REPROCESS THE FOREST

An innovative material combining wood waste and moss

Wood waste starts in our homes and ends in our streets. The UK alone generates around **5 million tonnes of wood waste per year**. Half of it is burned for bio energy and the rest is either landfilled or chipped to make man-made wood which also is likely to end up as waste. Challenging the way we do things now is essential for a better future.

Reprocess The Forest is a project **combining wood waste with moss to create an innovative bio living material**. Taking inspiration from man-made woods, it uses a layer system of different types of wood waste with an engrave to grow moss, all joined by a **natural adhesive made from milk**. Moss has multiple advantages including surviving in almost any conditions and filtering the quality of the air. As the furniture industry is the primary source of wood waste, **I designed a stool where scrap wood from the streets and moss co-habit.**

Stools are known to be one of the **earliest forms of wooden furniture** and are still omnipresent in our daily life. They are one of the **most versatile pieces** of furniture made for support. This follows my design practice of prioritising **functional** long lasting design.

WATCH MY FILM

Video: https://youtu.be/nGRWYVIao_M

RESEARCH

MAN-MADE WOOD ON MARKET

TOP PINE VENEER
100% VIRGIN

UF RESIN
100% NON-BIODEGRADABLE

CORE PINE VENEER
100% VIRGIN

UF RESIN
100% NON-BIODEGRADABLE

BOTTOM PINE VENEER
100% VIRGIN

CONVENTIONAL PLYWOOD

TOP SOFTWOOD FIBRES
70% VIRGIN
30% RECYCLED

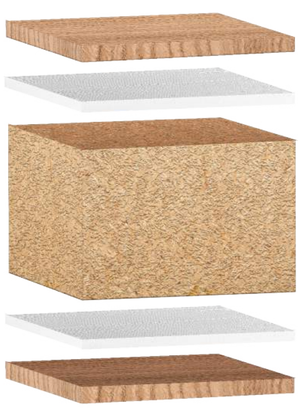
UF AND PARAFFIN WAX
100% NON-BIODEGRADABLE

CORE SOFTWOOD FIBRES
60% RECYCLED
40% VIRGIN

UF AND PARAFFIN WAX
100% NON-BIODEGRADABLE

BOTTOM SOFTWOOD FIBRES
70% VIRGIN
30% RECYCLED

CONVENTIONAL MDF



TOP VENEER
100% VIRGIN

UF AND PF RESINS
100% NON-BIODEGRADABLE

SOFTWOOD CHIPS
70% RECYCLED
30% VIRGIN

UF AND PF RESINS
100% NON-BIODEGRADABLE

BOTTOM VENEER
100% VIRGIN

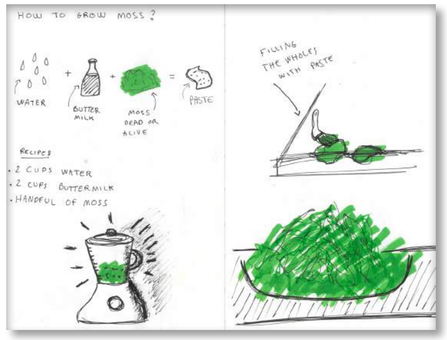
CONVENTIONAL CHIPBOARD

From my research, I made a collection of found **wood waste abandoned in the streets** of the surroundings of the site, Peckham Levels. I found that most things abandoned in the streets were from made from **man-made woods**. Often **broken and/or chipped** in some places, in the majority of the time it seems to be a problem of **quality** above all. Nonetheless, I also noted some really good state furniture which means there is also an understanding of **current trends.**

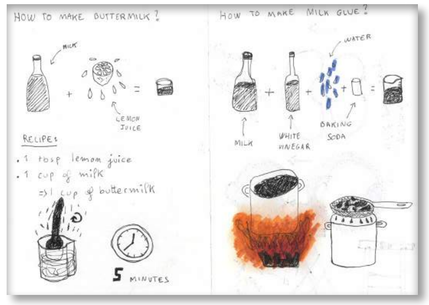
Looking into how moss can contribute to my material. In history, it was used as a bandage to fix cuts. Following this idea, I wanted to use moss as a filling to **fix broken wood pieces.** Also, it can easily survive and it **absorbs carbon dioxide.**

