

# GFRC Concrete Worktop Mix Instructions



## BASIC CONCRETE MOULDING & CASTING

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### Introduction

The Concrete Lab GFRC Worktop Mix is a specially formulated flowable high-strength concrete mix for pre-cast concrete worktops, countertops, tabletops, bartops or sink projects. It is suitable for both indoor and outdoor use.

It can be used to make panels as thin as 18mm and up to any desired thickness but should be a minimum thickness of 40mm for outdoor applications and hearths.

By nature concrete is heavy so where possible we recommend that any larger decorative concrete panel items such as tabletops or countertops, be designed and produced at the minimum thickness.

To create the appearance of thickness we recommend that a “lip” be formed around the perimeter of the item.

In this document we cover both the **SHUTTERED LIP METHOD** and the **FULL THICKNESS METHOD**.

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### Mould Building Equipment/Materials Required (non-exhaustive list)

1. Melamine sheet for the base
2. Melamine strips for the mould edges
3. Melamine cubes/blocks for reinforcing the mould edges
4. Glue gun & glue sticks
5. General hand tools for cutting materials
6. Silicone gun
7. General purpose silicone sealant (not clear)
8. Silicone tools
9. Mould release agent (available on our website)
10. Cloths for mould release application
11. PPE including fine touch gloves and eye protection

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### Concrete Casting Equipment Required

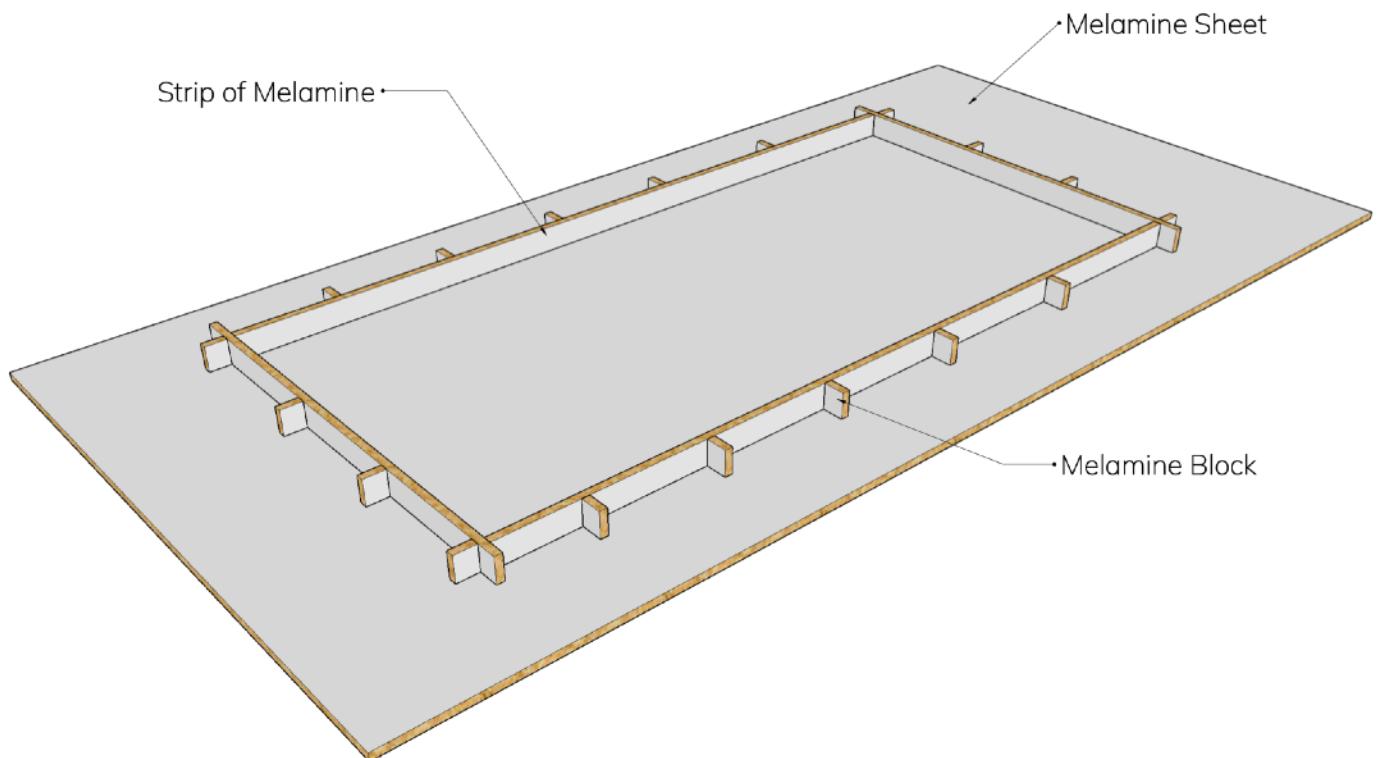
1. Mixer - Paddle mixer or pan mixer. Do not use a standard cement mixer
2. Buckets/vessels for weighing out water etc.
3. Bucket or gauging trowel
4. Hand or pool trowel
5. Straight edge
6. PPE - Gloves & face-fitted P3 mask
7. Cleaning rags and brush

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### 1 The Basic Formwork

The basic formwork is created using a base material, strips of formwork and reinforcement blocks. Melamine is recommended as the ideal material for all three of these components. Hot glue is recommended as the adhesive.



Further guidance on how to build a basic mould can be found on our YouTube Channel. Scan the QR Code below to view it.

