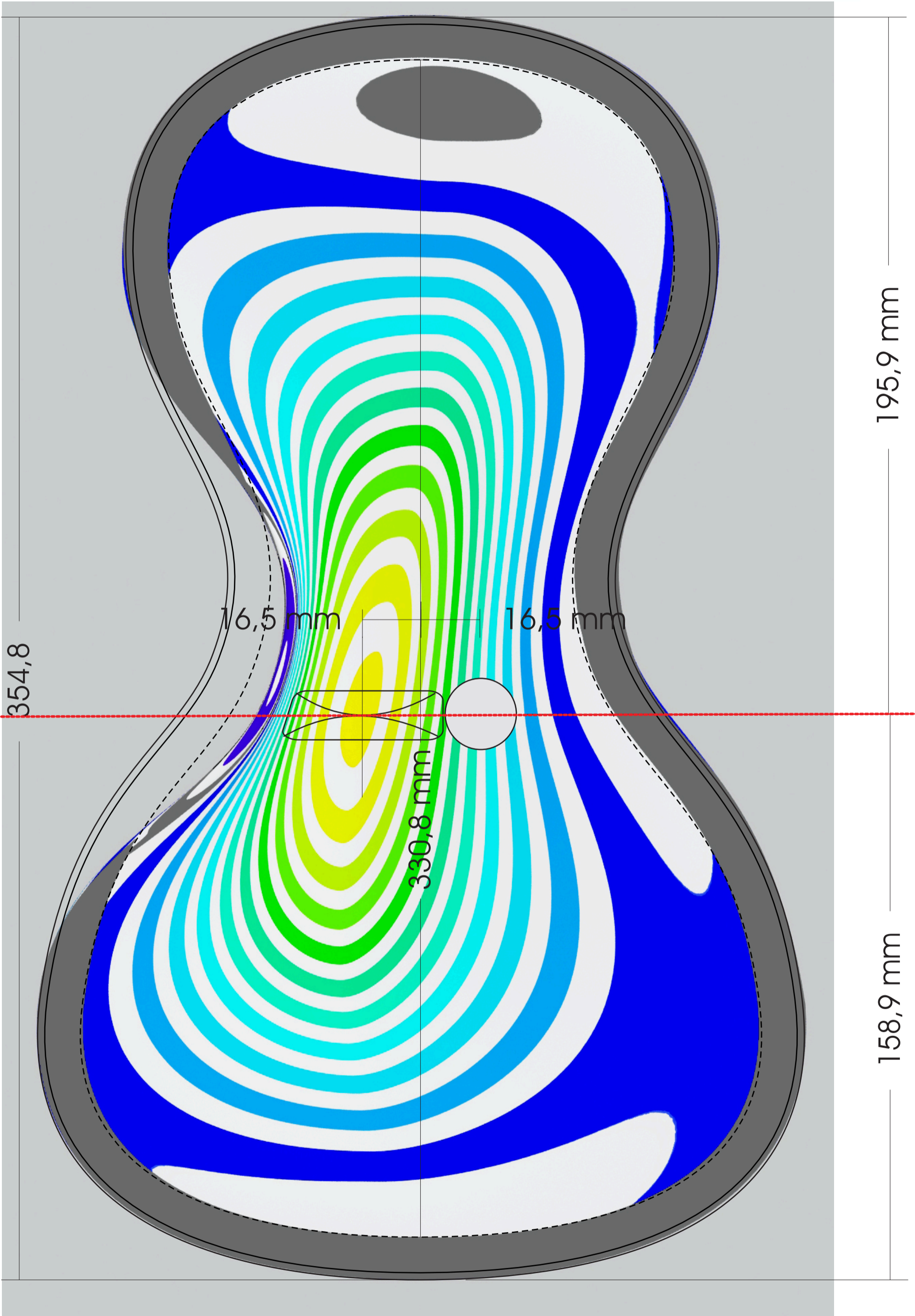


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