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HALF-MOON SUSTAINABLE TILES

EUROPEAN WORKSHOP

CARCASSI Olga & LAM Arthur

What inspires us ?

- interior tiles mural
- interior bricks mural

Adelle
Transformation



Adèle
PRAXIS



Which material to use during this workshop ?

- textiles
- sawdust
- paper, cardboard ...

Léo
ARTS!

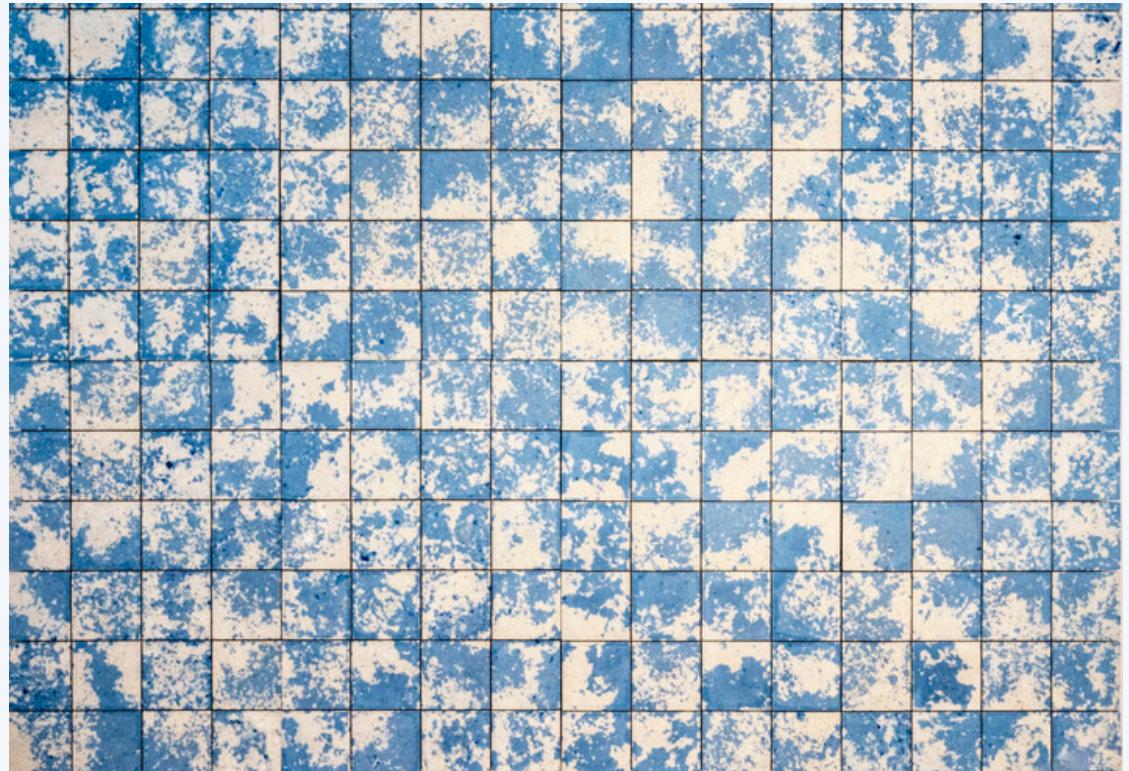


Lisa
Cycle de la matière



- mud
- straw
- binder: lime, clay, natural and wood glue

References



Recycled paper tiles By the Pavillon Noir Architectures & César Bazaar

Components: newspapers, cardboard, packaging, cement, chalk, water

Strength: “combustible but non-flammable, M1 certifications”

