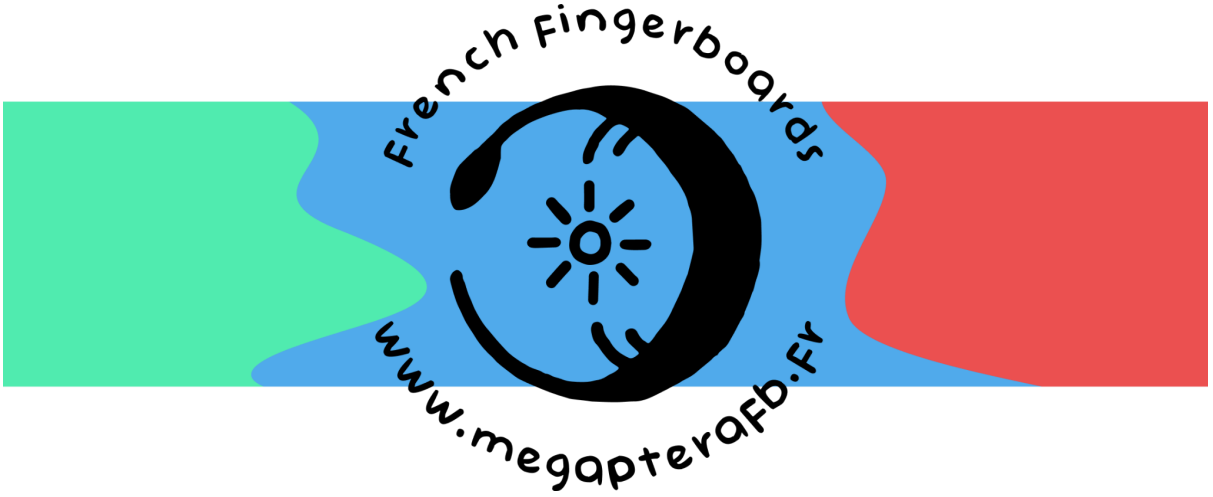

Megaptera's wheelmaking guide PREVIEW

for ring wheels

THE COMPLETE GUIDE CAN BE BOUGHT ON THE OFFICIAL MEGAPTERA WEBSITE

a word from the author

This document was created by Simon from Megaptera Fingerboards. I began fingerboarding in 2006 and created Megaptera Fingerboards in 2021.
For almost two years, starting in 2023, I have worked my way through the well-kept secret of making fingerboard wheels. Most, if not all, of the information I have gathered is written in this document.

When searching for information about wheel making, you might have noticed that the information is sparse and not well documented. The main reason is simple :

> *Unlike fingerboard decks, wheel making is hard, costly, and can be harmful to your health if you are not careful. Distributing wheelmaking information to the public is sometimes viewed as giving away some kind of secret you worked hard to obtain for free.*

I can only ask you not to distribute this document without my approval.
When buying this document, you did not only buy a PDF, but also 2 years of gathering data, over 90 unique prototypes, and all the knowledge that resulted from this extremely expensive trial and error.

No AI was used in the writing of this document.

table of contents

About this guide

A. introduction

This document focuses on making wheels with a ring to secure the bearing, mainly for Megaptera. stl files or some physical molds purchased from the official website megapterafb.fr. However, it can also be useful if you have designed the wheels yourself.

B. materials & tools list

An exhaustive list of materials and tools needed for this step-by-step guide, along with an estimation of the cost of this list, can be found below.

Common appliances :

- 1x Box of **nitrile** gloves
- 1x gas mask
- 1x protective goggles
- a lot of tissue rolls
- a lot of plastic cups

Master model wheel printing *(Estimated price : 200 €)*

- 1x Resin printer
- 1x liter of resin for resin printer
- 1x UV light
- 1x box of cotton swab
- 1x bottle of Isopropyl Alcohol
- a container to dip the prints in Isopropyl Alcohol

Silicone mold *(estimated price 30€)*

- 1x Liquid silicone for detailed parts

Resin printing *(estimated price 60€)*

- 1x 2 part Polyurethane Resin
- a plastic / rubber mixing stick (with a soft end, for cooking)
- a precision scale (optional)
- a pack of 3-5ml syringes (optional but recommended)

C. health and Safety Notice

Some materials used in this guide, including resins and Polyurethanes, can be hazardous, toxic, and potentially carcinogenic. Appropriate protective equipment should always be used, and the safety instructions provided by the manufacturers should be strictly followed. PREVIEW PREVIEW

When using a resin printer or polyurethane resin, please ensure that you are in a well-ventilated area.

