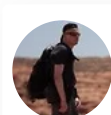


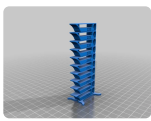
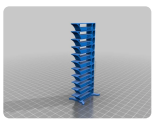
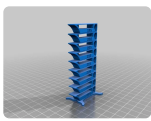
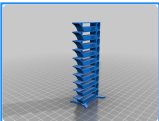
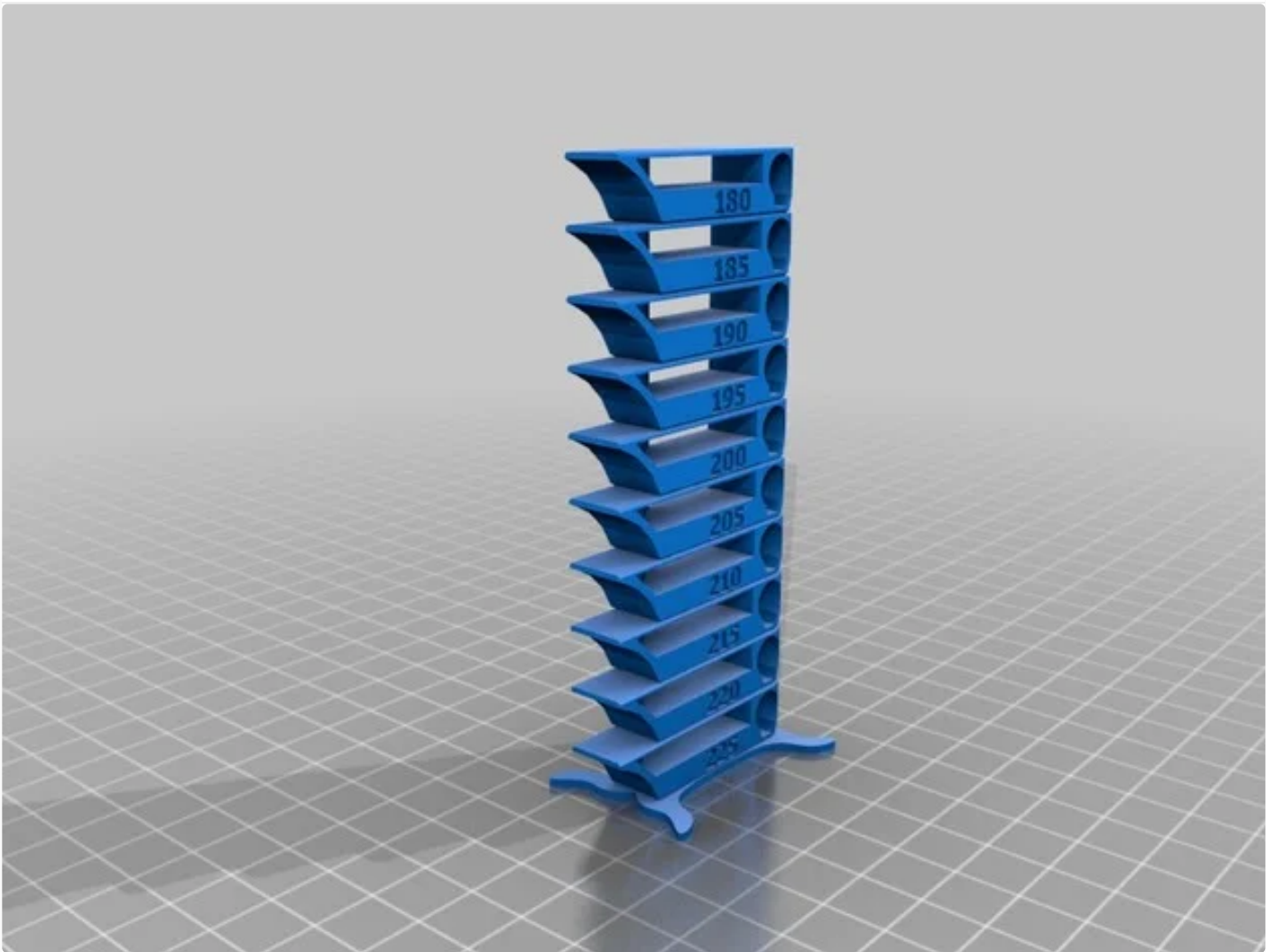


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# Smart compact temperature calibration tower

by [gaaZolee](#) December 24, 2017



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## Summary

Yet another temperature calibration tower. It suppose to be smart, compact and fulfill several purposes.