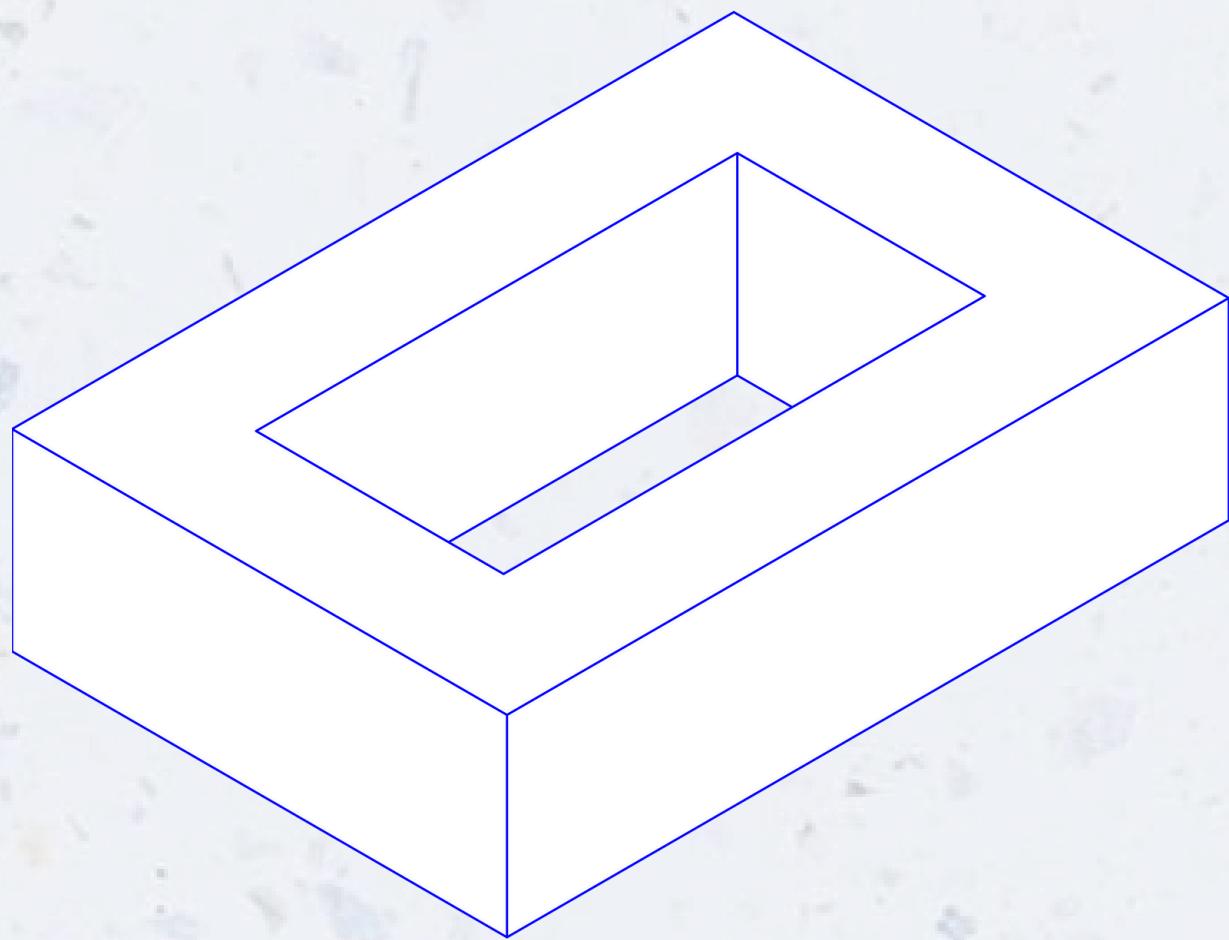
Textile bricks By the fab BRICK

Components: crushed textiles and bio-sourced binder

Strength: low to no flammable, diversity in patterns

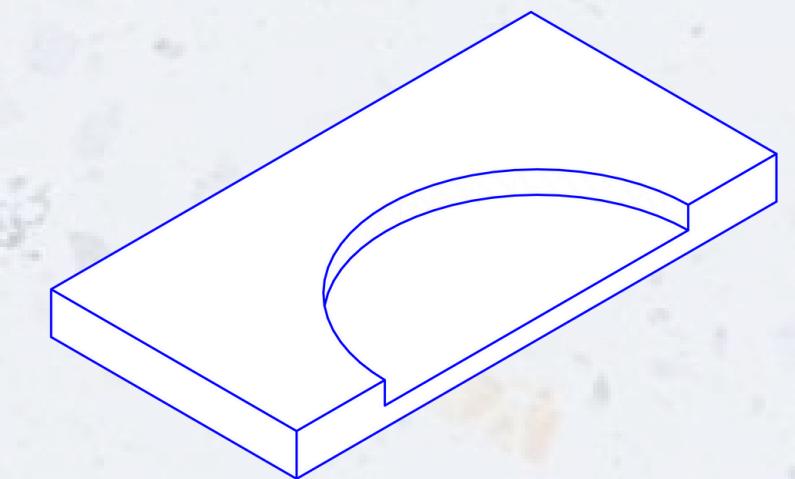
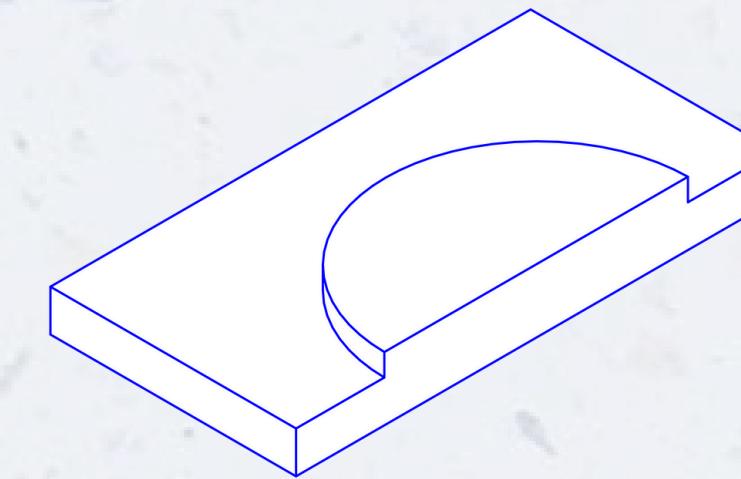
DESIGN - MOLD AND PRESS

Mold : 18 x 26.25cm



Presses : 9 x 17.5 x 1.5 cm

Two presses : negative and positive, which offer a large panel of options in the patterns and to play with reliefs.



DESIGN - PROCESS

Observation :

- Try different natural binders.
- Design different presses to play with a positive and negative pattern.

MONDAY

Start of the workshop by forming groups and by having discussions about what we want to do and what inspires us.