By following this guide, you acknowledge these risks and accept full responsibility for your safety. The author assumes **no responsibility** for any injury, health issues, or damage resulting from the use or misuse of these materials. Proceeding entirely at their own risk.

Step-by-step guide

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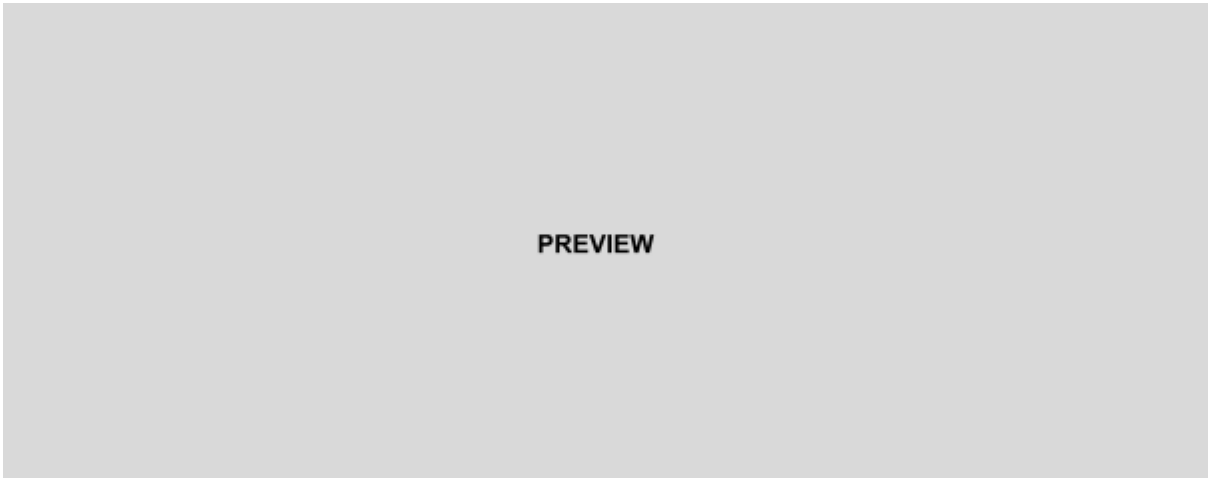

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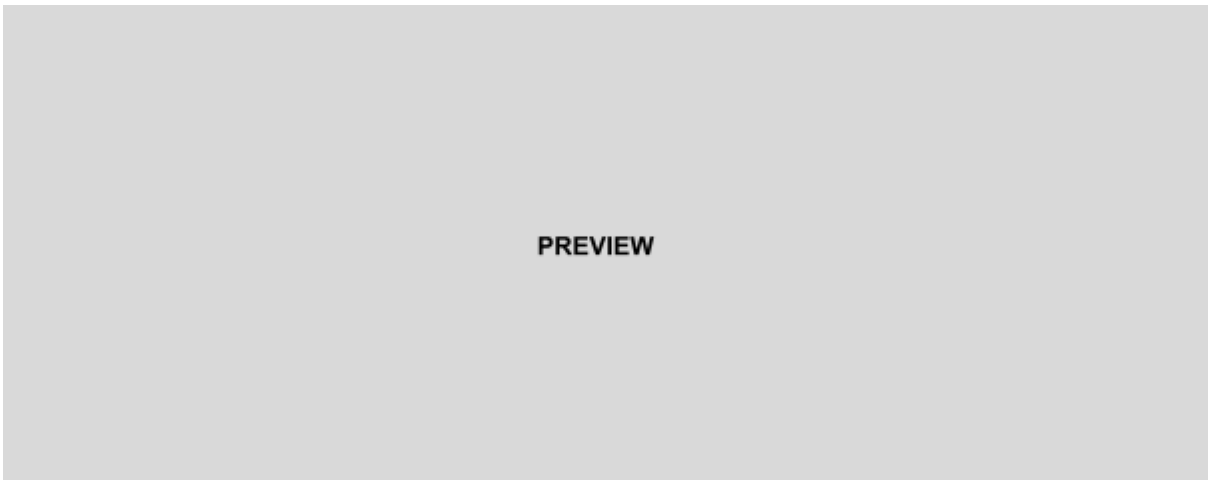

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2. PREVIEW PREVIEW

This step is sometimes overlooked, but it is critical for obtaining precise wheels.
By now, you should have a master model with 100% cured resin.

