

Additive silicones have a very wide range of uses. In this exercise, you will use silicones from the Ecoflex series. These are liquid high-quality silicones with a wide range of uses. They are mixed 1:1 by weight and volume and cure at room temperature into silicone with minimal shrinkage. Low viscosity allows easy mixing and vacuuming. Ecoflex silicones are very soft, stable and highly elastic. They can be stretched many times and will always return to their original size. They are slightly milky transparent and thanks to this, the Silc-Pig pigments can be colored very easily. They are also used in the field of orthopedic technology (silicone inserts, shock absorbers, etc.). The processing time is in the order of minutes.

Biocompatibility and safety: Ecoflex has been tested to ISO 10993-10 (skin irritation) and classified as harmless for skin contact. Silicone polymers are harmless to the eyes, but in some cases they may be irritated. In case of contact, wash with clean water for 15 minutes and seek medical help immediately. In case of skin contact, wash with soapy water.

Parameters:

Viscosity: 3000(Ecoflex 0030) - 14000(Ecoflex 0010) mPas

Processing: 1 min (Ecoflex 5) - 45 min (Ecoflex 0030)

Demolding: 5 min (Ecoflex 5) - 4 h (Ecoflex 0010/0030)

Color: transparent Mixing: 1A : 1B by volume

Syllabus of the practical part:

1. Form
2. Preparation, pore filling, separation
3. Mixing, pouring, solidification, additives

1.1 Clean the printed mold on the 3D printer (wash with soapy water) and make sure there are no holes. If it finds holes, fill them with hardening rubber or seal them with aluminum foil.
TIP: try preparing the mold with plaster (use electrician's plaster, which hardens faster).



2.1 Before starting to process the silicone, make sure the room is ventilated and put on protective equipment (do not use latex gloves, they cause the failure of the crosslinking of the silicone).

2.2. If the surface is significantly structured, you can achieve it by smoothing it, for example by coating it with acrylic varnish. Apply the varnish in several layers so that it fills the pores. In the case of plastic molds with a well-cleaned surface, it is not necessary to use a separator. The use of a separator subsequently makes it easier to detach the silicone casting from the rest of the mold.

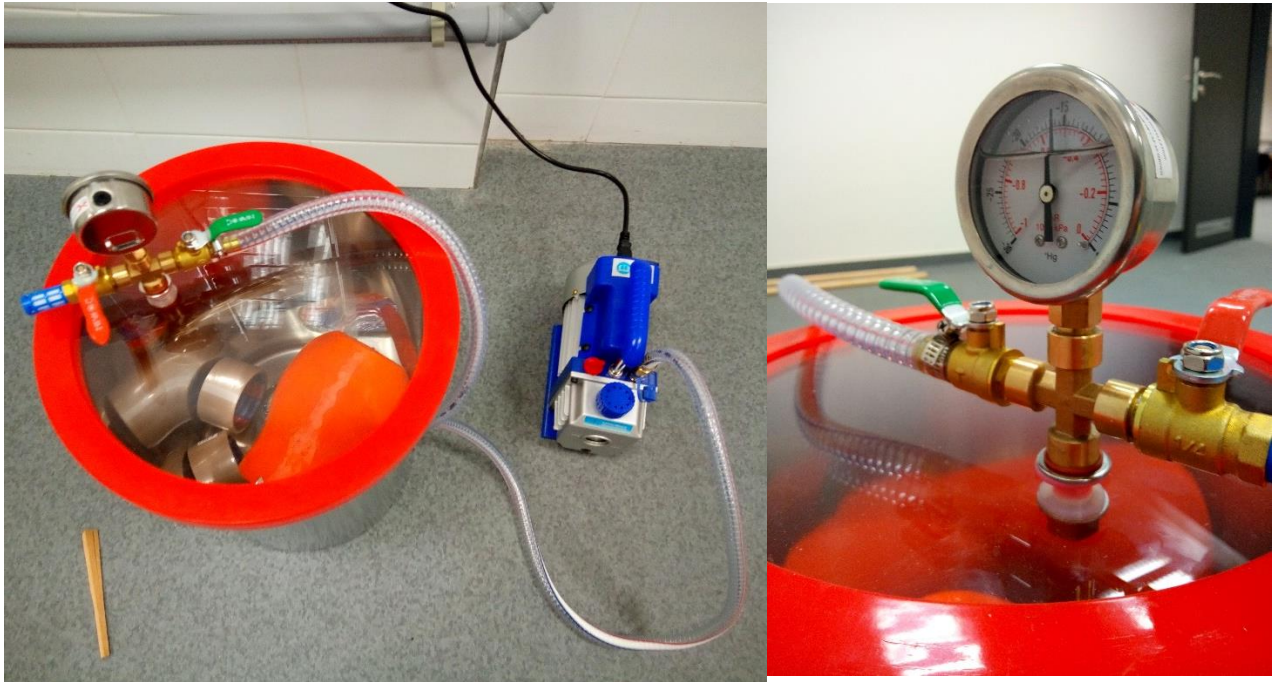
3.1 Thoroughly mix both components separately.



3.2 After mixing the ingredients, mix thoroughly for 3 minutes and wipe the silicone from the bottom and walls of the container. Add pigment for coloring.



3.3 By evacuating approx. 2-3 minutes remove air bubbles.



3.4 Fill the container only 1/3 full, the silicone will increase the volume during vacuuming. Pour the material slowly into the lowest part of the mold or model. Allow the silicone to harden for at least 4 hours.

3.5 Slowly separate the hardened silicone from the mold.