Then we make researches and find some references of what we could make during this workshop.



Recycled paper tiles By the Pavillon Noir Architectures & César Bazaar

Components: newspapers, cardboard, packaging, cement, chalk, water

Strength: "combustible but non-flammable, M1 certifications"



Textile bricks By the fab-BRICK

Components : crushed textiles and bio-sourced binder

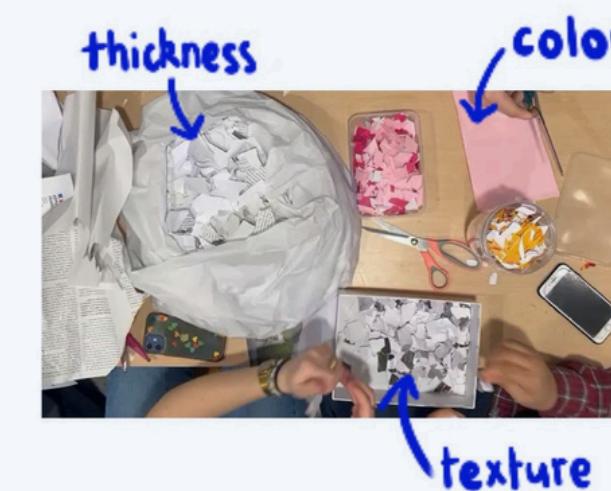
Strength : low to no flammable, diversity in patterns



over 24 hours!
of printing!

We choose to make interior bricks made out of paper and in order to make them, we have to make a modeling of the design and of its mold.

After the modeling finished, it's time to 3D printing the brick's mold. The earlier we start the printing, the better it is because it's time consuming.