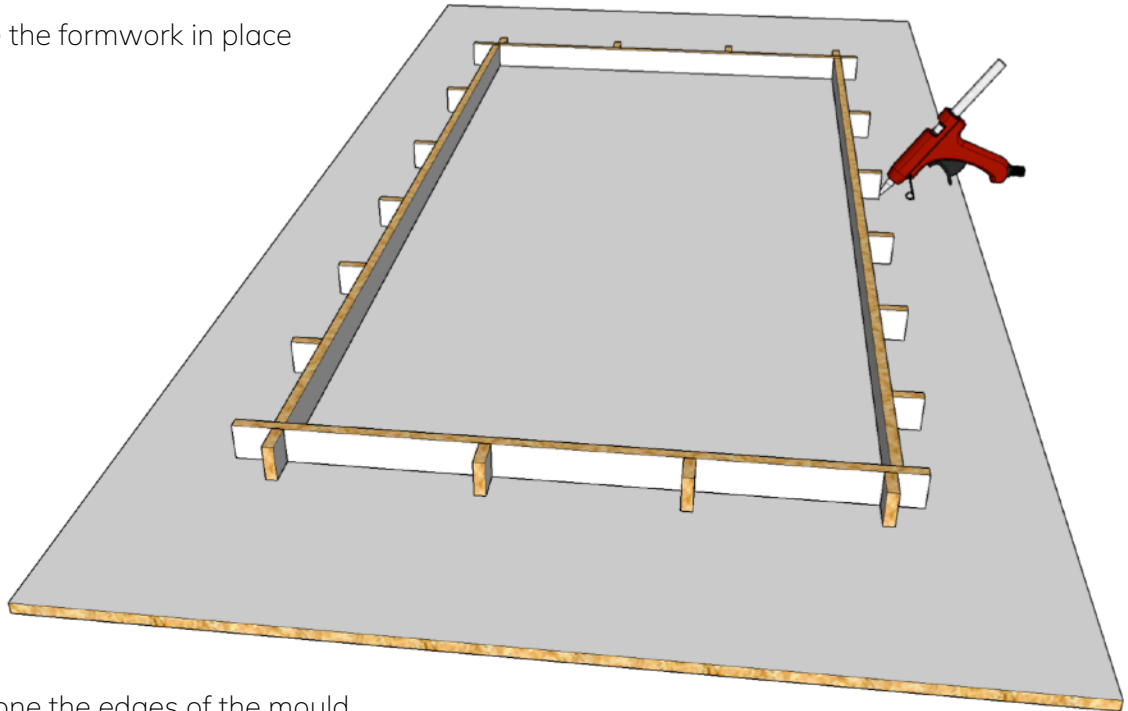


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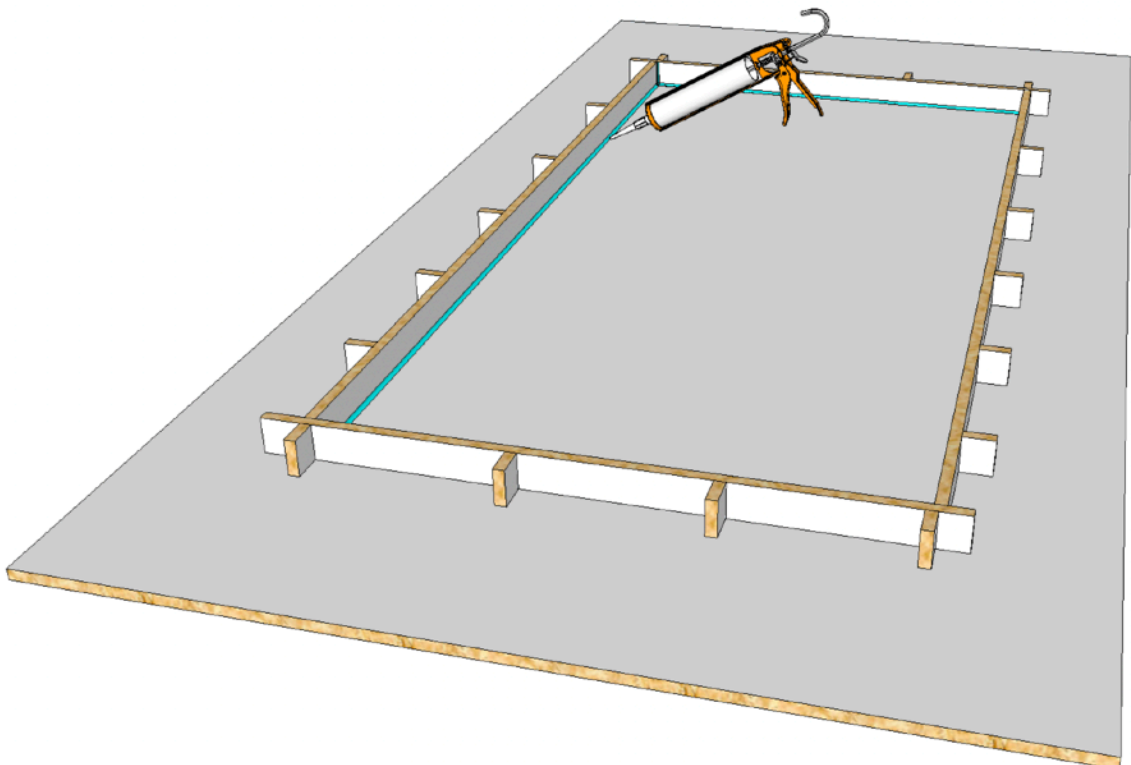
## BASIC CONCRETE MOULDING & CASTING

### 2a Moulding & Casting - **SHUTTERED LIP METHOD**

**Step 1** - Glue the formwork in place



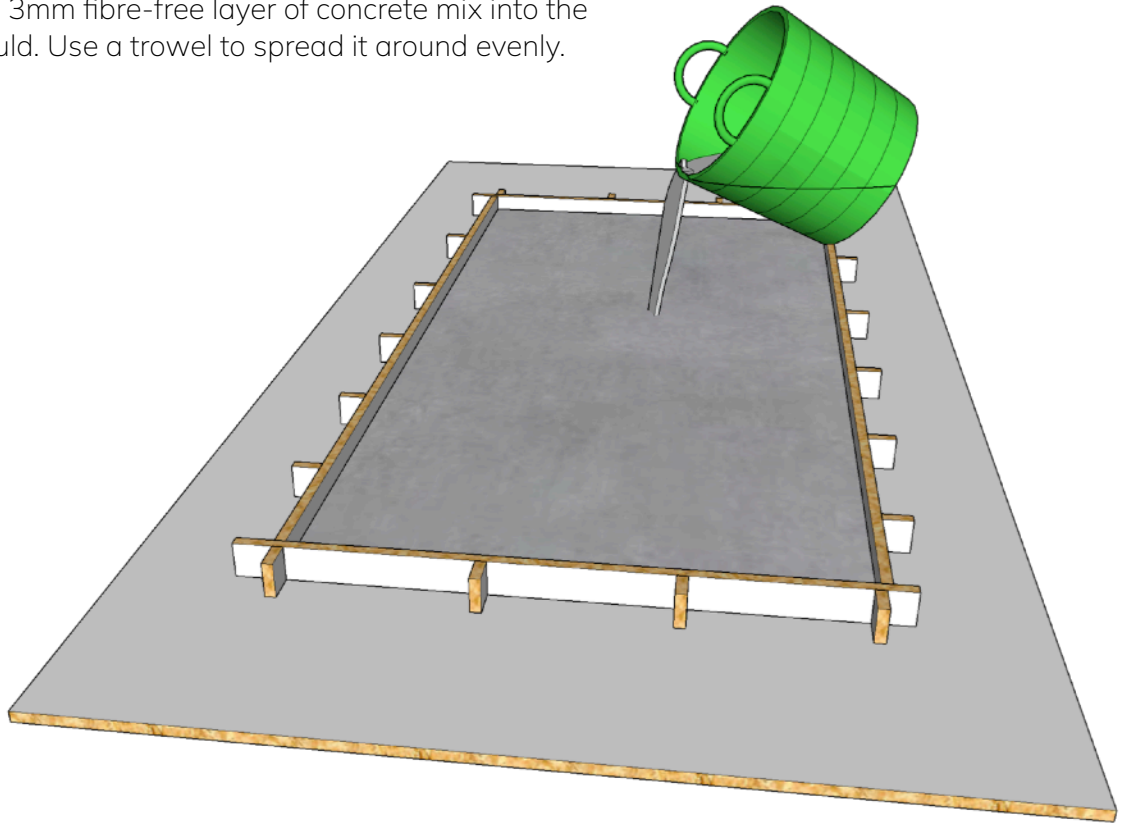
**Step 2** - Silicone the edges of the mould



