

Moulding techniques

Below we give a simple and brief description of the two main moulding techniques

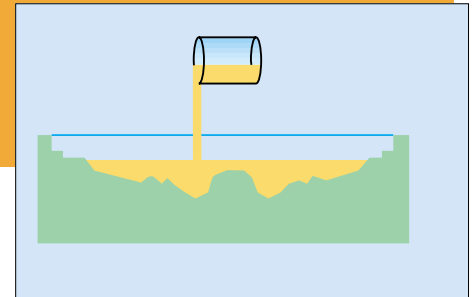
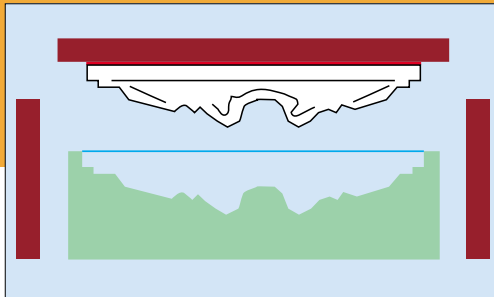
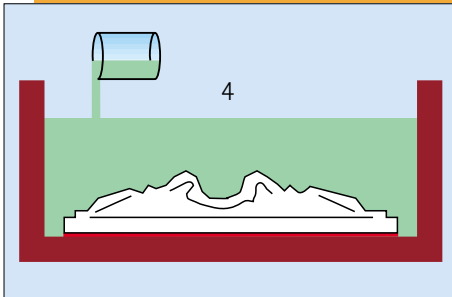
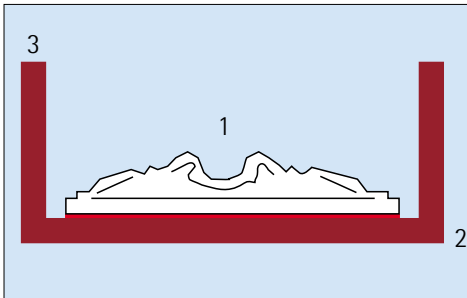


Block moulding

This process is characterised by its simplicity and rapidity; it is intended to produce self-supporting moulds, with one or two parts, by simple casting of the Rhodia® VSI silicone in its liquid state around the initial model.

However, its drawback is that it uses a lot of silicone which itself loses a certain amount of flexibility due to the thickness. This loss in flexibility of the membrane can be limited by positioning spacers in the casting mould. It is also possible to use a low hardness Rhodia® VSI silicone (8 to 12 Shore A).

This process is therefore limited to quite simple shapes not having any accentuated undercuts.



PROCESSING THE SILICONE

Prior degassing of the catalysed mixture enables air bubbles to be eliminated. If degassing is not possible, it is recommended to apply a first coat to the model using a brush in order to avoid the risk of bubbles on the surface.

We can then proceed pouring to a slow trickle at the lowest point of the mould to avoid entrapment of air bubbles.

ONE PART MOULDING

Preparing the mould:

- 1 - Model
- 2 - Base
- 3 - Frame
- 4 - Silicone rubber membrane thickness of the order of 20 to 50 mm according to the shape of the model and the silicone's properties.