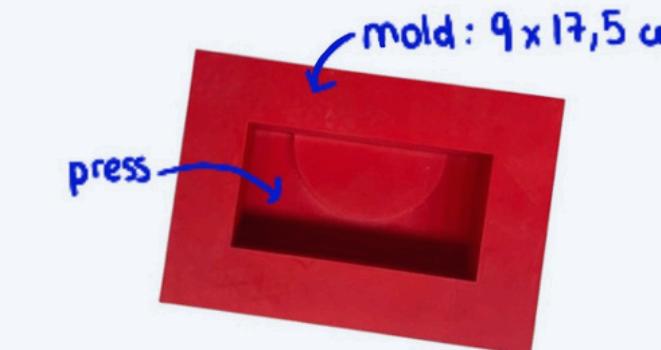
While we're waiting for the mold, we decide to buy some time by searching and cutting some used papers.

At the meantime, we're searching a bio-sourced binder to mix it with the paper.

TUESDAY

We're proceeding the paper mache's processus by mixing it with water and just after by removing the excess of water.

This step is timeconsuming but primordial because it's the main ingredient used in our paper bricks.



The mold's printing and the press is done so we're picking it up and we are ready to make some tests out of it.

This step is crucial to know the mold's resistance and the accuracy of our recipes.

We decide to make bricks with two different binder to see how it goes:

- Wood glue
- Natural glue (flour and water)



DESIGN - PROCESS

Observation :

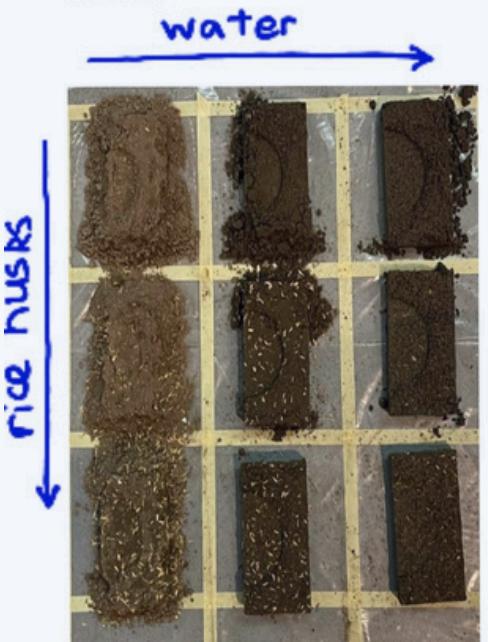
- Try different fibers
- Add some paper mache to include some color
- Paper mache may influence the color of the clay



WEDNESDAY

The purpose of this day is to manipulate the mud and agricultural waste and make multiple tests by creating different matrices.

First, we're delimiting with tape our matrice of 3x3 and we're thinking together which variables to use.

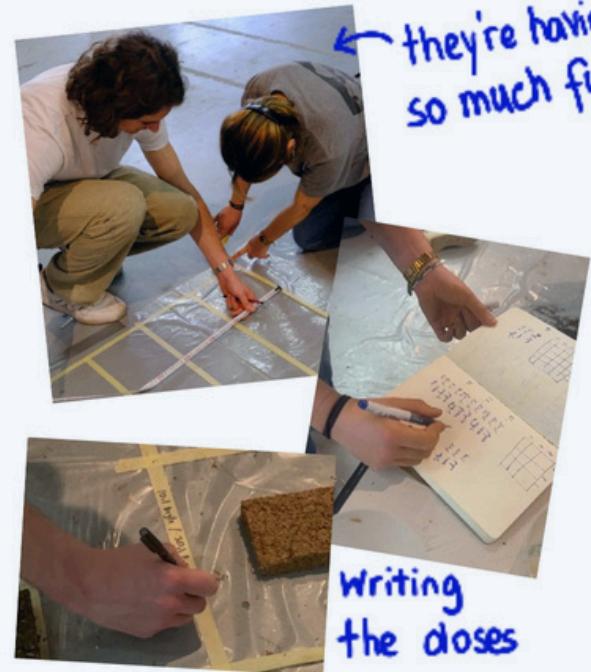


Our first matrice is with two variables which are : water and rice husks. We're using the same amount of mud and in this matrice there's no paper mache.

We start with no water and no rice husks and after we're adding 4% of each variable to see how it'll react and then which recipe works the best

We try to add paper in our first matrice but the mud's color covered the texture and the paper's color so we decided to make a second matrice.

Our second matrice consists of incorporate different ingredients (hemp or mixed hemp, clay, a mix of clay and sifted mud and glues) and our main ingredient : paper.