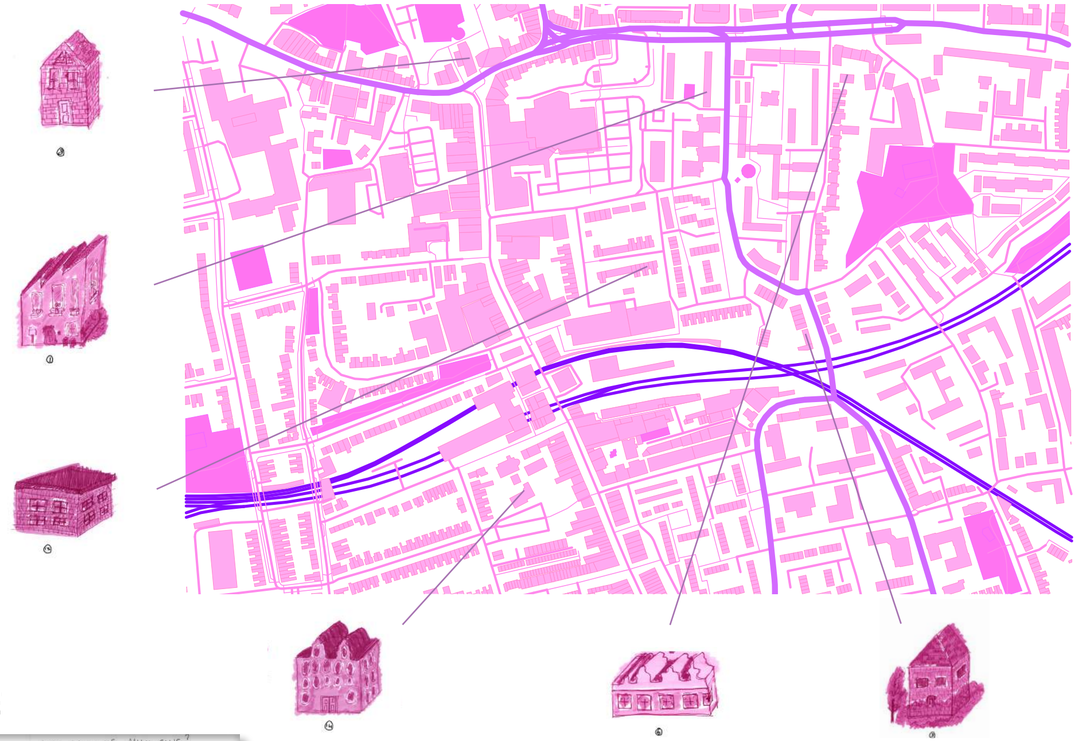
Also, as I knew I wanted to join wood waste together, I started by looking into **biodegradable adhesives** such as **casein glue** to join wood waste. Milk glue as it is one of the most **eco-friendly, strong and durable glue to make in any kitchen.**

MOSS INTO WOOD



MILK GLUE

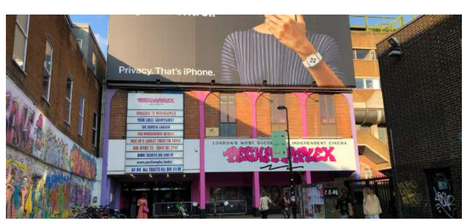




	Distance from Peckham Levels	Collected items	Wood types	Colour	Water resistant	Toxicity	Moist	Flexibility	Lifespan
House 1	15 minutes	Table	Pine	Natural	No	None	No	None	Very good
House 3	10 minutes	Table	Chipboard laminated	Black	No	Very high	A little bit	Breaks	Very bad
House 6	5 minutes	Drawers	Pine	Natural	No	None	No	None	Very good
House 8	10 minutes	Boards	Birch	Natural	No	None	No	None	Very good
House 12	5 minutes	Scraps	OSB	Natural	No	Very high	NoW	Breaks	Very bad
House 14	7 minutes	Door	Chipboard	Natural veneer	No	Very high	A little bit	None	OK