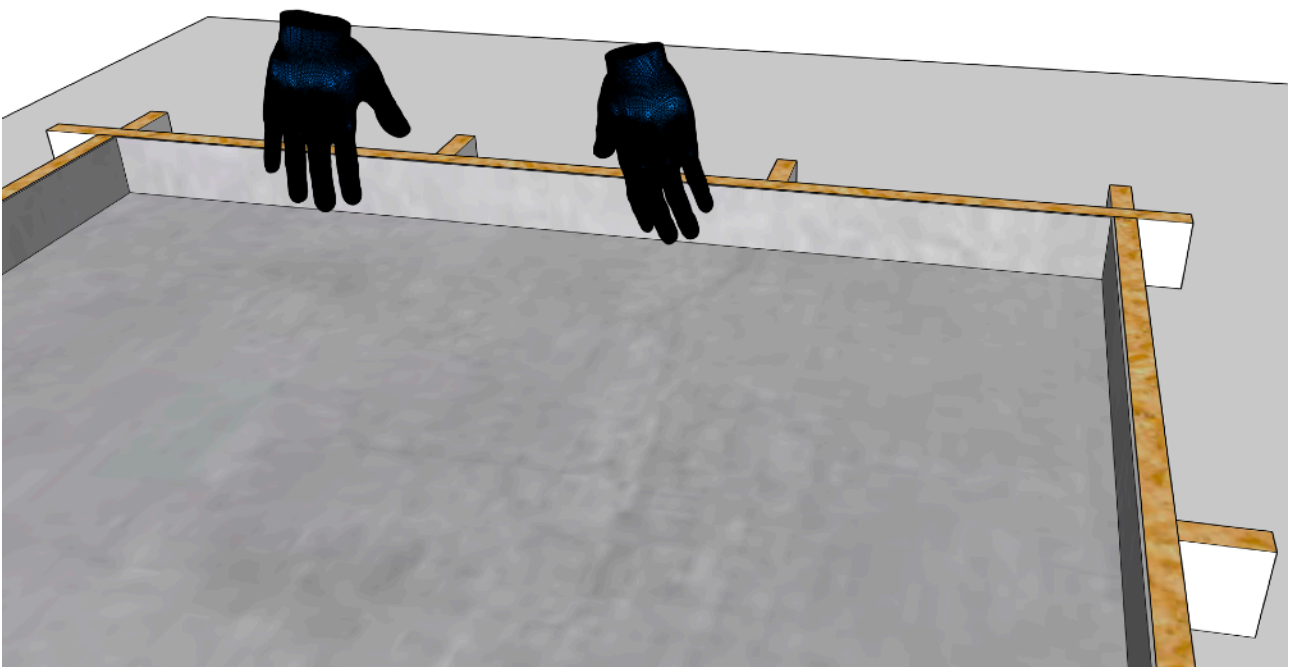
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**Step 3** - Pour a 3mm fibre-free layer of concrete mix into the base of the mould. Use a trowel to spread it around evenly.



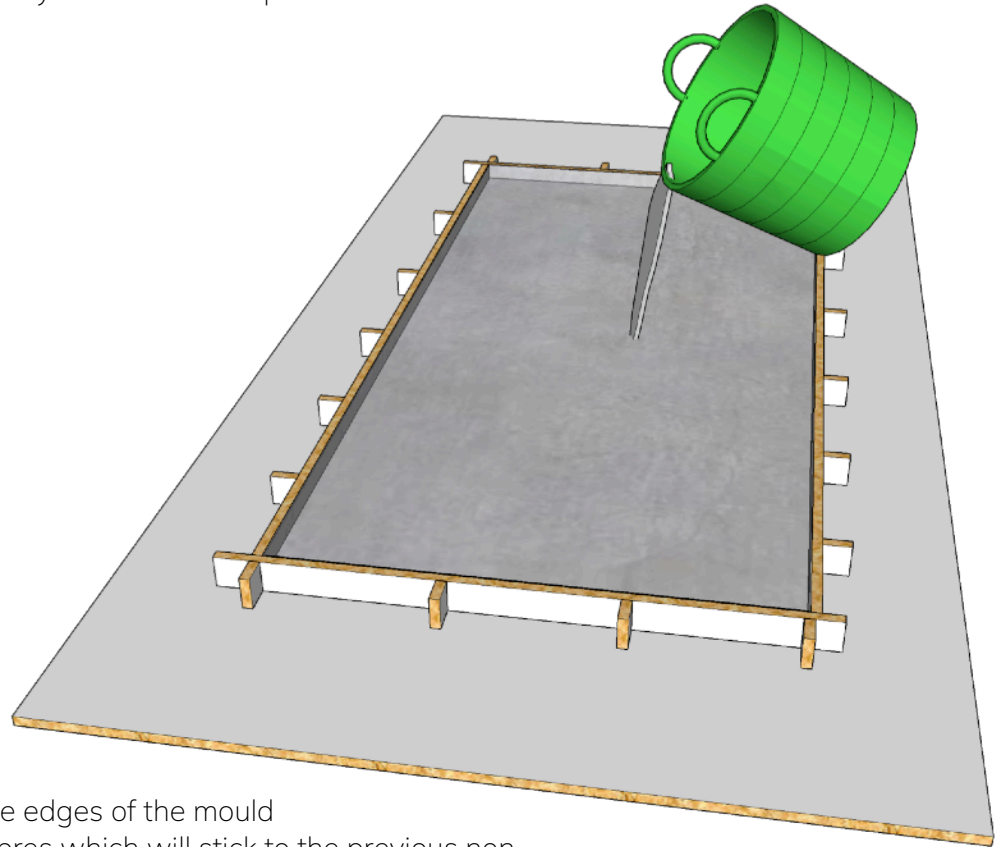
**Step 4** - Pull the mix up the edges of the mould



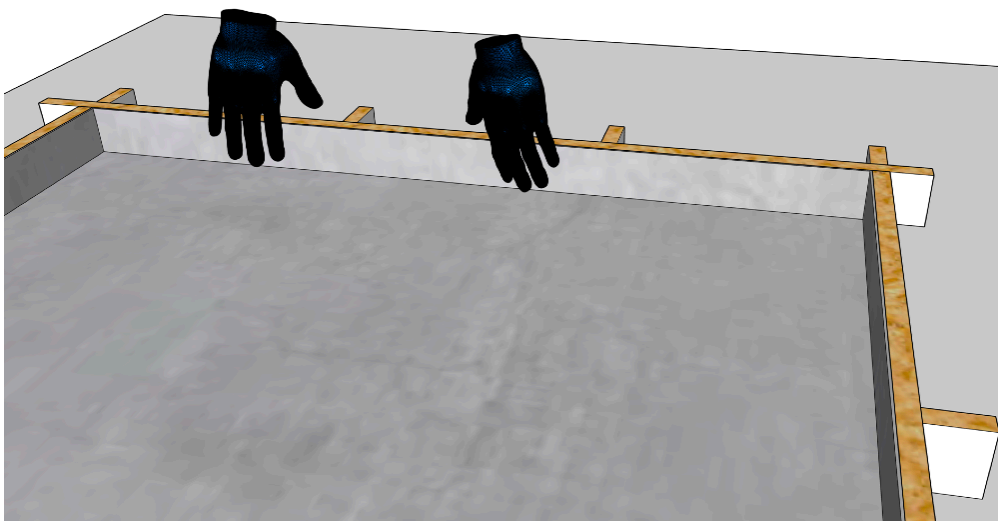
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**Step 5** - Pour a fibre-containing mix of concrete so that the total concrete thickness is a minimum of 18mm or more. Again use your trowel to help move the mix around.



**Step 6** - Pull the mix up the edges of the mould again. This mix contains fibres which will stick to the previous non-fibre mix.