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- Take your time to pour the silicone for a better outcome.
- Use a tissue under the work area, as silicone is very sticky and messy.
- To remove any leftover Polyurethane/dust from the silicone, use sticky tape/scotch; no water !
- Slowly remove the master mold to avoid tearing up the silicone.

3. PREVIEW PREVIEW

Urethane wheels are “the grail” of fingerboard wheels.
When referring to “urethane” wheels, **the real and correct term is “Polyurethane”** (abbreviated to PU)

Choosing your (poly)urethane means first choosing a PU that works for the intended application.

The PU used for full-size skateboard wheels and fingerboard wheels is not exactly the same. This is why a fingerboard wheel machined from a skateboard wheel does not have the same properties as a fingerboard wheel.

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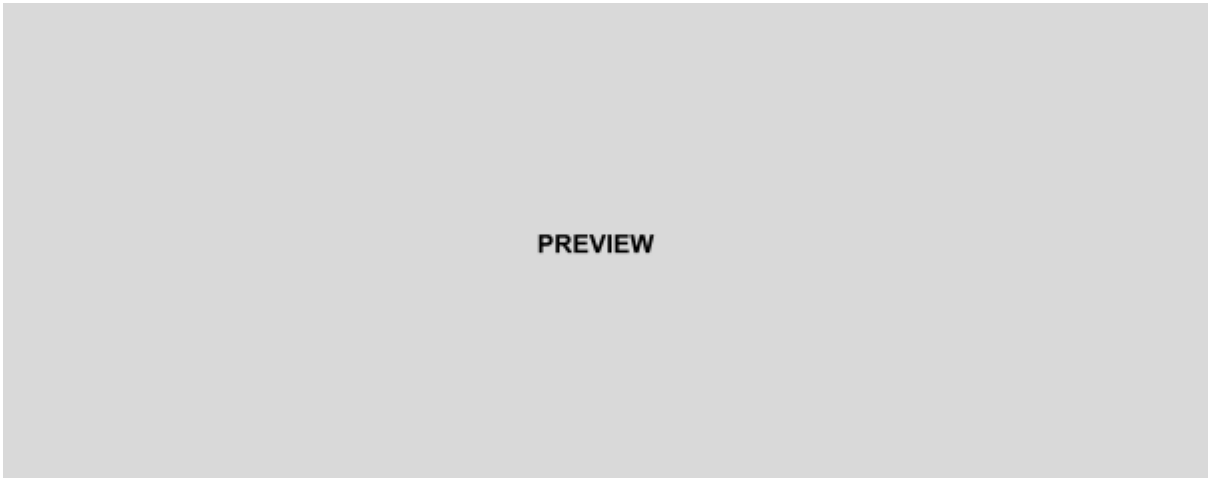

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3.2 pouring the Polyurethane

When pouring the Polyurethane, ensure that you are in a well-ventilated room and wearing a gas mask, as PU vapors are toxic.

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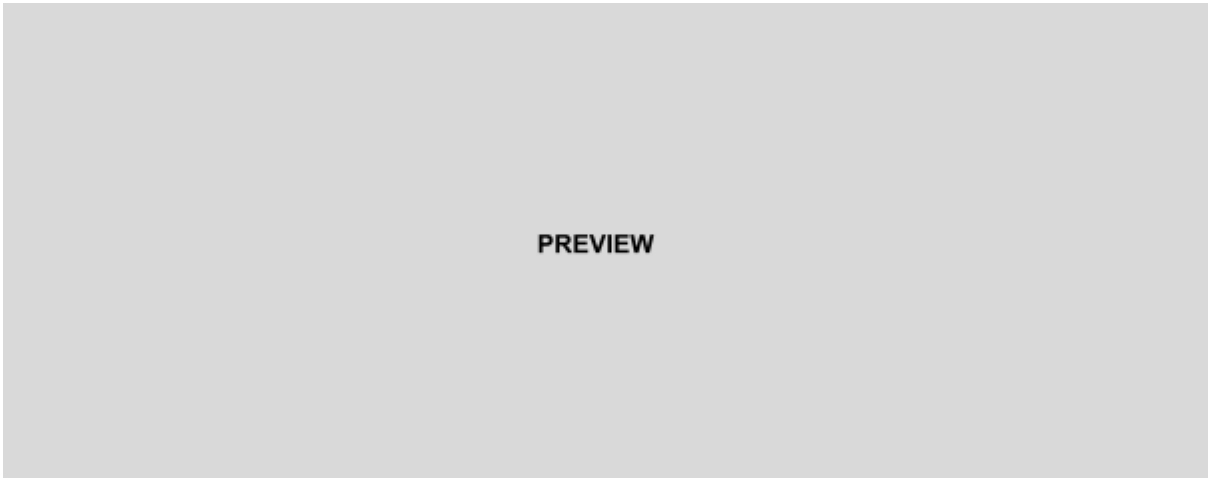

