



Robust BUCKLES



rorys3D

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Summary

Buckles designed in an unique way for 3d printing and durability. 8 different sizes.

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Tags: [buckle](#) [strap](#) [backpack](#) [durable](#) [robust](#) [buckles](#)
[backpackstrap](#) [deuter](#) [backpackbuckles](#)

The goal was to create a buckle design that is **durable** and of course adapted to 3d printing.

It often happens that the buckle (e.g. on a backpack) breaks when you step on it. I believe that these 3d printed buckles will last, since they are **basically two plates** that fit together. For latches I'm using a compliant levers integrated and better protected in the printed part.

This model is outdated, be sure to check out the improved model here: <https://www.printables.com/model/1759303-robust-buckles>

Update (19/10/2022): Tuned clearance of mating surfaces for better sliding of parts. All parts except the pins are new.

Update (15/11/2022): Added 2 new widths, 41mm and 46mm.
Added .stp files for F21 and M21 (FREE end parts).

Update (11/05/2023): Added 17mm width.

Update (01/2024): Added .stp files for 21mm LOOP end parts.

Here is a short video introduction:

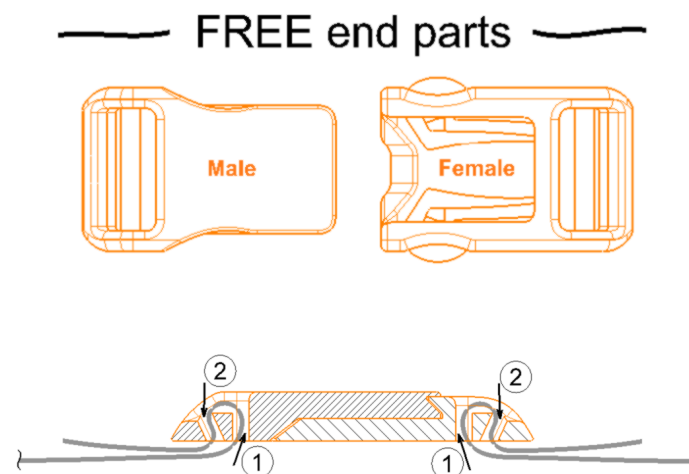


<https://www.youtube.com/watch?v=hQz46N0zUtA>

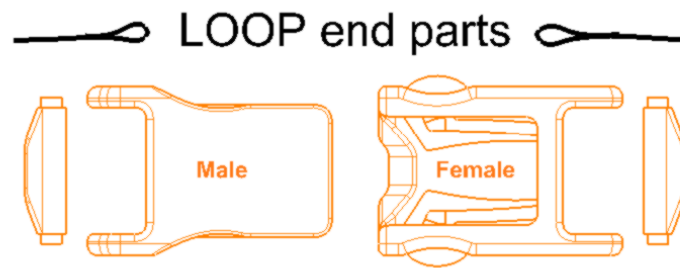
Variants:

The BUCKLES comes in 8 widths of the slot for strap (**17mm, 21mm, 26mm, 31mm, 38mm, 41mm, 46mm and 51mm**).

Every width comes in 2 variants. There are parts for FREE end straps (see strap threading steps below),

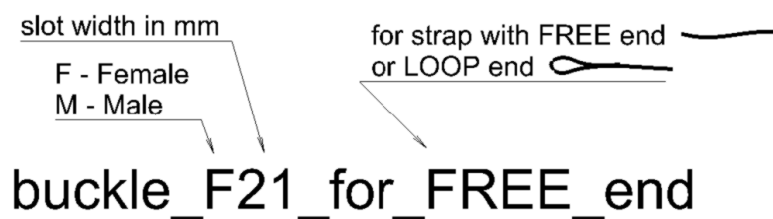


and parts for LOOP end straps with pins.



You can combine LOOP end Male with FREE end Female and vice versa.

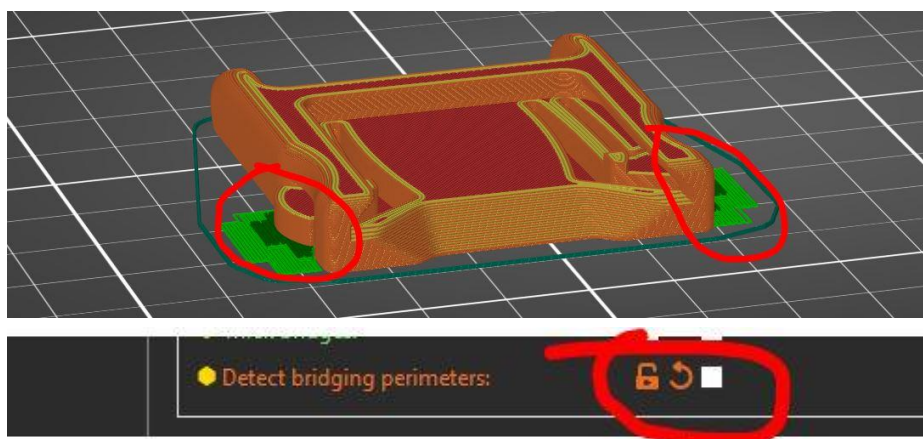
Explanation of the name of the STLs:



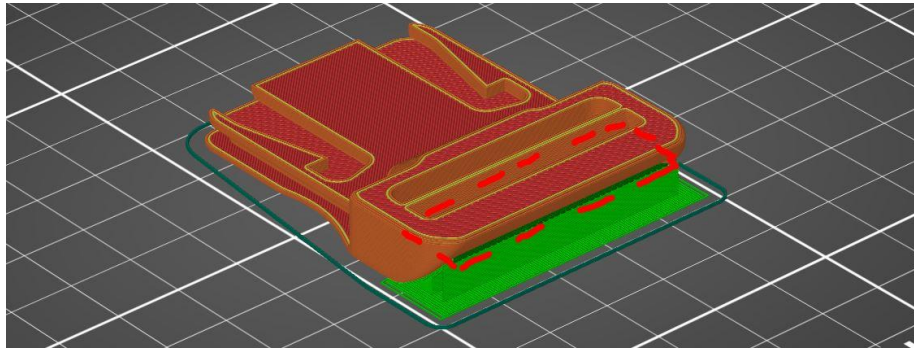
Printing:

I recommend printing with PETG because of its flexibility, 0.2mm layerheight and 3 perimeters.

“Female” parts need to be supported only under the buttons that protrude from the body. For convenient post processing turn off the “Detect bridging perimeters” parameter (Print settings/ Layers and perimeters in PRUSA Slicer).



“Male” parts for FREE end could have support under the pins, but may be not if you trust your printer's bridging capabilities (for example I printed the M21 without supports).



All **“Male” parts are printed upside down** (see picture above).

Post processing:

1/ Remove supports.

2/ Push on the buttons of the “Female” parts to break it from the body.

3/ Use.

Also check out:

<https://www.youtube.com/channel/UChKp-968z1i5PN29gbR7YfA>

<https://www.cgtrader.com/rorys3d>

Model files

 **17mm** 5 files

**buckle_m17_for_free_end.stl**

**buckle_f17_for_free_end.stl**

**buckle_m17_for_loop_end.stl**



17mm

5 files



buckle_m17_for_free_end.stl



buckle_f17_for_free_end.stl



buckle_m17_for_loop_end.stl



buckle_f17_for_loop_end.stl



pin_17_for_loop_end.stl

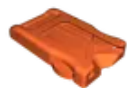


21mm

5 files



buckle_m21_for_free_end.stl



buckle_f21_for_free_end.stl



buckle_m21_for_loop_end.stl



buckle_f21_for_loop_end.stl

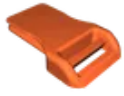


pin_21_for_loop_end.stl

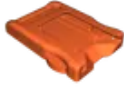


26mm

5 files



buckle_m26_for_free_end.stl



buckle_f26_for_free_end.stl



buckle_m26_for_loop_end.stl



buckle_f26_for_loop_end.stl



pin_26_for_loop_end.stl

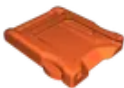


31mm

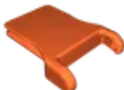
5 files



buckle_m31_for_free_end.stl



buckle_f31_for_free_end.stl



buckle_m31_for_loop_end.stl



buckle_f31_for_loop_end.stl

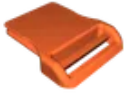


pin_31_for_loop_end.stl

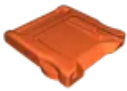


38mm

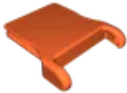
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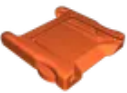
buckle_m38_for_free_end.stl



buckle_f38_for_free_end.stl



buckle_m38_for_loop_end.stl



buckle_f38_for_loop_end.stl

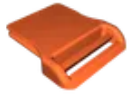


pin_38_for_loop_end.stl

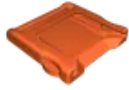


41mm

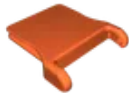
5 files



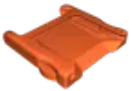
buckle_m41_for_free_end.stl



buckle_f41_for_free_end.stl



buckle_m41_for_loop_end.stl



buckle_f41_for_loop_end.stl

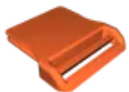


pin_41_for_loop_end.stl



46mm

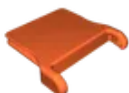
5 files



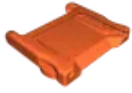
buckle_m46_for_free_end.stl



buckle_f46_for_free_end.stl



buckle_m46_for_loop_end.stl



buckle_f46_for_loop_end.stl

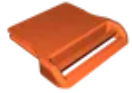


pin_46_for_loop_end.stl



51mm

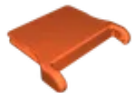
5 files



buckle_m51_for_free_end.stl



buckle_f51_for_free_end.stl



buckle_m51_for_loop_end.stl



buckle_f51_for_loop_end.stl



pin_51_for_loop_end.stl



21mm - 3mf

1 file



buckle_f21_for_free_end.3mf



21mm - STEP for modifications

5 files



buckle_m21_for_free_end.stp



buckle_f21_for_free_end.stp



buckle_m21_for_loop_end.stp



buckle_f21_for_loop_end.stp



pin_21_for_loop_end.stp

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