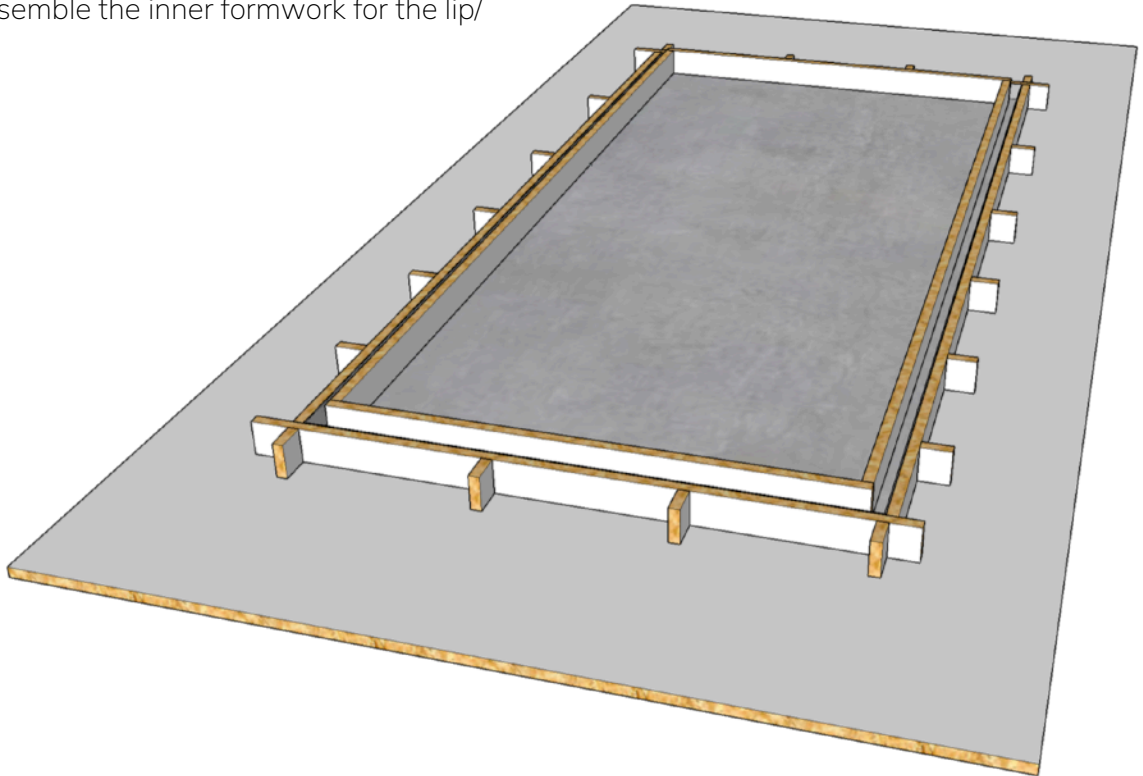


**WAIT** until the concrete is firm enough to take the weight of the lip formwork. This can be up to 2 hours.

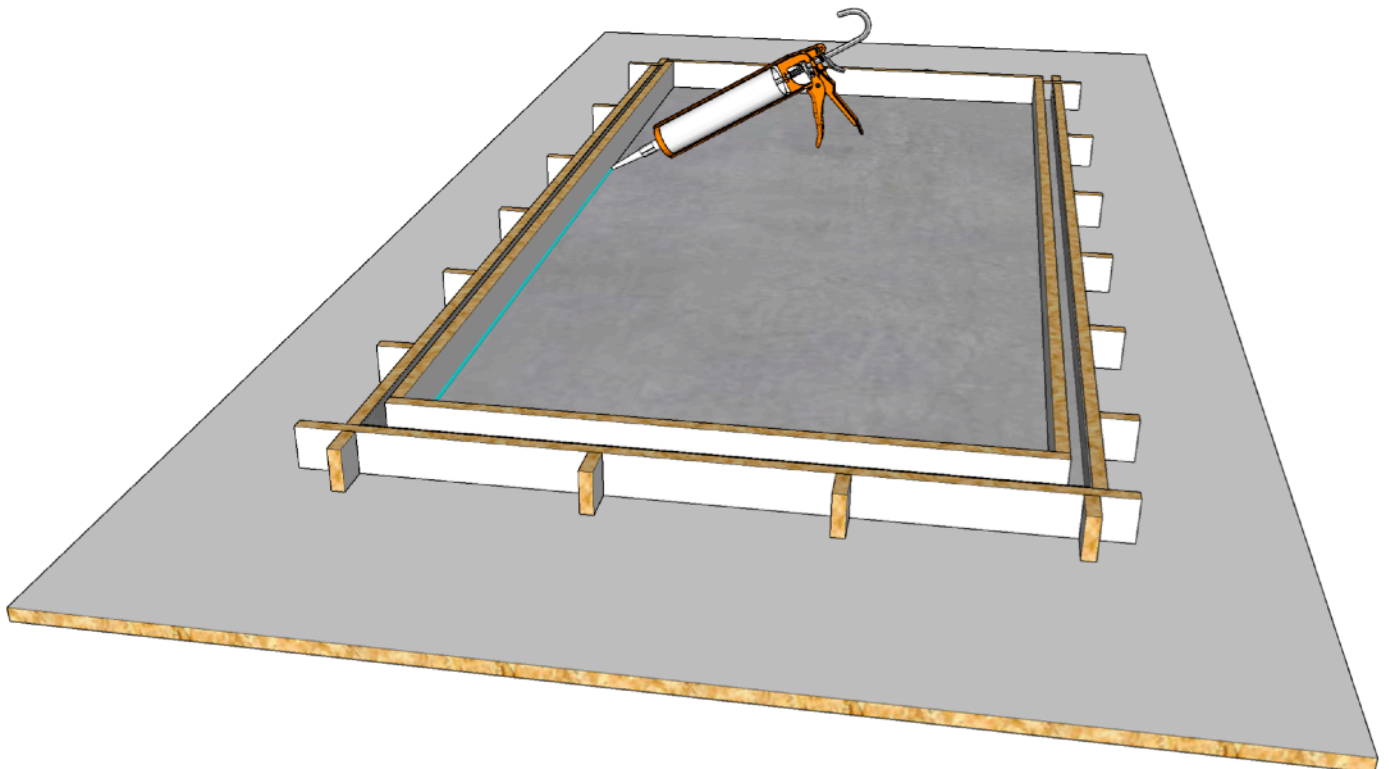
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**Step 7** - Assemble the inner formwork for the lip/edges



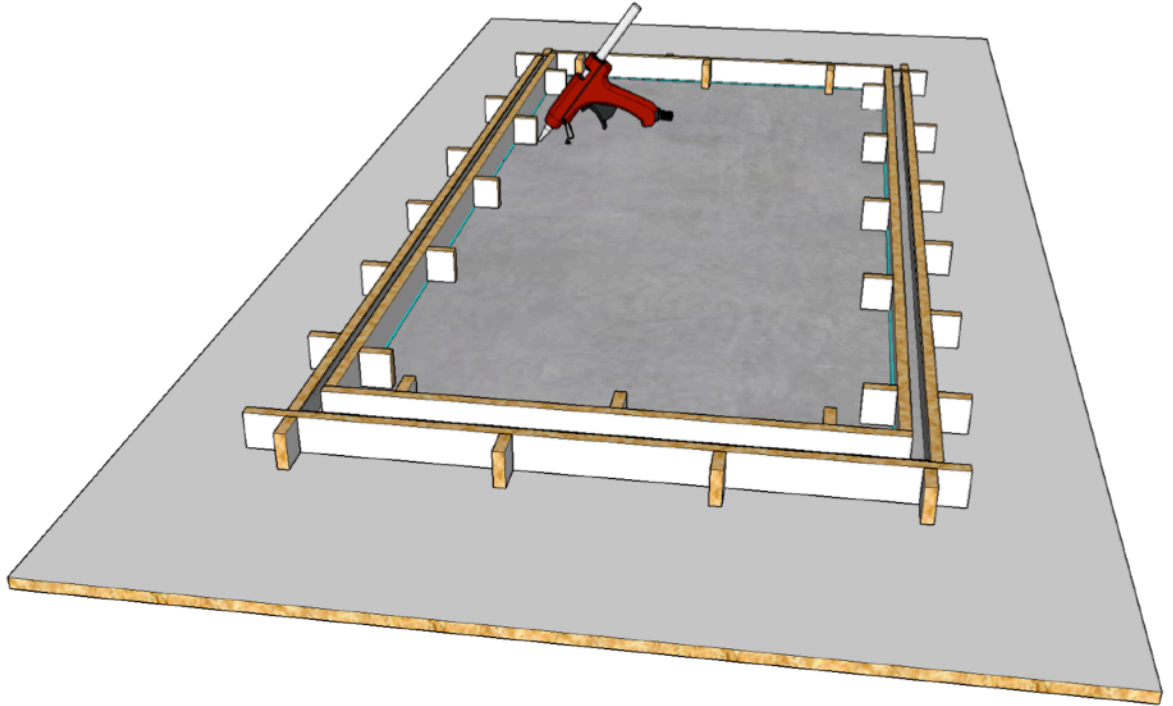
**Step 8** - Apply Silicone sealant to the base of the formwork to prevent seepage