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3.3 tips & tricks

- If the PU becomes hot before it has been poured in the mold, the curing process has already started. If poured after that point, the wheel will be brittle.
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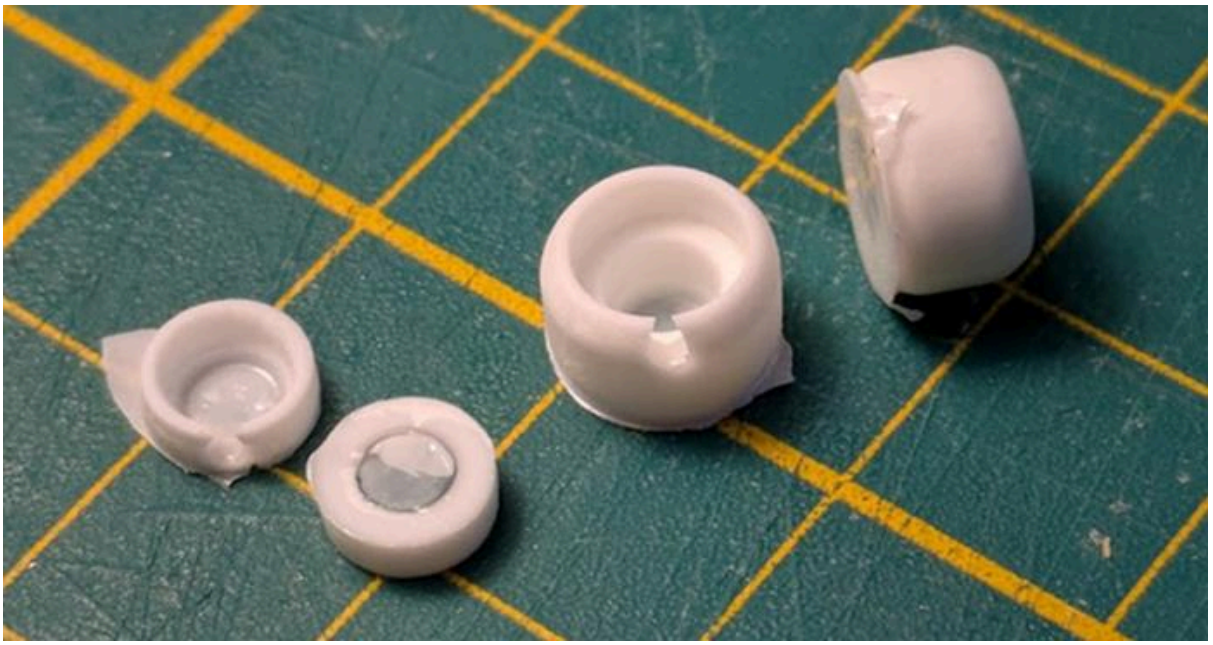
4. finishing the parts

By now, with the wheel removed from the mold, you should have a wheel & a ring with a clean “exterior side” and a rather messy “interior” side.

Some wheels will have bubbles, they can be used for testing purposes. Wheels with bubbles will be brittle and fragile.



Finished wheel ring & body. Examples with a bubble present due to improper pouring and an example with a raw wheel that needs finishing.

