



TPU Dog Bone Chew Toy



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Summary

This is a chew toy, intended for larger dogs.

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My dog Max, a large German Shepherd had a rubber dog bone that was his favorite toy since he was a puppy. His cousin Mable, a 6 month old Pitbull, came for a visit last week and had Max's favorite toy destroyed in less than a minute.

I decided to model a dog bone of similar size and shape to Max's favorite toy, and print it in TPU.

I printed this on my Tronxy XY-2 Pro in some blue Overature 95a TPU, and on my Anet A8 Plus in some green Priline 98a TPU, to see what Max's preference would be.

Both bones printed easily with no post processing and no stringing on their exterior, but the blue one much more closely resembles his old toy. The green one, having a hardness of 98a does not immediately recover its shape from being bit down on.

While TPU is supposed to be non-toxic to animals, I don't think it's healthy for an animal to consume chunks of plastic, which I fear would be the case

if Max is left unattended with the stiffer 98a bone, so I'm letting him have only the blue bone.

I printed both bones with 20% infill, with 2mm walls, and 2mm top and bottom surfaces, hoping to improve the longevity of this toy. I suppose only time will tell...

The dimensions of this toy are: 199mm long X 75mm wide X 20mm tall. It should easily fit the printing surfaces of most FDM printers on the market, but could be scaled up or down to fit smaller machines, and or, the needs of a particular animal. I would caution anyone NOT to print it so small that it becomes a choking hazard to your pet. I would also urge pet owners to discard this toy immediately if its exterior becomes visibly damaged.

UPDATE 07072024: I wasn't happy with the hard edges of the first bone I published and printed. While Max seemed to do really well with that toy, his sister Sasha, a much smaller Husky/Aussie mix kept taking it. Her small sharp teeth were able to pull at the edges leaving tiny teeth marks in it, so I took it away and began work on version 2. I rounded the edges significantly so there would be nothing to pull at, but after two failed prints from too much unsupported overhangs, I edited it again decreasing the overhangs significantly. I'm leaving the original model, but am adding a version 3. I never added version 2 because it proved to be an epic failure when it came to print-ability in TPU. I can't test the new version 3 bone with max really, for at least another week as he had a recent accident playing a bit too rough in the backyard and injured his right eye. He's currently being medicated 3x per day and must keep his cone of shame on for yet another week, which makes it impossible for him to play with this toy. I will say that the version 3 bone is much softer and more pliable than version 1. Even with the same infill and 2mm perimeters on all sides, the rounded edges make a huge difference, and I expect this iteration will be final. I'll post the results of Max's playtime with this bone after he's actually able to play with it.

If anybody is able to test this model with their animals before I have the opportunity, please comment, either good or bad so I'll know whether or not to revisit this design yet again.

Model files



tpu_dog_bone.stl

tpu_dog_bone_v3.stl



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