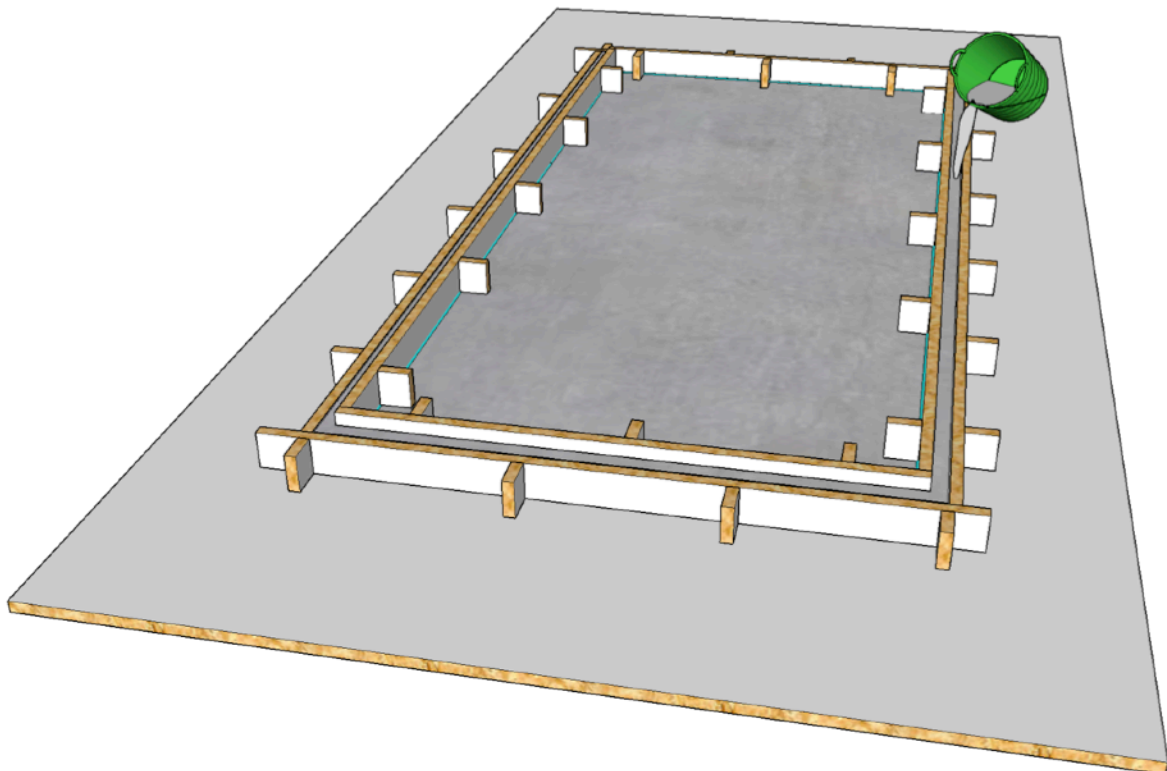
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**Step 9** - Fix the formwork in place using melamine blocks and hot glue