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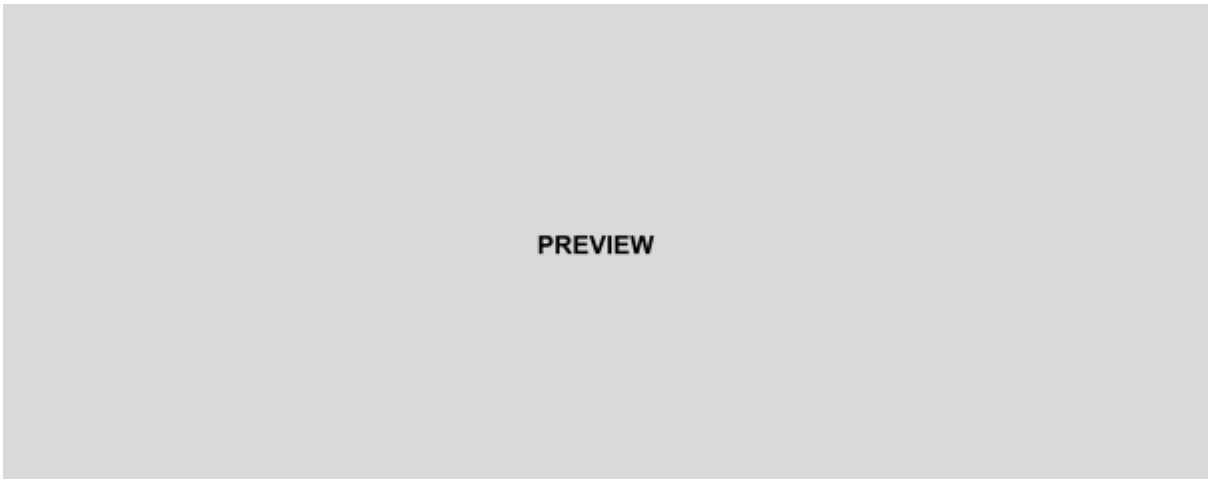

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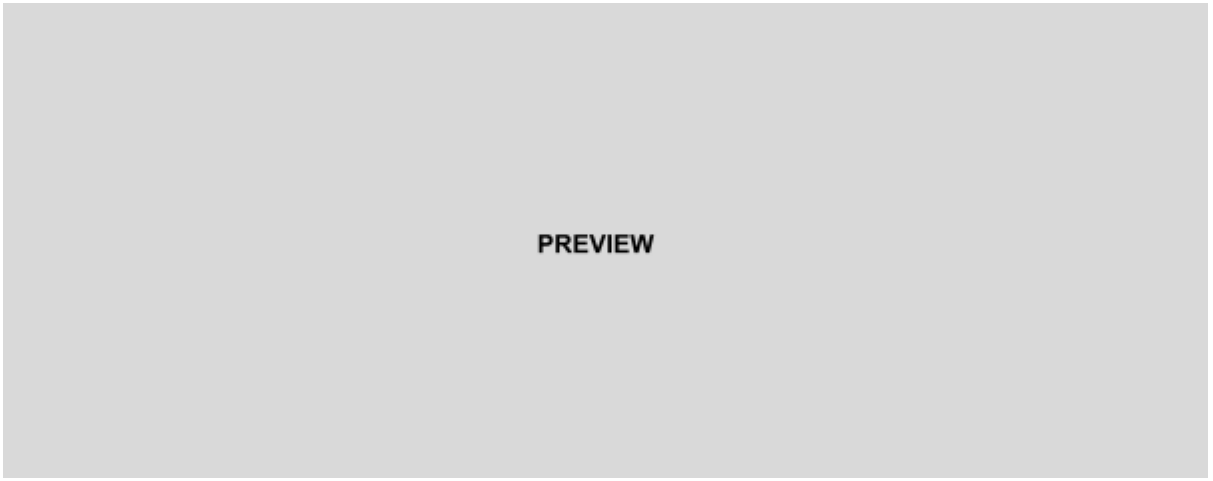

