



Compact Cord Cover for hard floor



p1mrx

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Summary

The goal of this project is to design a cover for an 8mmø extension cord at my makerspace, strong enough to walk on,...

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The goal of this project is to design a cover for an 8mmø extension cord at my makerspace, strong enough to walk on, at minimum cost. The parts assemble to form a rigid triangle, with the top in compression and the base in tension.

Filament usage: 170 g/m (52 g/ft)
- Filament cost at \$20/kg PLA: \$3.40/m (\$1.04/ft)

The STL files contain 100mm extrusions; you should scale them to the desired length.

For example, to span a distance of 1080 mm, you could print the following:

cord_cover_top_3x.stl, scaled to Z=180%, 3×2 copies: $180 \times 3 \times 2 = 1080$ mm

- cord_cover_base.stl, scaled to Y=180%, 5 copies: $180 \times 5 = 900$ mm

- cord_cover_base.stl, scaled to Y=90%, 2 copies: $90 \times 2 = 180$ mm

When assembling, stagger the top and base parts like bricks, with 50% overlap. The final base (would be #6 in this example) is split in half and positioned at the ends.

The top_1x and top_3x STLs are equivalent, but top_3x is theoretically less wobbly because the 3 parts can support each other.

I recommend printing 20mm extrusions first, for quality/strength testing:

- cord_cover_top_1x.stl, scaled to Z=20%
- cord_cover_base.stl, scaled to Y=20%

PrusaSlicer settings for 'top':

- Scale in the Z direction
- 0.2 mm layer height
- 1 wall
- 99% honeycomb infill (solid, with lines pointing in 3 directions for diversity)
- 0 top layers (let the infill handle it)
- 1 bottom layer (to help align with the raft)
- 3-layer raft with 0.15 mm Z distance (bed adhesion is important)
- Seam position: Random (print the horizontal stitches in both directions)
- No support

PrusaSlicer settings for 'base':

- Scale in the Y direction
- 0.2 mm layer height
- 2 walls
- 100% rectilinear infill
- 0 top/bottom layers (let the infill handle it)
- No raft (the base is a huge rectangle)
- No support

The "8mm" STLs have 8.1mm \varnothing of internal clearance. I haven't built STLs for other diameters, but they can be made in Fusion 360: Modify > Change Parameters > (wire_diameter, top_thick, extrusion_length)

Longprint is looooooong.

Model files



cord_cover_8mm_top_3x.stl



cord_cover_8mm_top_1x.stl



cord_cover_8mm_base.stl



cord_cover_v23.f3d

[Find source .stl files on Thingiverse.com](https://www.thingiverse.com)

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