THURSDAY

Since we almost used all our paper, we decide to prepare another round of paper.

So we're searching, sorting, cutting and mixing the paper with water.

We're making sure we have enough paper.



The same ol' process

With all the tests made yesterday, we're establishing a constat and then selecting the ideal recipes. Some tests broke or were too fragile and we have a few hold it well.

We're keeping two recipes :

- 20cl of clay/20cl of mixed hemp/20cl of paper/10cl of water
- 30cl of clay-sifted mud/20cl of mixed hemp/20cl of paper/10cl of water



2 of us prepare the mixture



while the other 2 make the bricks



AND THE RESULT!

DESIGN - PROCESS

Observation :

- Drying process
- Objective of the protocol: enhance the colors as much as possible.

FRIDAY

We see this morning the bricks are not fully dried so we thought of speeding the processus of drying with hairdryers.

We use sieve (used to sieve the mud) to put our bricks on it and just overhead, we have two hairdryers blowing hot air on the bricks.



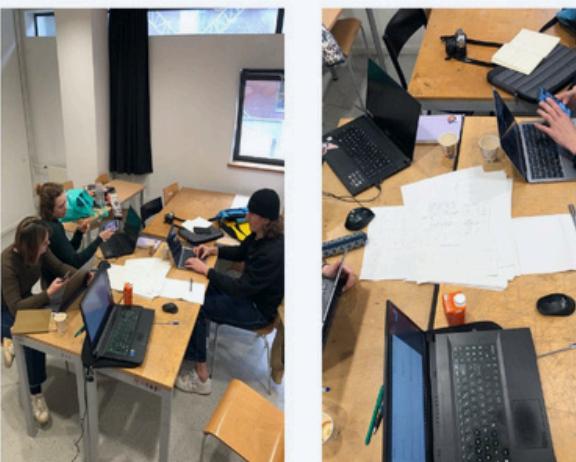
And in the meantime, we're doing another set of bricks with one of the recipe we chose which is :
20cl clay/20cl mixed hemp/20cl paper/10cl water.

Each of our set are composed of 8 bricks: 4 bricks with the positive press and 4 others with the negative press.

WORK IN PROGRESS

While we're waiting for the bricks to dry, our group think together of which documents to produce, how to present our project and globally this week of workshop.

We split the work together and start to produce the different documents we agreed to make.



WHAT'S NEXT ?

Test the fire resistance of the bricks by burning them with a lighter.

Make researches about the acoustic and isolation capacity and test it out on our bricks.

