

Rubber Band Filament Cutter 45°



volly

[VIEW IN BROWSER](#)

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Summary

A "no-springs-needed" filament cutter.



0.91 hrs



2 pcs



0.30 mm



0.60 mm



PET



15 g



Prusa MINI /
MINI+

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Tags: [filament](#) [filamentcutter](#) [tool](#)

I love the Filament Cutter 45 from Pomi, but as i try to print it, i found that the needed materials are not as common available as i thought. So i decided to give it a "facelift" with a even easier accessible material: rubber band.

Print

- No supports needed.
Print as the STL is exported to get optimal results.
- Tested with PETG and PLA.

Material

- One segment from snap-off blade 18 mm (example 1, example 2)



- a rubber band
- maybe some glue

Improvements over Pomis design

- no ball springs or screws needed
- minimized friction: print bottom part sideways, so the layers of top and bottom part do not rub against each other
- clearer symbol how to attach the blade

Improvements in version 2

- On the bottom part: slightly smaller tunnel. As a result, the blade needs to travel less and the cut is executed more cleanly. (Comparison in the last image)
- No changes on the top part.

Additional cutter box

I added an additional cutter box you may want to try, in this way all the remaining ends will be collected in the box and do not fly wildly through the air.

How to assemble?

- Print as the stl files are provided (top part should be upside down, bottom part should lay sideways).
- Take one piece of the snap-off blade and put it into top part. Use some pliers to avoid an injury. There is a small mark on the side of the top part how where the tip of the blade should be. Additionally you can use glue to fix the blade in position.
If the slot is too narrow (can happen depending on print settings) a hair dryer can be used to soften the plastic a bit.
- Put top and bottom part on each other. Check that the blade holds well on the upper side while both parts are at there nearest position.

- Cut to pieces of 1.75mm filament approximately 3 cm in length. Add these pieces on the small holes on the side of the bottom part. Cut the overhang of the filament. You may glue these if they are too loose.
- Place the rubber band.

Customize the angle of the cutter

You may customize the angle of the cutter in FreeCAD (I used FreeCAD 0.20).

- Got to **Part Design Workbench**
- Click on **Top Part > DatumPlane blade**
In the Properties > Attachment > Angle change the 45° angle as you like
- Click on **Bottom Part > Datum Plane Blade Cutout**
In the Properties > Attachment > Angle change the 45° angle as you like
- Check the angle in Wireframe-View (Menu > View > Draw Style > Wireframe)

This remix is based on



Filament Cutter 45°

by Pomi

Model files



printready-top-part.stl

☐ print this



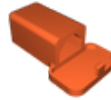
printready-top-part-alternative-with-1mm-deeper-blade-insert.stl

☐ This is an alternative where the blade insert is 1mm deeper as in the original.



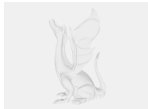
printready-bottom-part-version-2.stl

[print this](#)



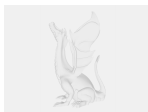
cutter-box-addition.stl

[Optional box to attach on the cutter for collecting the remaining pieces.](#)



filament-cutter.fcstd

[FreeCAD File](#)



filament-cutter-prototype.blend

[only the prototype file - do use the FreeCAD file if you want to change something](#)



printready-bottom-part-legacy-version-1.stl

[outdated version](#)

Print files



printready-top-part_06n_03mm_petg_mini_24m.gcode

[PET](#) [0.60 mm](#) [0.30 mm](#) [0.40 hrs](#) [6 g](#) [Prusa MINI / MINI+](#)



printready-bottom-part-v2_06n_03mm_petg_mini_30m.gcode

[PET](#) [0.60 mm](#) [0.30 mm](#) [0.51 hrs](#) [9 g](#) [Prusa MINI / MINI+](#)

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