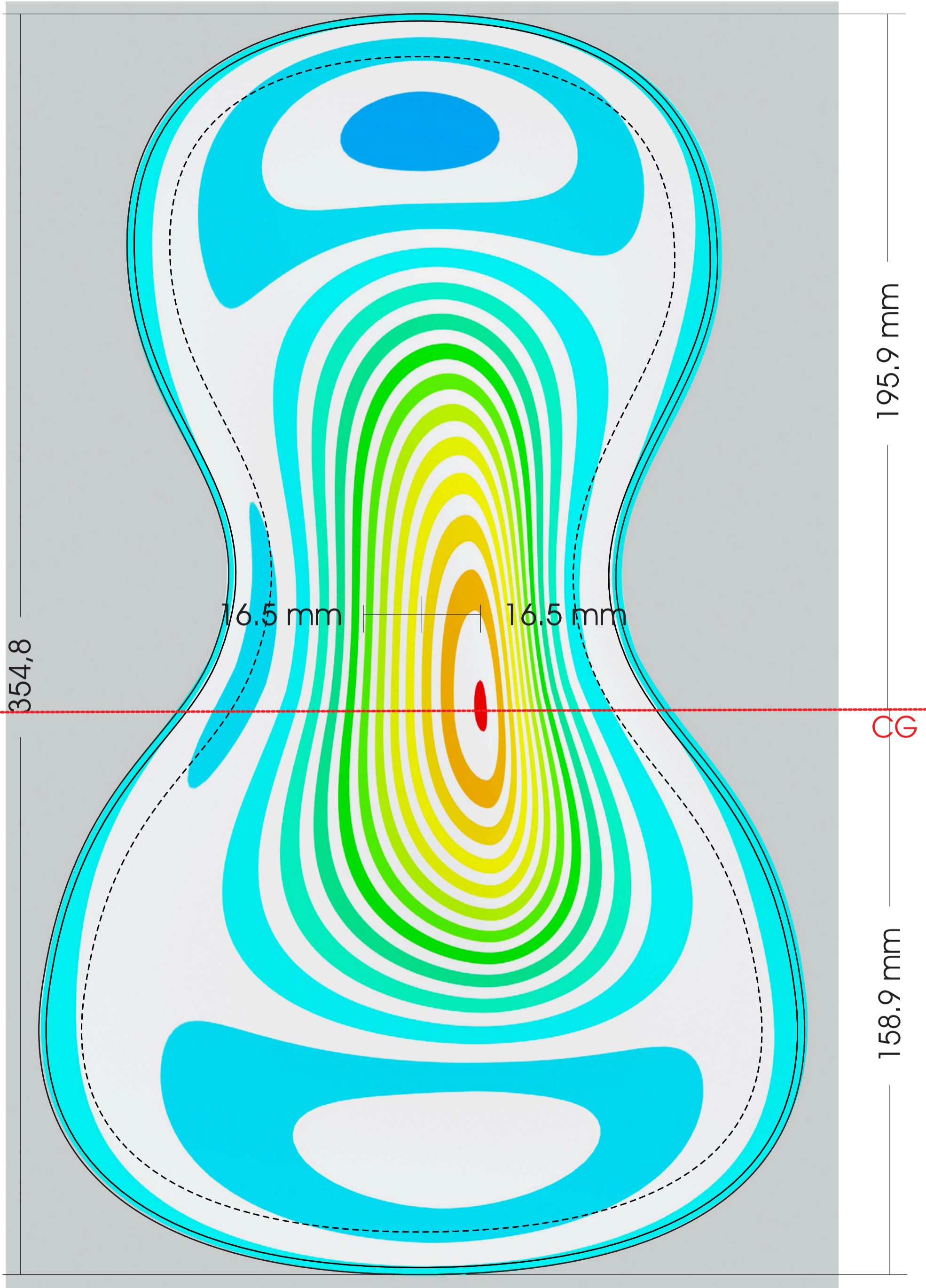
# Outside Top 6 mm



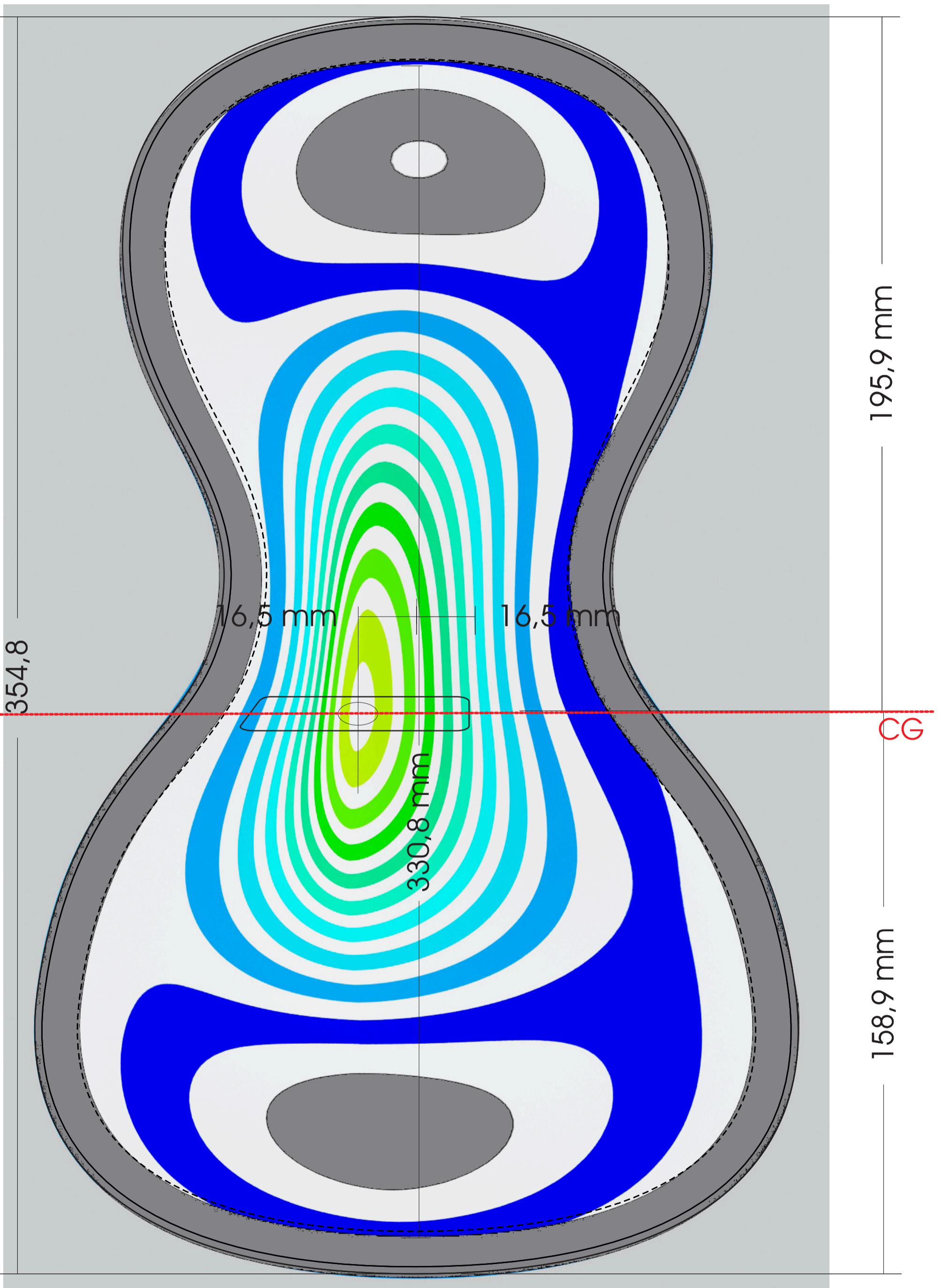