WOOD WASTE COLLECTED

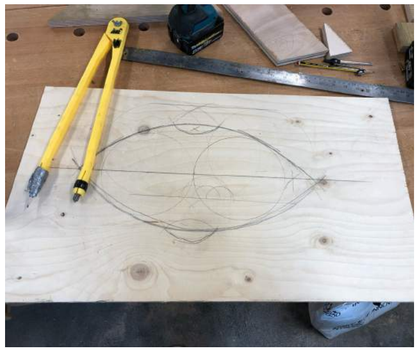
THE SITE



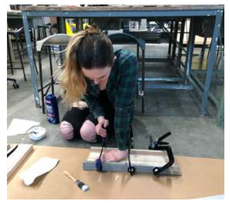
PROCESS

Exploring the properties through **many, many, many trials** for the material and the shape of the stool. It was clear that the **basic recipe of casein glue is the easiest** and is **more than enough resistant for joining wood together.**

PROTOTYPES 1:1

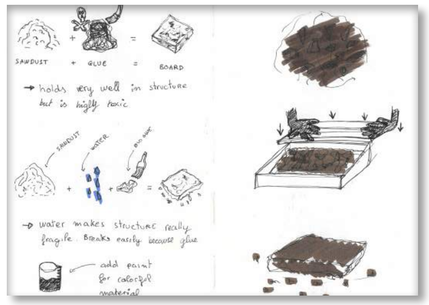


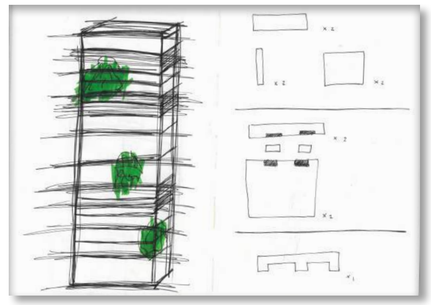
WORKSHOP

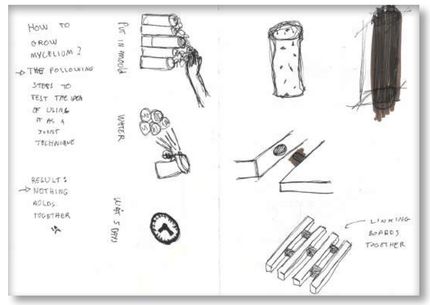


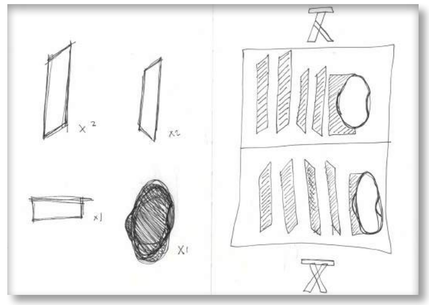