**Step 10** - Pour a fibre-filled concrete mix into the formwork

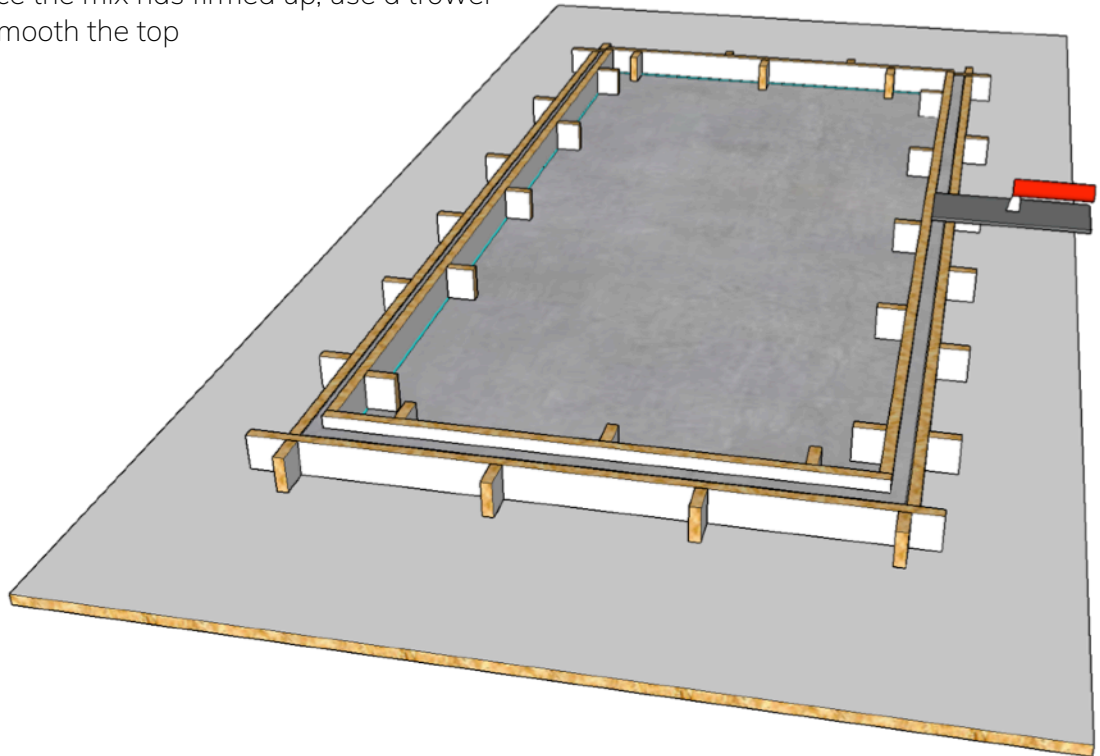




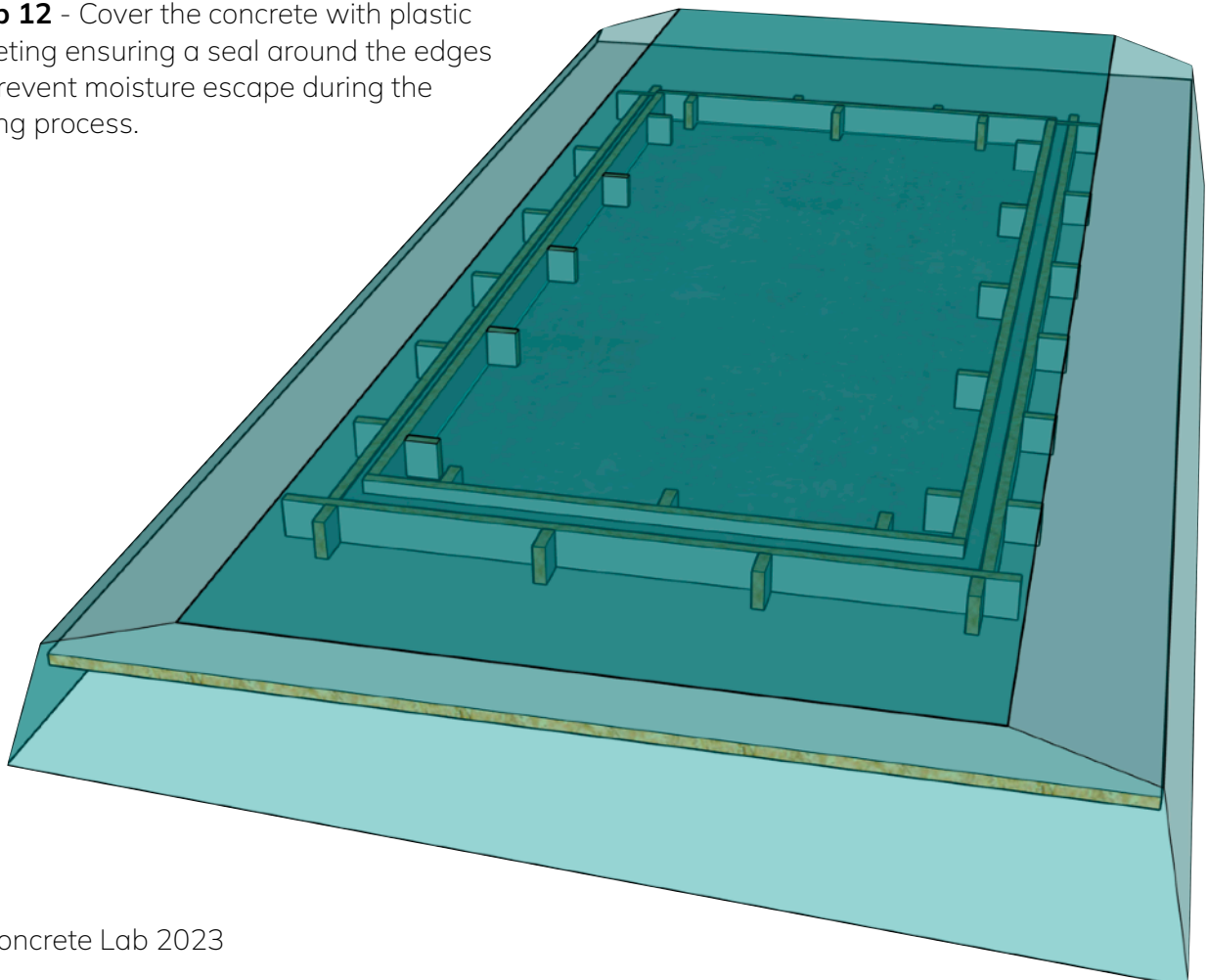
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## BASIC CONCRETE MOULDING & CASTING

**Step 11** - Once the mix has firmed up, use a trowel or similar to smooth the top



**Step 12** - Cover the concrete with plastic sheeting ensuring a seal around the edges to prevent moisture escape during the curing process.



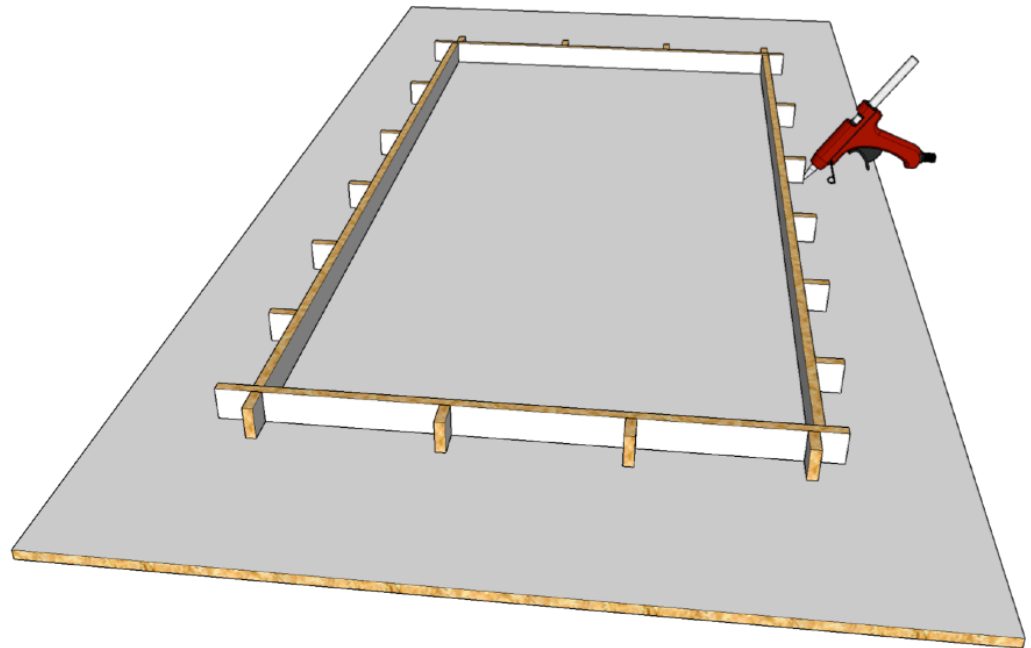


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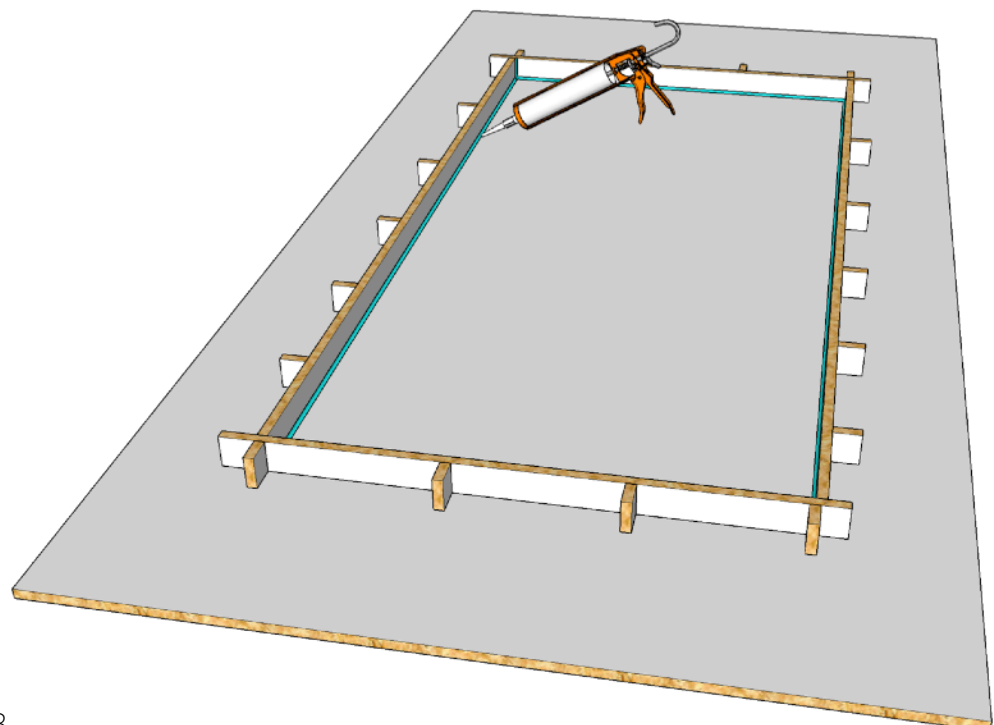
## BASIC CONCRETE MOULDING & CASTING