- it is functioning as a regular temperature tower
- it contains several test patterns like
  - **overhangs** from 60 deg to 25 deg
  - **bridges** from 15 mm - 30 mm
  - **stringing** test
  - **curvy** shapes

One floor is exactly *10 mm* and stand is *1.4 mm*. Optimized for *0.2 mm* layer height.

**Note:** STEP models have been added of a plain floor, 000 Floor and the stand.

**Updates:**

- **19-Apr-2019** - Added scrips for PETG and PLA\_Plus and a screen shot of the script setup
- **10-Jun-2019** - Added single line script

## Print Settings

Printer brand:  
Prusa

Printer:  
i3 MK2S

Supports:  
No

Resolution:

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Notes:

Correct temperatures have to be setup in the generated gcode. It can be easily done in [Slicr3d Prusa edition min. v 1.38.5. linked version 1.41.3 still work just fine] (https://github.com/prusa3d/Slic3r/releases/tag/version\_1.41.3) \*Printer Settings -> Custom G-code -> Before layer change G-code\* correct macro needs to be setup. It should look like one of two options ### 1. If statement based script `{if layer_z==1.6}; T tower floor 1` `M104 S250` `{elseif layer_z==11.6} ...`` It specifies different temperature for each temperature tower floor. You need as many elseif-s as many floors your tower has got. There are 4 pre-created \*txt\* files included in the project with the macro of \*  
\*ABS\_t\_tower\_before\_layer\_change\_macro.txt\* \*  
\*PLA\_t\_tower\_before\_layer\_change\_macro.txt\* \*  
\*PLAPlus\_t\_tower\_before\_layer\_change\_macro.txt\* \*  
\*PETG\_t\_tower\_before\_layer\_change\_macro.txt\* ### 2. layer\_num based script It is an \*simpler\* way to achieve the same for 0.2mm layer height. It is just a single line of code you need to copy/paste and change the \*START\_TEMP\* to the correct value: ``M104 S{265 - (layer_num - 7) / 50 * 5} ;T tower floor {(layer_num-7) / 50 * 5 + 1}{endif}`` where \*START\_TEMP\* is the temperature of the first floor. Example of a PETG script: ``M104 S{265 - (layer_num-7) / 50 * 5 + 1}{endif}`` It adds temperature change gcode to each layer unlike the version with \*if statement\*s It adds temp change gcode on at the first layer of a floor. Content can be easily copy/pasted. See the attached screenshot

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How to use it?

There is 4 complete temperature towers \*  
\*PLA 180C - 225C\* \*  
\*PLA Plus 195C - 235C\* \*  
\*ABS 200C - 250C\* \*  
\*PETG 220C - 265C\* These can be used as they are. Don't forget to setup correct temperatures. See the section above. There are also separated modules for temp floors from \*170C\* to \*265C\* with \*5C\* step and a stand. New heat tower can be easily combined out of them.

Why another new temperature tower?

I started with 3d printing by may of 2017. I wanted to learn as much as possible in the shortest possible time and speed up configuration of my printer as much as possible. Print out long lasting temperature towers and then other testing shapes was too long to me. So I decided to create a new heat tower which is as compact as possible, serves many basic quality test purposes too and printing take as short time as possible. I am using it as a basic temperature setup guidance for different filaments. It sped up my setups at least 3 - 4 times. One print instead of 3 - 5. Currently I am bringing it to you. Enjoy it and I am looking forward to reading any feedback.

References

This model is being referenced by

\* <https://all3dp.com/2/3d-printer-test-print-10-best-3d-models-to-torture-your-3d-printer/>

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