

## Universal Spur Gears Collection, module = 4



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## Summary

A set of universal spur gears as a base for user modifications with slicer functions only. No CAD required!

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Tags: [spinner](#) [gear](#) [gears](#) [metric](#) [strap](#) [collection](#)  
[zahnrad](#) [metrisch](#) [gearscollection](#)

### Object Description:

This is a collection of spur gears with a pressure angle of 20°, module = 4 and 12 to 40 teeth.

You can easily modify this basic models for your needs with slicer functions only.

For example:

- all models are 5mm thick. You can modify it by changing the Z-value only.
- add a round bore hole by adding a cylinder as a negative volume.
- add a square bore hole by adding a cube as a negative volume.
- add a elliptical bore hole by adding a cylinder with different X and Y values as a negative volume.

- add a recess by adding a positive volume.
- add a round bore hole in horizontal direction for a thread insert, that you can fix the spur gear with a screw.
- these are just some examples. More modifications are possible and depends on your fantasy and your needs.

### **Very important notes. Please read before print:**

- All models will be automatically loaded with one tooth showing exactly in positive Y-direction.
- **Please note that all spur gears with an uneven number of teeth will be loaded slightly out of its center to the print plate center.**
- **For this reason it is absolutely necessary that you correct its position to the print plate center right after the import before you start adding positive or negative volumes.** Otherwise this additional volumes will be slightly out of center.
- Assuming that a pre-correction by me will fail with the use of other slicers than Prusa Slicer, I have provided a table with correction values for all provided spur gears in the download section.
- **Please move the model by this value in positive direction first.**
- If you are not sure in which direction you should move it, load the test piece and add a positive cylindrical volume of dia. 6mm to the middle of the print plate, and have a look to the gap of the bore hole with dia. 6.1mm. This test piece must be moved by 0,151mm in Y-direction to be in the middle of the print plate.

### **Calculation of the center distance:**

- $a$  = center distance [mm]
- $z1$  = number of teeth of spur gear 1
- $z2$  = number of teeth of spur gear 2
- $m$  = module
- **Formula:  $a = ( z1 + z2 ) * m / 2$**

### **Cross-references to other spur gears with different module:**

- Spur Gear Collection, alpha = 20 deg., module = 0,7: [Module0,7](#)
- Spur Gear Collection, alpha = 20 deg., module = 0,8: [Module0,8](#)
- Spur Gear Collection, alpha = 20 deg., module = 0,9: [Module0,9](#)
- Spur Gear Collection, alpha = 20 deg., module = 1: [Module1](#)
- Spur Gear Collection, alpha = 20 deg., module = 1,25: [Module1,25](#)
- Spur Gear Collection, alpha = 20 deg., module = 1,5: [Module1,5](#)
- Spur Gear Collection, alpha = 20 deg., module = 2: [Module2](#)
- Spur Gear Collection, alpha = 20 deg., module = 2,5: [Module2,5](#)
- Spur Gear Collection, alpha = 20 deg., module = 3: [Module3](#)

- Spur Gear Collection, alpha = 20 deg., module = 5: [Module5](#)

**Cross-reference to a gear rack collection with the same modules as listed above:**

- Gear Rack Collection, alpha = 20 deg, different modules: [Gear Rack Collection](#)

If you need a version not available in the download section, don't hesitate to contact me.

### **Print settings:**

Material: For best function Nylon is recommended, but PETG, PLA, ABS/ASA does also.

Layer height: 0,15-0,30mm, depending on your application

Nozzle diameter: 0,4-0,6mm, depending on your application

Infill: 20%-100%, depending on your application

Perimeters: 2-X, depending on your application

Brim: no

Support: no

## **Model files**

 **Spur Gears, alpha=20deg, module=4** 29 files

 **m4-z12.3mf**

 **m4-z13.3mf**



**m4-z14.3mf**



**m4-z15.3mf**



**m4-z16.3mf**



**m4-z17.3mf**



**m4-z18.3mf**



**m4-z19.3mf**



**m4-z20.3mf**



**m4-z21.3mf**



**m4-z22.3mf**



**m4-z23.3mf**



**m4-z24.3mf**

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**m4-z25.3mf**

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**m4-z26.3mf**

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**m4-z27.3mf**

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**m4-z28.3mf**

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**m4-z29.3mf**

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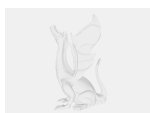
**m4-z30.3mf**

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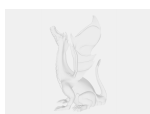
**m4-z31.3mf**

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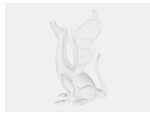
**m4-z32.3mf**

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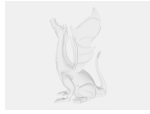


**m4-z33.3mf**

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**m4-z34.3mf**



**m4-z35.3mf**



**m4-z36.3mf**



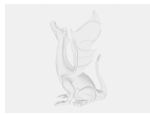
**m4-z37.3mf**



**m4-z38.3mf**



**m4-z39.3mf**



**m4-z40.3mf**



**Spur Gear Testpiece with 6mm bore hole**

1 file



**spur-gear-testpiece.3mf**



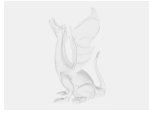
**Demo Model**

1 file



**spur-gear-demo-model.3mf**

## Other files



spur-gear-position-correction-values.pdf

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