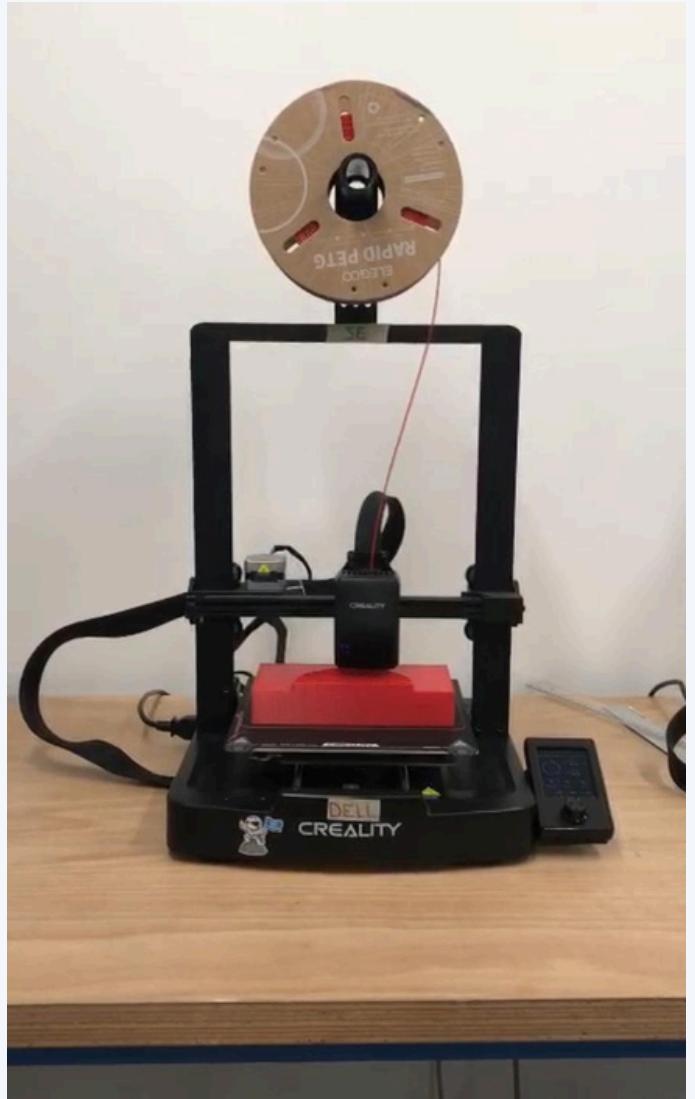
Try different thickness of bricks

How to hang it on a wall

Sound effects

Different top coat better finish

DESIGN - PROTOCOL



Designing and printing
the mold with presses

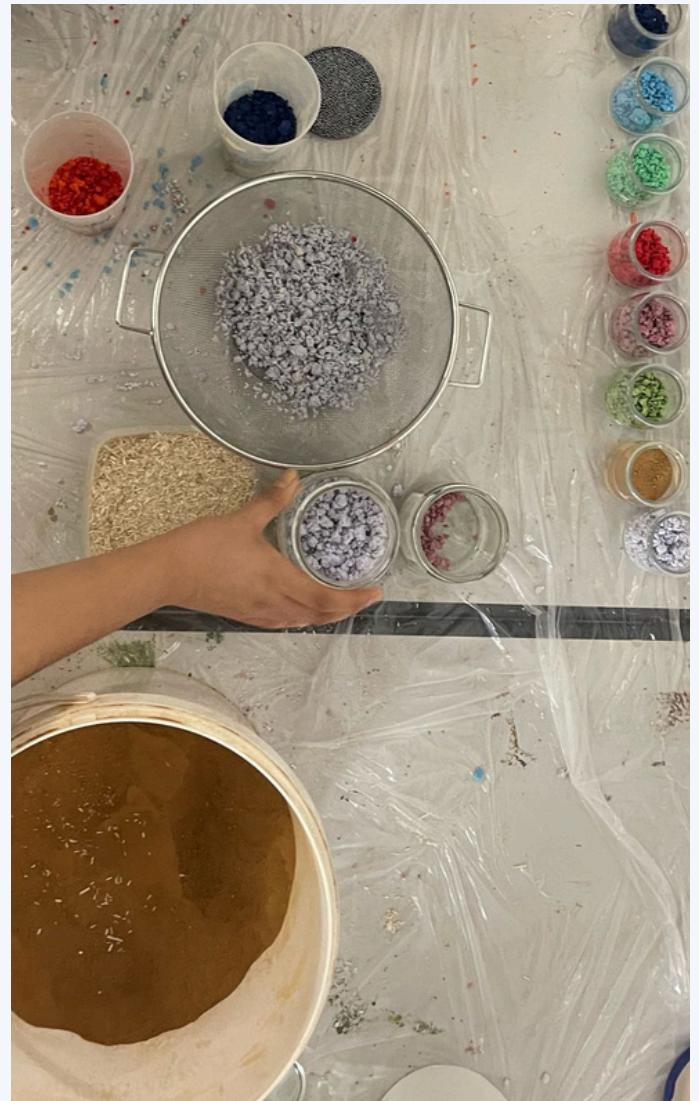
Collecting and
shredding Papers by
colors