Demoulding the Silicone

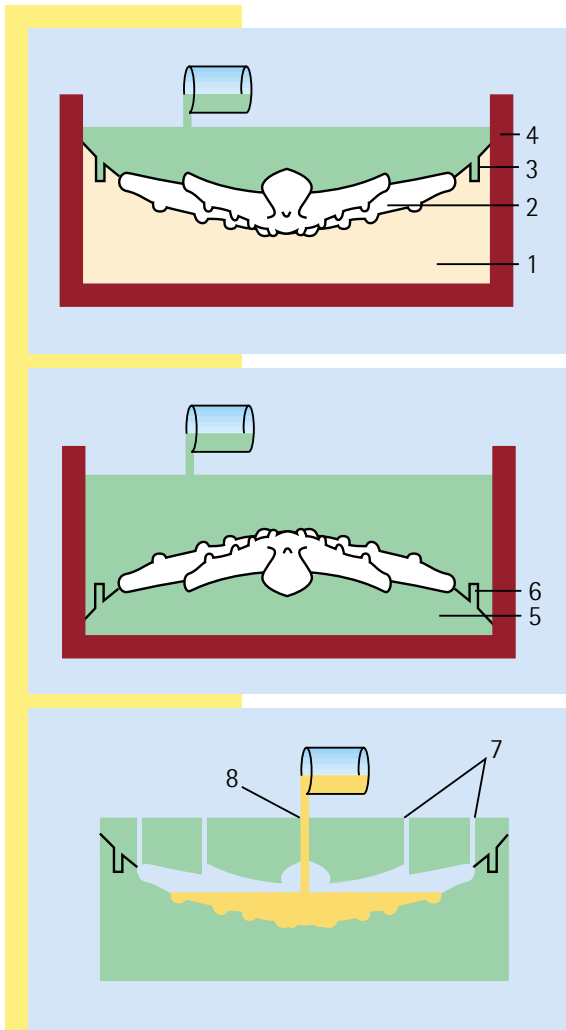
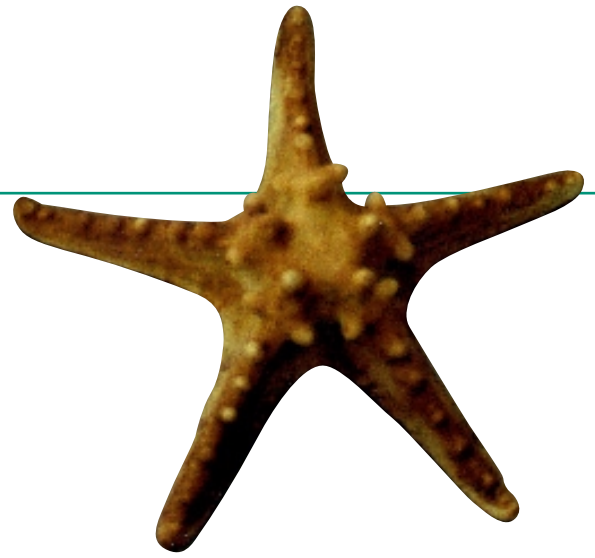
The demoulding time is variable as a function of the choice of product and temperature.

As a general rule, it is recommended to demould after 24 H at 25°C.

Reproduction of the model

There is a large choice of reproduction materials. For the processing of these materials, please refer to the manufacturer's manuals.

As for silicone's, precautions must be taken concerning the risks of air bubbles, notably by pouring the materials slowly into the lowest part of the mould.



1. plastiline base
2. model
3. parting line
4. dismantlable frame
5. first vulcanised half
6. positioning pins
7. vents
8. pouring hole

TWO PART MOULDING

The operation is performed in two stages

- moulding of the model up to the decided parting line
- after curing, casting of the remaining part

Mould preparation

PART 1

- the mould is positioned in the plastiline up to the decided parting line;
- the positioning pins are positioned according to one of four layouts:

- a) sunken groove, cut out of the base all around the model;
 - b) or in relief, positioned around the outside
 - c) or positioning pins
 - d) or inclined parting line for centring and marking (the case shown here);
- the silicone is poured and left to cure.
 - after turning the assembly, the plastiline* base (1) is removed taking care not to move the model (2).

PART 2

- a thin coat of Vaseline grease is applied to the first part of the silicone mould to avoid adhesion between the two parts.
- the silicone is poured according to the recommended method for a one-part mould

Comment: the choice of positioning of the pouring hole and the vents will be made according to the model's configuration.

Reproducing the model

Same procedure as for a one-part mould.

*as a general rule, the bases are in plastiline, clay or plaster

Symbols used in the diagrams					
	model		plastiline		Rhodorsil® RTV 2
	backing mould material		casting material		