

R E S E A R C H
M A G N E T I C F I E L D S

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THE POSSIBILITIES TO MAGNETIZE 3D PRINTED OBJECTS

I was doing research to find out how I can combine magnetic material with 3D printing. First of all I investigated into how I could implement magnets into the print and which different types of magnets there would be which would be most suitable for my purpose. The difficulty was to find a magnet that wasn't too weak, because I had to print a thin layer on top of it. I tried a magnetic band, because it also had to be thin. The magnetic band wasn't strong enough for my purpose. I found out that small round magnets would be the best to be incorporated into the print. So I was implying a hole into the print, stopping it at half way, putting the magnet into it and then printing another layer on top of that. While testing and trying out how to implement the magnetic field I developed the shape of the print. My aim was to create tiles, some magnetic, some not, which you can put on the table in a way that metal things would stick on there. I wanted the tiles to have a click connection, so you could change them and have some parts magnetic, some not. Like this you can build your own magnetic landscape on the table and adjust it by changing the tiles, also the colors. I wanted to have the shape that every part would fit on every other object. So I developed a shape with eight edges where you can build on the next plate. To make the image more clearly I reduced the edges to four but with a twist. I also designed the attachments invisible. That means from the top view you can only see the tiles in the shape of a rhomb.

In the end I could manage at one prototype to put in the magnets and print further, so enclose the magnet. The real size prototypes with the right shape are versions without magnets but it can be implemented into them as well.