TESTING RECIPES

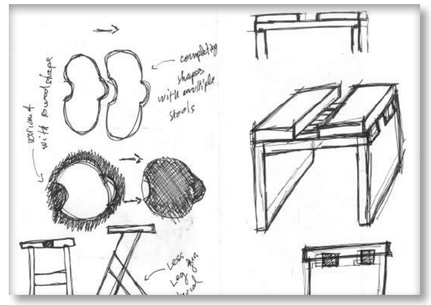
INITIAL IDEAS THROUGH SKETCHES

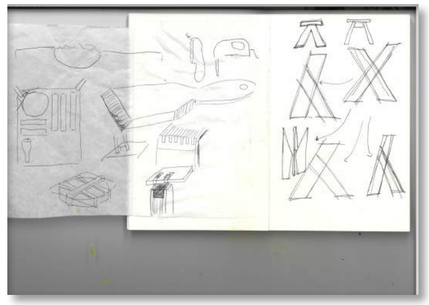




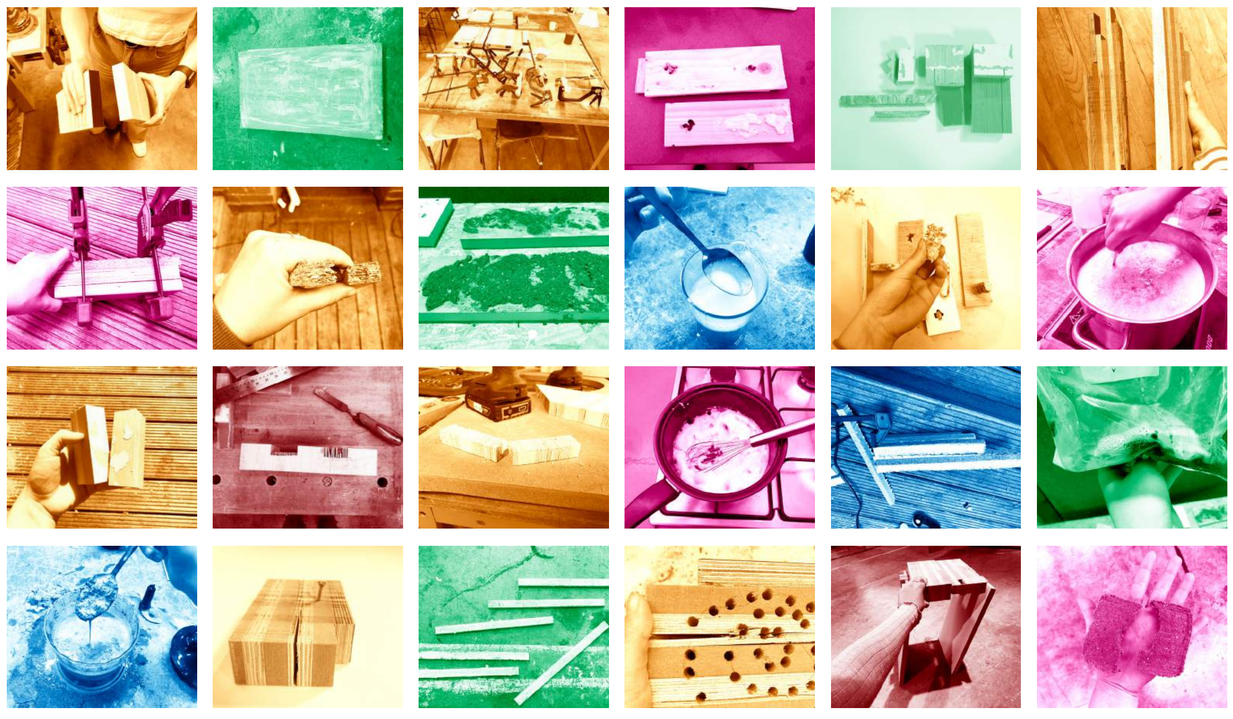








TRIAL AND ERRORS OF THE MATERIAL



Dry

Breaking

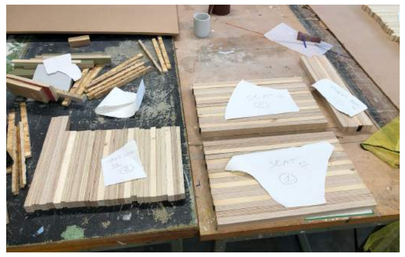
Mouldy

Texture consistency

Others

MAKING

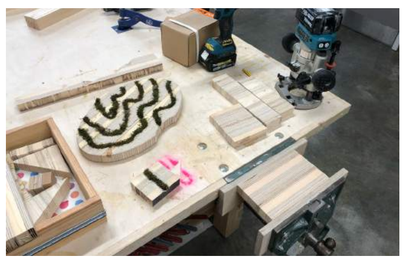
read this way

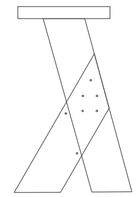
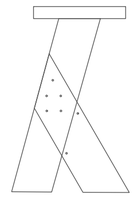
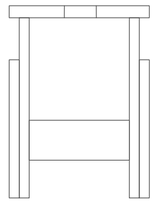
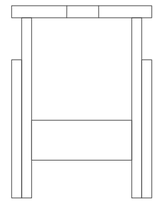


