Customizable LEGO compatible Text Brick Key Fobs

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VIEW IN BROWSER

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Summary

This is a customizer for creating LEGO® compatible rectangular brick key fobs with text engraved on the sides.

Household > Other House Equipment

Tags: keychain keyfob lego legocompatible customizable openscad

Customizable LEGO compatible Text Brick Key Fobs

This is a customizer for creating LEGO® compatible rectangular bricks with text engraved on the sides (all 4 sides) and a half ring on one end to attach a key ring. You can of course also use it to create bricks without any text. It can create bricks as small as 1x1x1 (plate height) or as large as 48x48x18 (6 normal bricks high).

The customizer, by default, creates LEGO-sized bricks only. All dimensions are accurate, but it has a tolerance parameter so the dimensions can be tuned to your printer/filament so that they have a perfect fit with one another and with real LEGO® blocks. Real LEGO blocks have a horizontal play of 0.2 mm so that they can be connected to one another. So a 4x2 brick is 31.8x15.8 mm and a 6x2 brick is 47.8x15.8 mm, for example. The tolerance is in addition to the required 0.2 mm play and is subtracted from

both sides of all walls so that the default tolerance of 0.05 would make the previously mentioned bricks 31.7x15.7 mm and 47.7x15.7 mm.

All LEGO dimensions are adjustable parameters, so if you are having trouble with the fit and need more control than the tolerance parameter provides, you can override any of the LEGO dimensions.

This is a remix of my Customizable LEGO compatible Text Bricks

Using the Customizer

This download includes a .SCAD file to create customized 3D printable models. By setting some simple parameters from drop-down boxes and sliders you can easily create your own customized model.

You will have to first install OpenSCAD (free software) on your own computer to process the .SCAD file and present the customizer parameters. Download OpenSCAD and get started. For further details on running the customizer see DrLex's instructions on How to Run Customizer on Your Own Computer.

Setting Fonts in the Customizer

You can use any font available on your system. The OpenSCAD "Help=>Font List" menu item shows what fonts are available. If you specify a font that is not available it will use the OpenSCAD default font, which is Liberation Sans. Most of the fonts listed in the drop-down selection for this thing can be downloaded from the Google Fonts repository.

The default font is available at: https://fonts.google.com/specimen/Roboto

To make a font available to OpenSCAD you have three options:

- Install the font to the system. The procedure for installing system fonts is dependent on what operating system and what version you are using (Ubuntu Linux 16.01, Ubuntu Linux 20.04, Windows 7, Windows 10, Mac OS 9, Mac OS X, etc.). If you don't know how to install a font on your system then search the web for instructions.
- Add the font file to your fonts folder, creating the folder if it doesn't already exist. On Linux this would be something like "/home/

YOURUSERNAME/.fonts" and on Windows 10 it would be something like "C:/Users/YOURUSERNAME/.fonts".
- Add the font to the folder that contains the OpenSCAD file that you want to use the fonts. You will also have to add to the OpenSCAD file the 'use <fontname.ttf>' command substituting the filename of the font for "fontname.ttf".

Close OpenSCAD if it was open while you were making the font available and then relaunch it after you have installed/added the font.

For additional details, see the Using Fonts and Styles section on the following page:
https://en.m.wikibooks.org/wiki/OpenSCAD_User_Manual/Text

Printing Recommendations

If a brick will be connected to other bricks you don't want it to have an elephant's foot. I usually have the initial layer horizontal expansion parameter in Cura set to -0.2 mm to prevent elephant's feet, but for the LEGO bricks with a default tolerance of 0.5 mm this must be reduced to -0.14 in order for the under-tubes to be printed on the first layer.

For the best looking brick, you'll want the top surface of the brick part of the model to be a single continuous print from one corner to the other instead of going around the areas where the studs will be added in later layers. To accomplish this in Cura, set the Skin Expand Distance to 2.2.

This remix is based on

Customizable LEGO compatible Text Bricks
by Lyl3

Model files

legotextbrickkeyfob.stl

legotextbrickkeyfob-room101-raised.stl

legotextbrickkeyfob-room101-recessed.stl

legotextbrickkeyfob-v1p2.scad

Find source .stl files on Thingiverse.com

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