



Tortoise Injured In Fire Gets New Hand-Painted, 3D-Printed Shell

Elyse Wanshel Associate Editor, Good News, The Huffington Post



A tortoise that lost most of its shell in a forest fire got a 3D-printed prosthetic replacement, thanks to a team of specialists in Brazil, according to a [press release](#) translated by The Huffington Post.

The female tortoise, named Fred, survived not just the blaze, but also made it through two bouts of pneumonia and not eating for 45 days.

“When we saw the animal in that state, we said ‘Wow! It looks like Freddy Krueger,’” Dr. Rodrigo Rabello, who found Fred and named her after the horror movie icon, told the

Brazilian outlet, [Fantastico](#). “It is the first prosthetic of a 3D shell of a tortoise in the world.”

Rabello is part of a Sao Paulo-based volunteer team that calls itself “Animal Avengers,” and consists of him, three other veterinarians, a 3D designer and a dental surgeon.



The process of building Fred a new shell began by taking about 40 pictures of her from all angles and comparing them to photos of a healthy tortoise.

“It took about 40 photos [to build a model and reconstruct the shell]. We took a healthy animal, took the same 40 photos, reconstructed that animal in 3D and put it into the computer,” graphic designer Cicero Moraes told Fantastico.

Using a desktop 3D-printer, the design was printed out in four individual pieces from a corn-based plastic.

“Just to make [a] single piece it took 50 hours of printing, which is much more than we imagined,” Paulo Miamoto, the dental surgeon who was part of the team, told Fantastico.

Once printed, the four pieces were assembled, like a jigsaw puzzle, on top of Fred to create a full hull.



Once complete, there was just one last issue. The shell was white and didn't look authentic, so the team asked Brazilian artist [Yuri Caldera](#) to paint the replica to make it look like the shell Fred was born with. The group conducted research to find a paint that wouldn't wear away the carapace or cause damage to Fred's health.



According to [9News](#), Fred now lives with Rabello and is doing well.

“This is a mark in veterinary medicine,” Rodrigo told Fantastico. “From now on we will have a new age. Specially when it comes to wild animals.”
He adds: “It’s a total satisfaction, we’ll always strain to save a life, no matter whose.”

http://www.huffingtonpost.com/entry/brazil-tortoise-fire-3d-printed-shell_us_574317f4e4b00e09e89f8416



Chi tiết ô tô



* FDM: Fused Deposition Modeling 熔融擠製成型
(Công nghệ tạo hình bởi từng lớp nhựa nóng chảy)



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