### 2b Moulding & Casting - **FULL THICKNESS METHOD**

**Step 1** - Glue the formwork in place



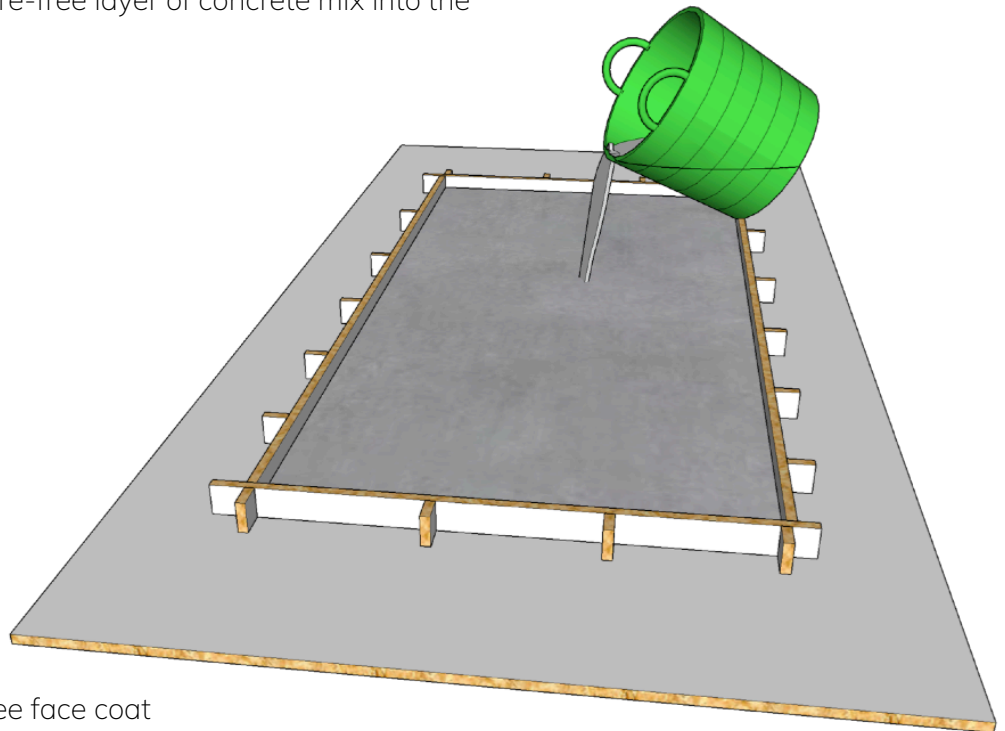
**Step 2** - Silicone the edges of the mould



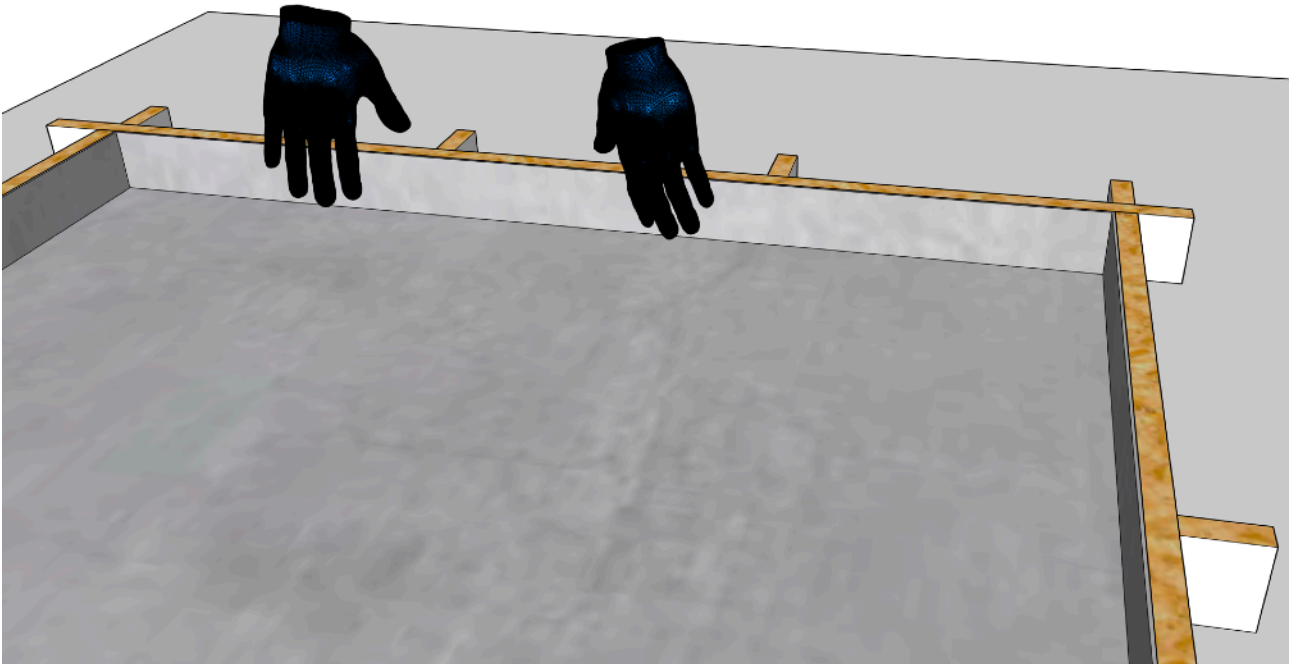
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**Step 3** - pour a 3mm fibre-free layer of concrete mix into the base of the mould



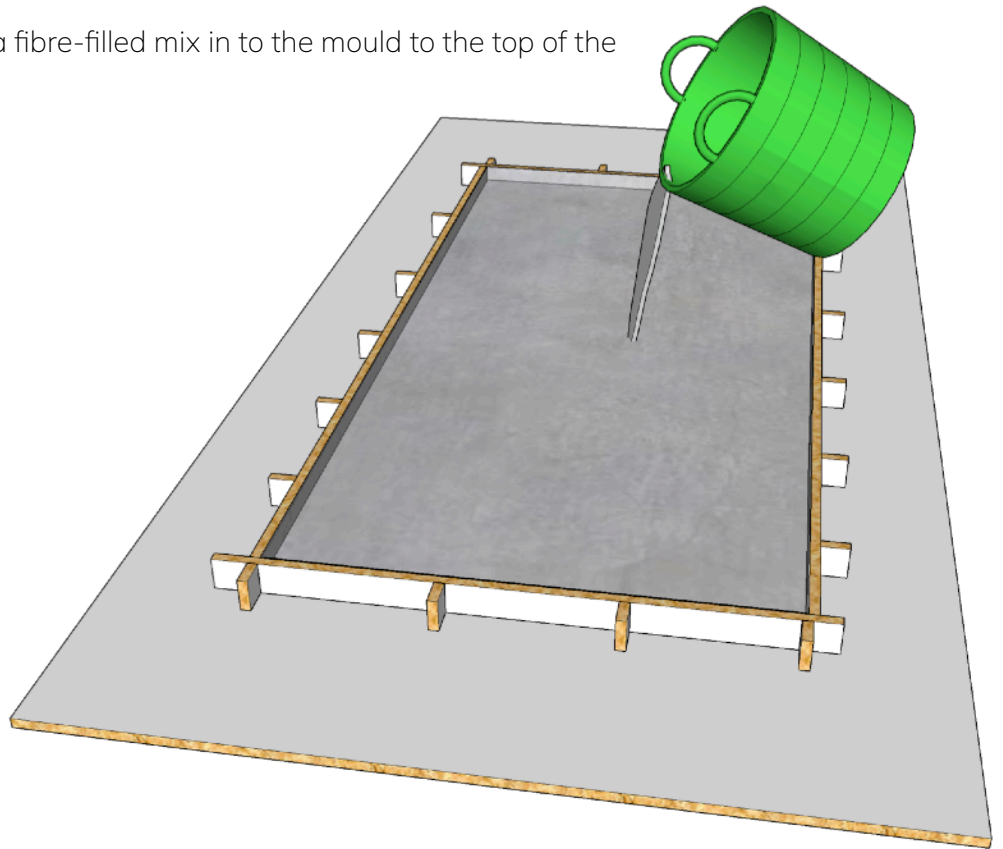
**Step 4** - pull the fibre-free face coat mix up the edges of the mould