# Outside Top 6 mm



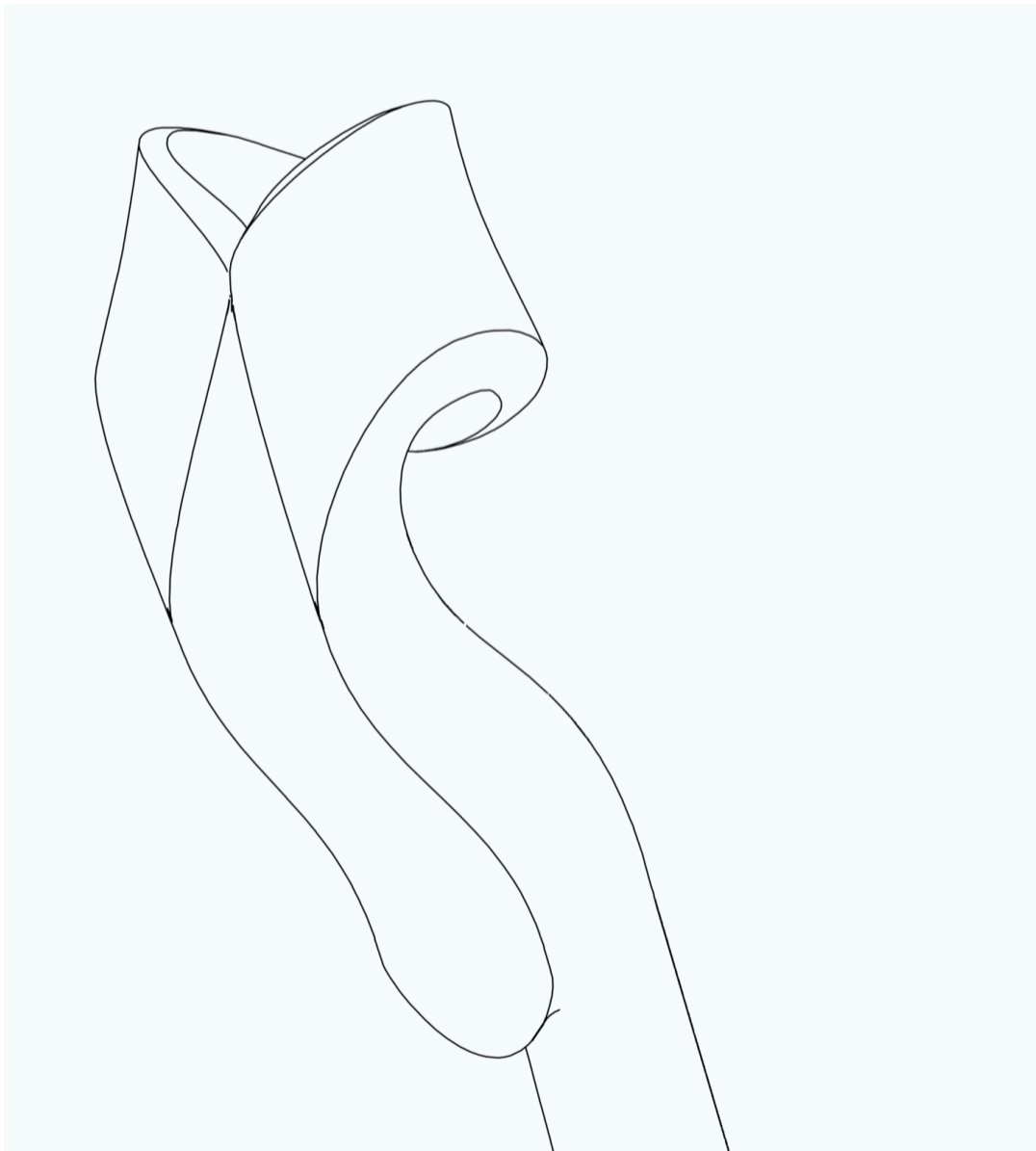
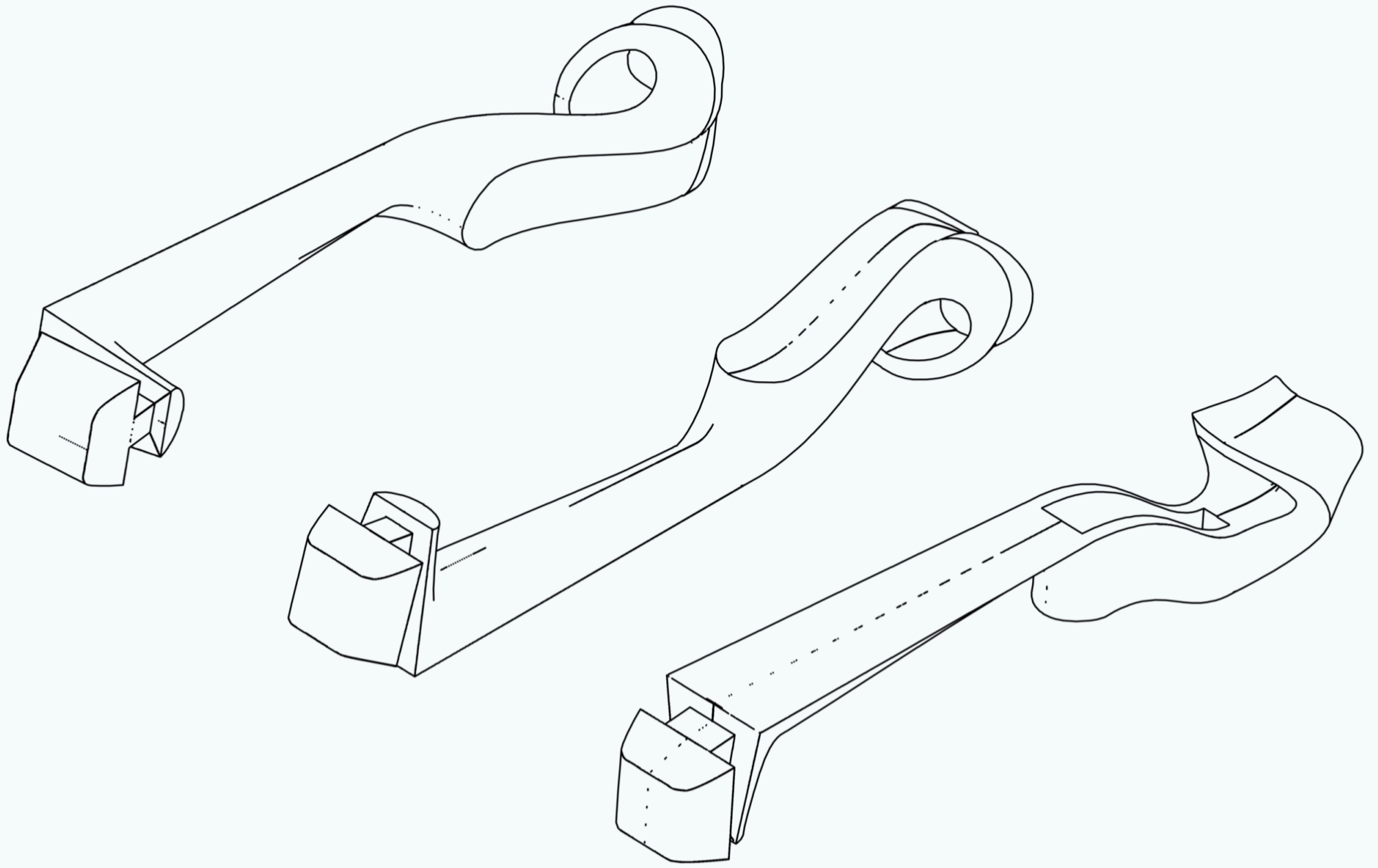
# Outside Back 6 mm



# Inside Back 6mm







The scroll,

That is a bit of a sculpture really.

Hard to draw in 2D drawings.

If you feel a bit unsure about this, design your own.

