



Dumbbell handle with TPU grip



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Summary

A handle for the spare disks you might have and not need for your main dumbbells

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For secondary pair(s) of dumbbells for your kids or if you need a light setup in addition to main one, for wrists training or additional weight while running or jumping, etc.

I suppose usually they should take not more than 1 disk on each side. But the dimensions should fit two as well, just not too heavy.

Axle and nuts I printed with PETG just to be safe (because it would flex if anything rather than just snap as PLA might). Axle optimized for horizontal printing, just throw more walls for streight, I used 10 walls. As a bonus, due to the slot on the axle, the grip is not twisting at all, stays in place not matter what.

The TPU grip was tricky to get right, but with correct settings in Cura printed easy:

- the critical requirement here is so that slot on the side is not hollow, but filled, better to 100%

- but at the same time, the blocky texture bumps do not need to be filled - to be softer and to avoid jumping movement of the printing head while printing. Ideally - printed in four continuous loops (2 wals inside, 2 - outside)
- To achieve this, I set the infill to 100% but activated "Infill support" which only added infill where the support was needed - exactly inside the slot, not inside the grip blocks
- Then set only 2 walls
- Top and bottom - 50 layers (0.2 height) to completely fill the ends

I printed myself the "nut-big" which were the only one I designed at the moment, and after assembling and using the dumb bells realised that they might be too big, so also added the smaller version, but didn't wanted to waste more material for reprint. So I suggest to go with "nut-small" option.

Model files



nut-big.stl



nut-small.stl



axle.stl



tpu-handle.stl

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