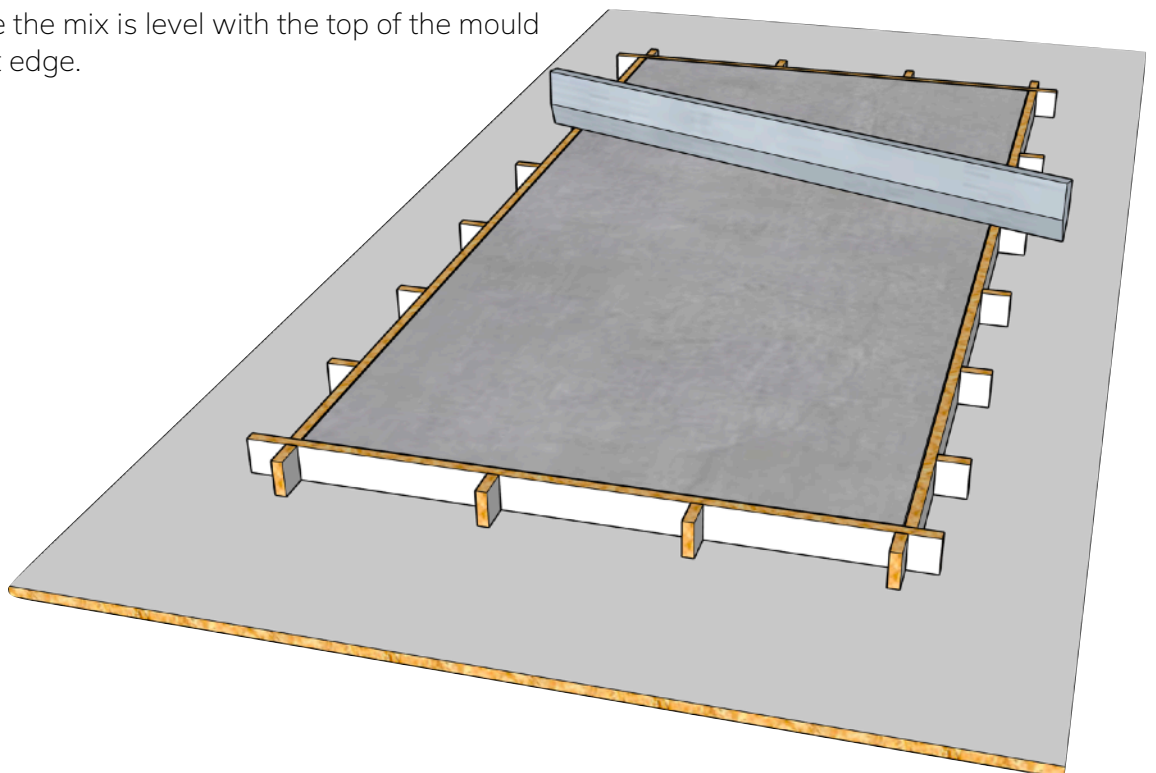
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**Step 5** - Mix up and pour a fibre-filled mix in to the mould to the top of the mould



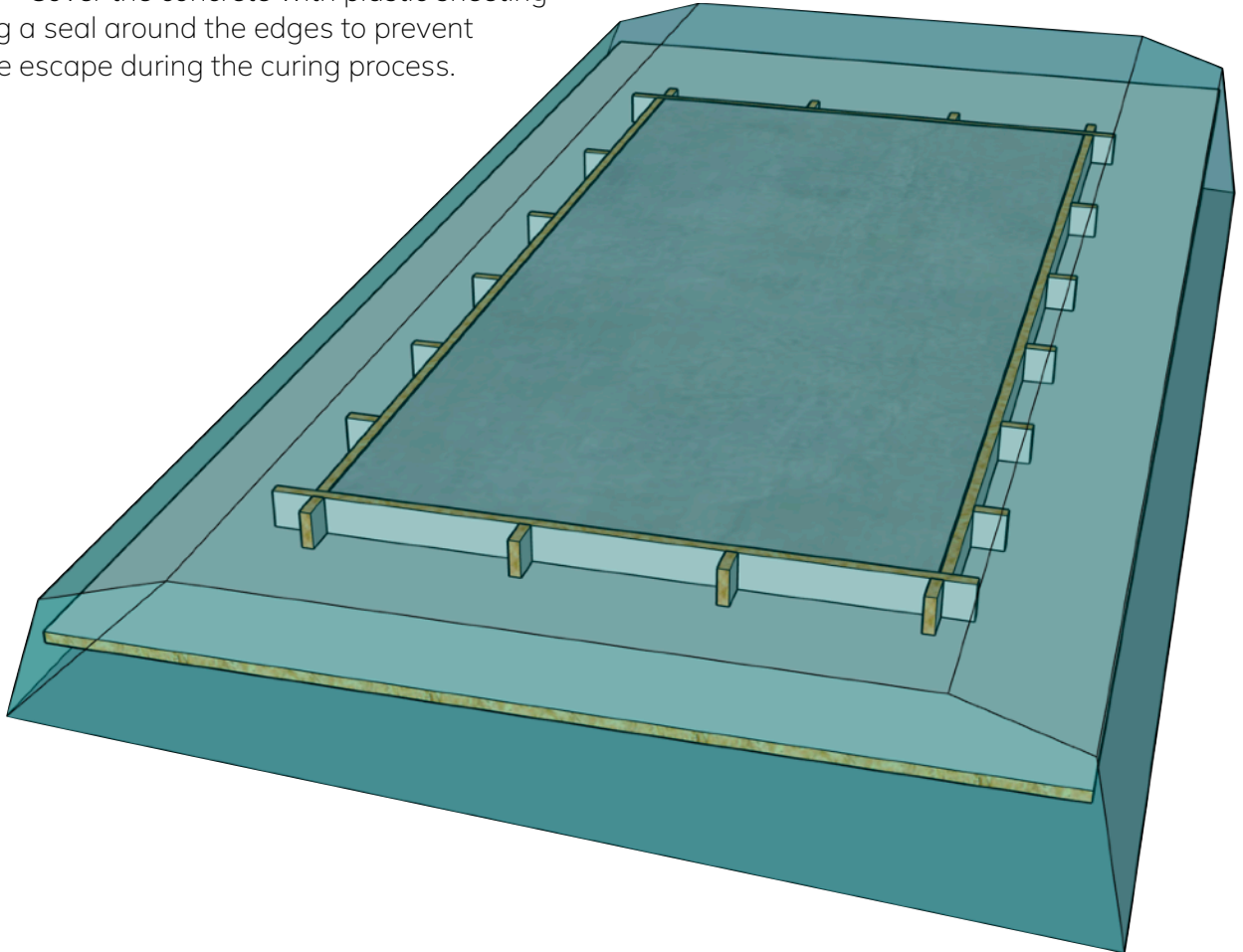
**Step 6** - Ensure the mix is level with the top of the mould using a straight edge.



# GFRC Concrete Worktop Mix Instructions

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Step 12 - Cover the concrete with plastic sheeting ensuring a seal around the edges to prevent moisture escape during the curing process.



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### Curing

Once the cast is complete the concrete should be covered with plastic sheeting to prevent moisture loss. This is imperative to ensure high and early strength gains. It is also recommended that the concrete be cured at 21degC and no less than 18degC. Heated blankets should be considered if the workshop temperature cannot achieve this.

The curing time should be no less than 15 hours up to a maximum of 48 hours. There is a risk of warping after this time.

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### Demould

Carefully remove the formwork to ensure that you do not damage the concrete before full strength has been achieved.