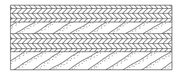
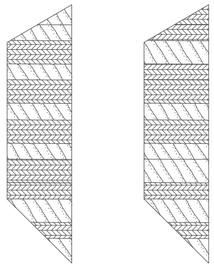
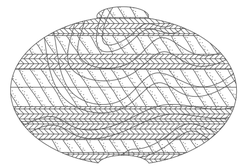
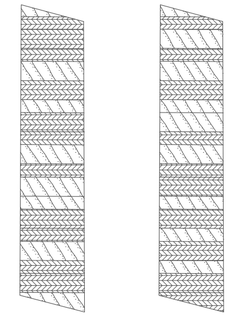
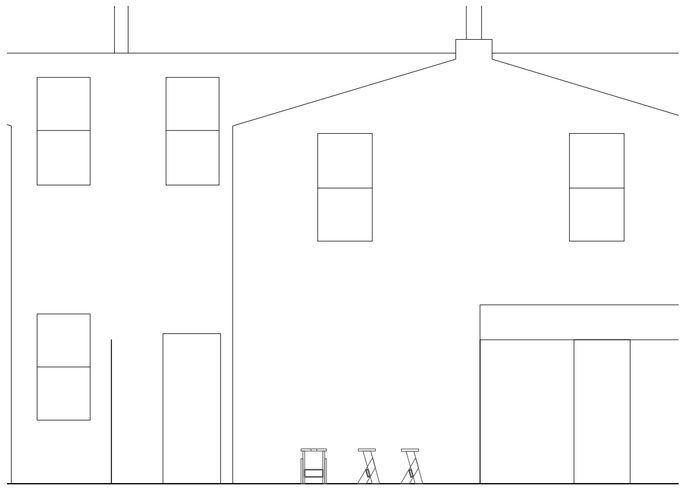
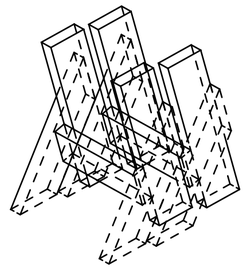
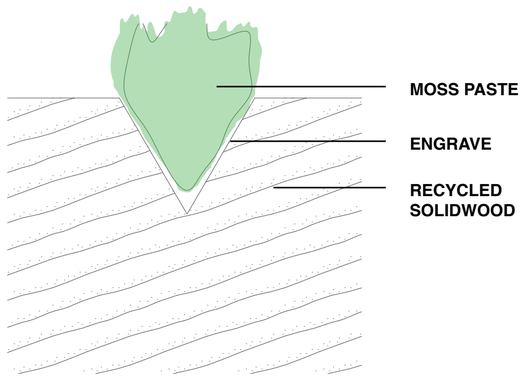


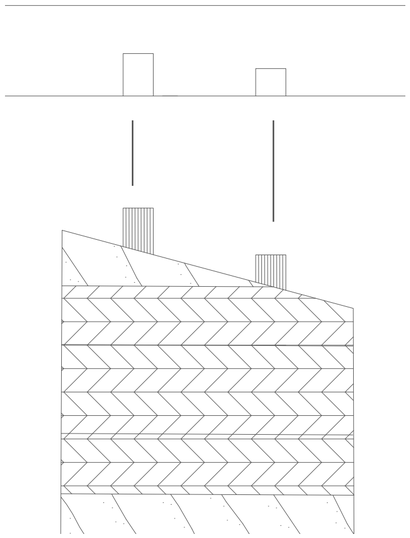



TECHNICAL DETAILS



REPROCESS THE FOREST STOOL

The stool is composed of 5 pieces. It is joined by 4 dowels and 4 screws**.**
You can grow your own moss within the seat of you stool.
By taking care of the moss within *Reprocess The Forest* people create a link with their stool, hence preventing wood waste to end in the streets.

PINE WOOD OFFCUTS
100% RECYCLED

CASEIN GLUE
100% BIODEGRADABLE

PLYWOOD OFFCUTS
100% RECYCLED

MOSS PASTE
100% NATURAL

CASEIN GLUE
100% BIODEGRADABLE

PLYWOOD OFFCUTS
100% RECYCLED

REPROCESS THE FOREST

The material can be composed of solid wood types and plywood. Anything with a veneer or paint is to be avoided because the material *Reprocess The Forest*'s strength will be negatively impacted.

The material can be applied for any other type of furniture as a replacement to man-made wood.

REPROCESS THE FOREST MATERIAL