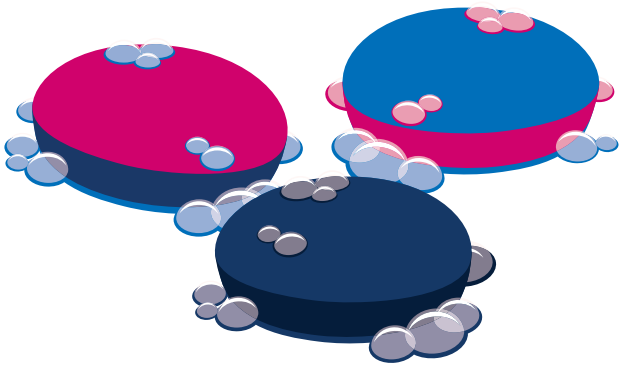
Formech
Perfectly formed



Hand-Shaped Soap Dish

Completion time: 3 Lessons

Materials and Resources:

- Pencil and ruler, cardboard, scissors, clay, ruler
- Long nail or pin, liquid concrete, sandpaper
- Formech vacuum forming machine
- Suitable plastic material (1mm HIPS or ABS recommended)
- https://formech.com/case-studies/formech-indexlab-at-digital-takes-command-exhibition

Skills at a glance:

Mathematics

Measurement

Language

Reading, listening

Thinking skills

Adhering to a given brief, problem solving, applying a brief to wider production techniques

Science

Heating plastics and effects, plastic/ polymer material knowledge

Project Outline:

This project will see students using their own hand as the template with which to make their mould, making a completely unique and individual soap dish. Creating the shape of their hand in clay material, this will be vacuum formed creating an exact copy of its size and shape. The vacuum formed plastic will then be filled with concrete to produce the dish. This project requires no research, development, or complex tooling, and so is a great resource to engage students quickly in the vacuum forming process. The simple and swift mould production will inspire students for different projects, taking on more innovative ways of mould production,in addition to the popular shaping of materials by traditional methods.

Method:

Students will first need to prepare a cardboard base upon which to place their clay material. This will be rectangular in shape, 3cm wider and longer than the width and length of their own hand when laid flat.

They may now lay a rectangular block of clay on top of this cardboard base. This should be 3cm thick, and 1cm smaller in length and width than the cardboard base itself.

With the materials laid on a flat and stable work surface, students can place their hand in the centre of the clay material, with their fingers together and thumb tucked in. Pressing down firmly they will make a deep impression of their hand in the clay.

The deeper the impression in the clay, the larger and more functional the final soap dish will be. With this in mind, students may be encouraged to assist each other, helping classmates to push their hands deeper into the clay material, as well as to gently remove hands from the material without altering the clay's shape.

Several venting holes can be piereced through both the wet clay material and the cardboard base, using a long pin or thin nail. These can be made in the deepest recesses of the hand's indentation.

The clay mould can now be allowed to dry completely before being vacuum formed, using any suitable plastic material, although 1mm HIPS or ABS is recommended.

The newly formed hand shaped mould can then be filled with liquid concrete, and tapped on the workbench several times to release any air bubbles within. This will require at least 24 hours to dry out, before being removed from the mould.

Once removed from the plastic mould the concrete soap dish will require a further 48 hours to go off completely.

Sandpaper can be used to soften any sharp edges, and students can put their bespoke and personal soap dish straight into use in their bathrooms at home.

Homework Tasks:

Thinking about how quickly and easily the clay hand mould was produced using something as simple as a hand impression, students might write a short project plan which is reminiscent of the simplicity of the techniques they used in this class. Using clay as their mould material, how else might they produce a mould to be vacuum formed, and for what purpose? Might they produce another soap dish shape, or a shape suitable for other products, such as chocolate or ice cubes?

Optional Extras:

This project is interactive, engaging, and produces a completely unique product individual to the creator. There is scope to further personalise this product, by injecting colour into the concrete material used to cast the soap dish. Using suitable dye material, students might mix this with their liquid concrete to change its appearance, adding a new dimension to the project. Alternatively, students might explore making an impression in clay of other physical items. Perhaps a toy, or a tool. They might explore using their formed plastic as a mould for materials other than concrete, chocolate, soap, or resin, perhaps.

Student Accomplishments:

- The production of a unique soap dish
- Creating a mould with no tooling required
- Replicating physical items in the form of a female mould
- Using clay as a principal material
- Creating a vacuum formed mould
- Using concrete as a casting material
- Practical hands on experience using a vacuum forming machine, and understanding its wider application

Teachers notes:

Share pictures and videos of your Formech project across social media, using **#formechmade**

Need materials for this project?

Visit **https://formechdirect.com**

Download your free Vacuum Forming Guide for the Classroom

https://formech.com/wp-content/uploads/Vacuum_Forming_Guide.pdf