



Wheel parametric (OPENS CAD)



DonBlosa

[VIEW IN BROWSER](#)

updated 7. 10. 2023 | published 7. 10. 2023

Summary

Replacement wheel for outdoor things like lawnmowers, barbecue, garden shredder etc.



23.45 hrs



1 pcs



0.20 mm



0.40 mm



PET



251 g



Prusa
MK3/S/S+

[Household](#) > [Outdoor & Garden](#)

Tags: [wheel](#) [spare](#) [lawnmower](#) [shredder](#) [kolo](#)
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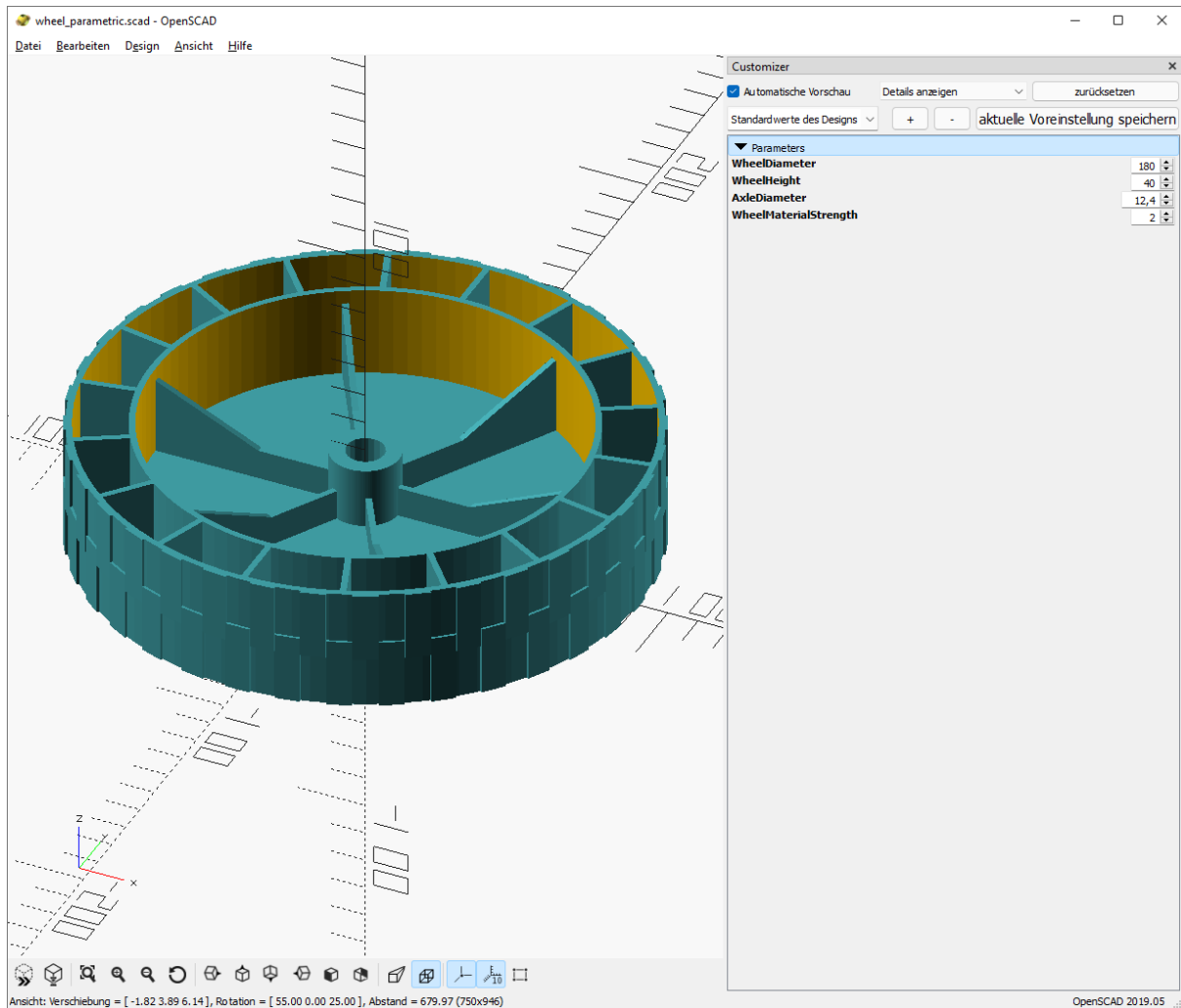
Hi,

this is a replacement for a wheel of what you want it for. It is optimized for printing time and stability. It is work in progress, so i will optimize it further. Initially i designed this for my lawnmower. My neighbor asked me if this would fit on his barbecue, so i made this parametric.

It is parametric, what means you can customize e.g. the size of the wheel or the mount for different axle sizes. You only need to download OpenScad and uncheck In the Window menu, the option called [Hide customizer].

Then paste the code into editor, customize the variables, press F6 for rendering and export it as 3mf. Then load this file in you preferred Slicer and voila.

If the file is not rendered, the view of the model lacks a bit. For quick rendering you can change the variable "ResCircle" from 1000 to 100 or so. But remember to turn it back, cause the model would lose details in such low resolution.



The prepared 3mf examples are following this naming convention:

wheel_d180_a12_s30.3mf

Example:

Outer diameter: 180mm

Axle mount: 12mm (12.4 for tolerance)

Axle mount shaft length: 30mm

I measured the original axle of my Wolf lawnmower with 11.9 mm. After a testprint i adjusted the printfile for 12.4mm wich fits perfect for my needs.

The OpenScad file is attached for customization. If you struggle with my messy code or want to contribute, contact me. As my scad-KungFu is still in development, i am happy for people who can contribute or explain/discuss some of these topics:

Module RingSupport: Code shortening, logic change of the functions order

Module Profile: not happy with the profile pattern as the squares are not bended around the outer ring. They are plain squares attached at one point on the circle.

Some improvements that i got on my ToDo List:

- designing a cover
- design a version with BallBearing
- changing the profile pattern via customizer
- Check if AxleGuide Variable is used
- indoor version with TPU Ring

06.08.21 * update*

changed the outer ring thickness to 3.5 mm and slicer settings to 5 perimeters

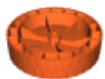
03.08.21 * update*

made the code parametric and added the customizer feature

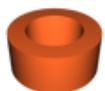
02.08.21 * update *

added spacer

Model files



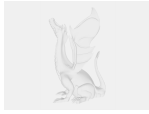
wheel_d175_a12_s30.3mf



spacer.3mf

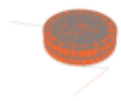


spacer_9.scad



wheel_parametric.scad

Print files



wheel_d175_a12_s30_02mm_petg_mk3s_23h27m.gcode

🌀 PET 📏 0.40 mm 📏 0.20 mm ⌚ 23.45 hrs ⚖️ 251 g 🖨️ Prusa MK3/S/S+

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