

ONE PIECE DROP BLOCK MOULD

BEFORE YOU START

The Master/Model. You need to consider what your Master / Model (original piece) is made from. Some materials can cause curing inhibitions with certain silicones. If unsure, check with your supplier. Masters made from porous material (ie plaster, wet clay, cement etc.) will need to be sealed.

Undercuts. Consider if the Master / Model has any deep undercuts. Turn it upside down, imagine you are trying to remove it from your mould. Are there any areas where it will not come out of the mould easily, such as inside hats, helmets, buckets, chins etc. These are called undercuts. And if your Master / Model has deep undercuts, you may need to consider using a two part mould. But if you can get a good triangulated path to allow your resin to flow into the mould, you will be able to retrieve your part after the resin has cured and a one-piece mould is sufficient.



The Sprue (pour hole). Now, decide if your Master requires the attachment of a sprue. The sprue will act as a spout into which you will pour the casting compound. If the base of your Master/Model is wide enough, a sprue is not required. Remember, the sprue will need to be removed from the cast, so choose an area that will give the easiest clean up, but still keeping the piece as triangulated as possible. Your sprue can be made of anything non porous – apoxie sculpt, plastic sheet, super sculpey etc

The Mould Box. The Mould Box or containment field will hold the liquid silicone while it cures. It will need to be approximately 12mm – 20mm larger than your Master, on all dimensions and “leak” proof. So make sure there are no openings (except the top) or splits. You can use just about anything non porous for your mould box; a plastic cup, leggo blocks, take away container etc

OVERVIEW

A Drop Block Mould is defined by a solid block of moulding material which completely covers the Master with only a relevant sized pour hole (sprue) for entry of casting compound.



A straightforward process of placing your Master/ Model into a mould box (containment field) and pouring liquid rubber over the Master. Once cured, the rubber is removed, resulting in a one piece mould in the shape of a block.

MATERIALS

- A Master (Model) – the piece you wish to make a mould from.
- Mould Rubber (RTV Silicone) – we used Ultrasil
- Non porous clay – we used Klean Klay
- A mould box –a plastic container, leggo blocks etc.
- Sealer (if required)

OTHER BITS

- Non porous, flat work surface eg. gloss tile
- 2 x Mixing containers such as plastic cups.
- Stirring sticks – these should be flat and wide, suitable to your mixing containers. eg. Paddle pop sticks.
- Digital scales – if moulding rubber is measured by weight

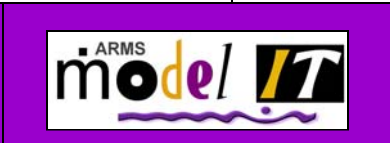
SAFETY FIRST

Most materials used in today's hobby moulding and casting are safe if used properly and as directed.

READ ALL TECHNICAL AND SAFETY INFORMATION FOR EACH PRODUCT PRIOR TO USE.

- Keep products out of reach of young children.
- The wearing of rubber gloves and protective clothing is recommended
- Always follow manufactures instructions when using product.

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ONE PIECE DROP BLOCK MOULD

Prepare Your Master.

Seal your Master / Model if required. Attach a sprue (pour hole) if required. Glue or embed in clay to the base of your mould box (containment field). Ensure that it is secure and that all edges are sealed. You don't want the rubber seeping under the base of your Master.



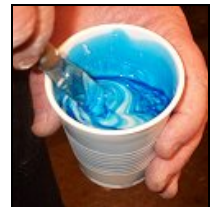
Build Your Mould Box

Assemble your mould box around the Master, allowing approximately 12mm – 20mm around all edges and above the highest point of your Master. This will be the thickness of your mould walls. Your mould walls will need to be this thickness to support the casting compound while it cures. Place on a flat, level surface. If you are using a mould box sitting on a tile or similar, use some non-porous clay (Klean Klay) and seal the bottom edges of the mould box. This will help prevent leakage.



Measure & Mix.

Measure your rubber Part A & Part B into separate cups/containers, according to manufacturer's instructions (Ultrasil is a 100:10 mix). For example 250gms of Part A = 25gm Part B. If your silicone is measured by weight, the use of digital scales is recommended. Use a flat-sided stirring instrument, such as a spatula, paddle pop stick or knife. Stir slowly and deliberately ensuring that you scrape the bottom and sides of your mixing container. Use a scooping motion rather than a whipping stir. This will assist in keeping air bubbles to a minimum. Allow to sit for several minutes. You will see the air bubbles rising to the surface. Most moulding rubbers allow approx 20 minutes to mix and pour, so no need to rush the process



Pour the Silicone

Pour the silicone rubber into the corner of your mould box, from a height of around 150mm, in a slow, thin, constant stream. Allow the rubber to rise up and over your Master. Pouring the mould rubber in this manner helps in the dispersion and minimizing of air and air bubbles. Air bubbles will continue to rise to the surface as the rubber cures



Curing & Demoulding.

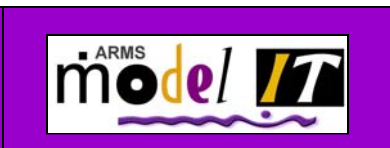
Leave the mould to cure. Curing will take between 1 and 24 hours, depending on the moulding material used.

Use the old "cake test" method to check your rubber has cured. Push gently with your finger, if the rubber bounces back and the correct curing time has elapsed (or close to it) it is ready for demoulding.

A spatula or flat sided tool comes in handy here. Gently push the spatula between the rubber and your mould box to "break the vacuum", between the rubber and mould box edges. Then break apart your mould box. Slowly lift the rubber away from the base of your mould box. You may find that the Master will let go of the base and remain in the mould. Don't panic. Gently remove your Master from the mould.



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