Paper mache
step 1 - mixing

Paper mache
step 2 - drying

Paper mache
step 3 - sorting by color

DESIGN - PROTOCOL



Preparing each
components

Mixing the dry
components

Adding the water

Adding the paper
mache

Preparing the mold and
the press with oil

DESIGN - PROTOCOL



**Placing and incorporate
the mixtur inside the
mold**

**Compress everything by
hand, then using the
press, and make sure it
is well compressed with
the sledgehammer**

Remove the cast

Remove the press

**After one day, put it on
a dryer**

DESIGN - PROTOCOL

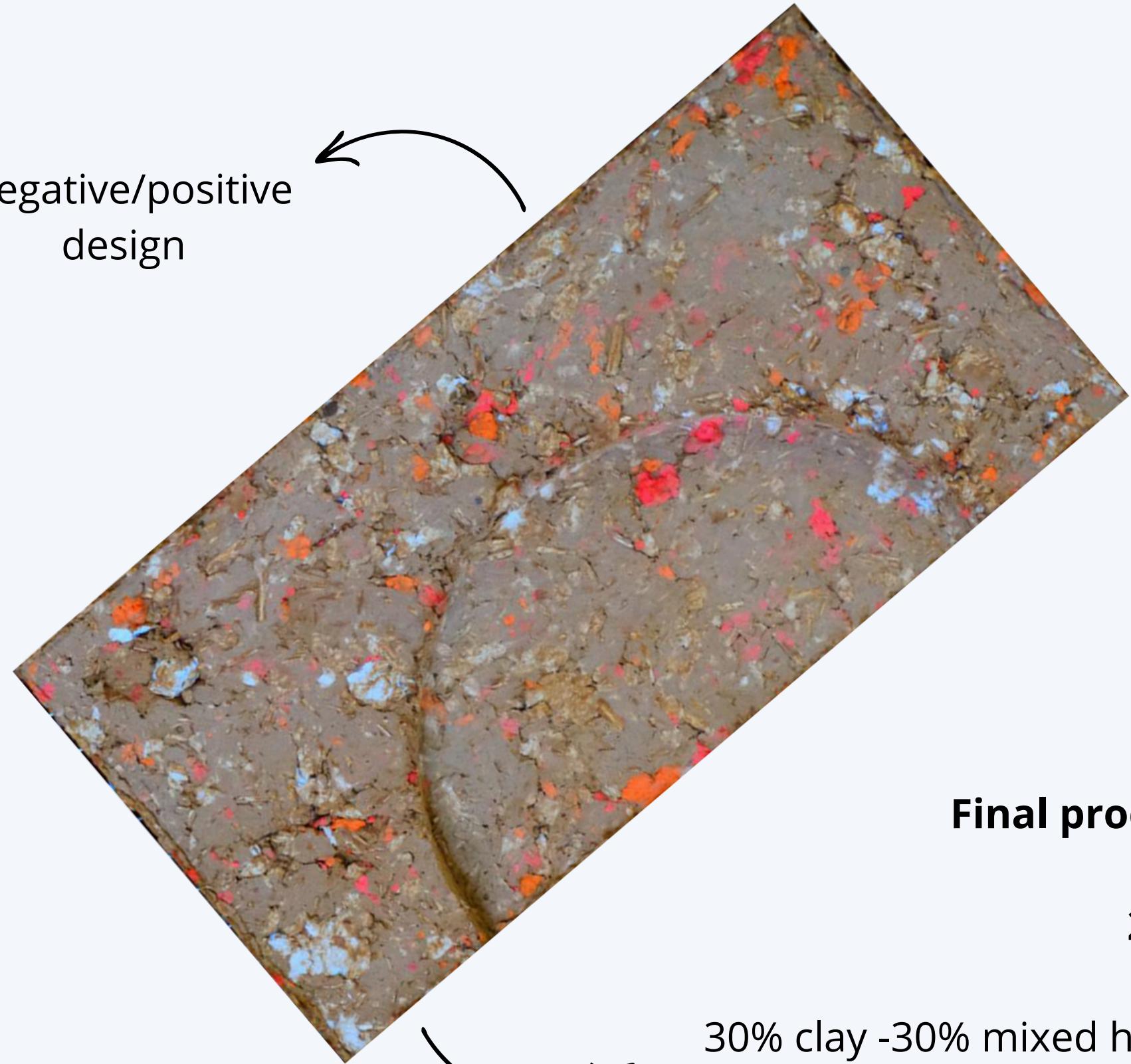


Cut the edges



Put oil to stabilise the
final product

Negative/positive
design



Final product

-
250g

30% clay -30% mixed hemp
10% water - 30% paper mache

DESIGN - PATTERN

→ a mix of pattern



→ a mix of color



→ a mix of uses