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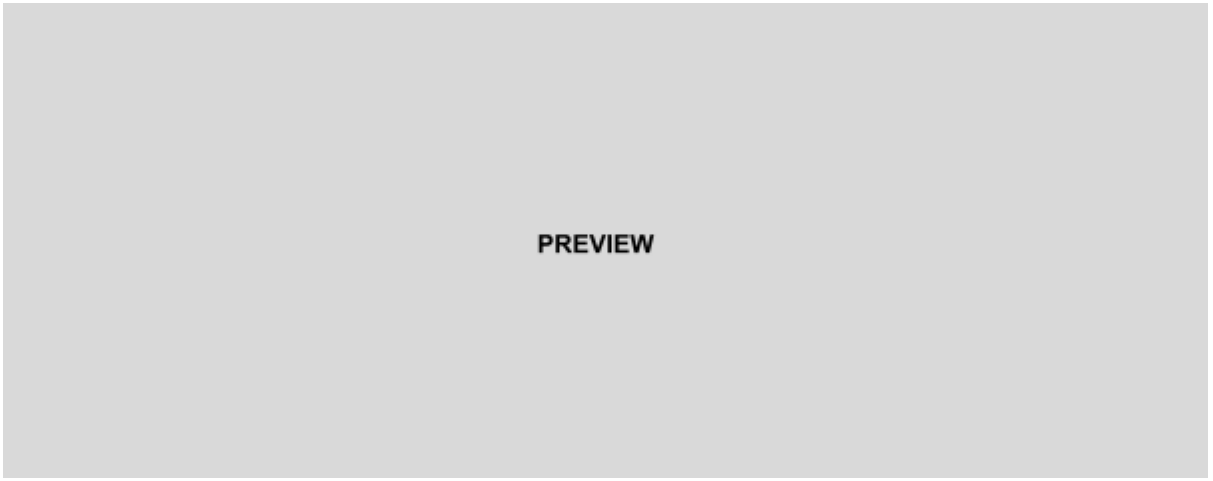

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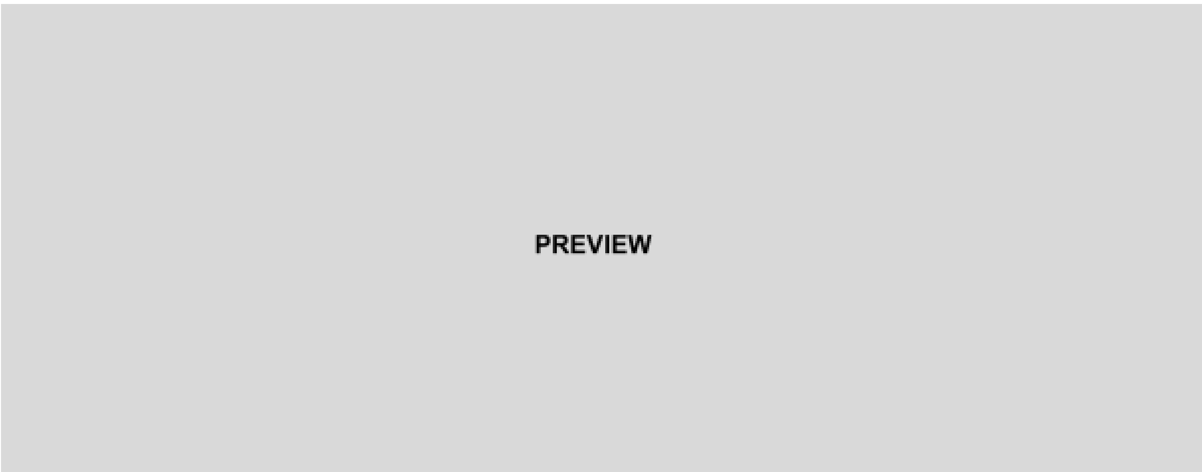

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5.1 choosing the correct bearing

The quality of a fingerboard wheel is only as good as the quality of its bearing. Made in China bearings are, most of the time, of poor quality.

Bearings are expensive. Generally, bearings costing less than 1€ per piece will have a high chance of being bad quality and will present issues, such as being rough, having uneven rolling sensations, and unsecured balls.

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Here is a breakdown of the best possible glues for gluing the ring, from best to worst :

Best	**PREVIEW PREVIEW**	PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW
Second choice	**PREVIEW PREVIEW**	PREVIEW PREVIEW PREVIEW
Testing only	**PREVIEW PREVIEW**	PREVIEW PREVIEW PREVIEW PREVIEW

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conclusion & troubleshooting

By now you should be riding your handmade wheels, congratulations ! Making fingerboard wheels is difficult but once these steps are mastered, the quality will increase with each batch.

Finished wheel, with the bearing properly secured by the ring.

Here are some troubleshooting if you ever come across these issues :

Issue	Cause
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