

**TWO 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

Buddha's base is large enough no sprue required



**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 Two Piece Drop Block Mould is defined by a solid block of moulding material which is poured in two halves allowing for deep undercuts and hollows. The mould completely covers the Master with only a relevant sized pour hole (sprue) for entry of casting compound.



A more difficult and time consuming mould, involving embedding of the Master/ Model in clay and making a mould in a two part process

**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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**STEP 1**

**Prepare Your Master.** Seal your Master / Model if required. Attach a sprue (pour hole) if required.



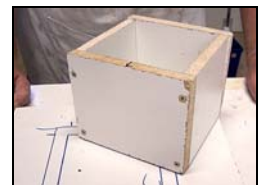
**STEP 2**

**Embed your Master in Clay** When making a two-part mould you need to embed your Master in non-porous clay, such as Klean Klay. Your clay work is important. The more accurate your clay work, the better your seam line, the less clean up required. Clay should be approx 10mm – 15mm wider around the outside of the Master. This will be your mould wall. Your mould walls will need to be this thickness to support the casting compound while it cures. Try to ensure your clay is at a smooth 90° angle to your Master. Use the end of a paint brush, pencil etc to make “holes” in the Clay. These will become the keys so that the mould halves fit together



**STEP 3**

**Build 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.



**STEP 4**

**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

**STEP 5**

**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



**STEP 6**

**Curing.** Leave the mould to cure. Curing will take between 6 and 24 hours, dependant on the rubber used. Use the old “cake test” method to check your rubber has cured. Push gently with your finger, if the rubber is firm and bounces back, it is ready for demoulding. Don't demould too early no matter how tempting. Patience !!

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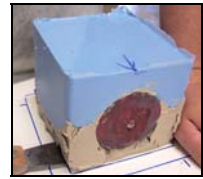
**STEP 7**

**Demoulding Part 1.** 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 clay away from the base of your mould box, being careful not to disturb the master inside the rubber. Turn it over and place, rubber side down, on the mould box base.

Remove the clay, being careful not to disturb the master in the rubber. Ensure there is no clay residue remaining on the Master or mould rubber



**STEP 8**

**Rebuild your mould box** around the rubber securely. Place clay around the outside to seal edges and prevent leakage

**Use Release Agent suitable to your RTV silicone** and spray a good coverage over your silicone. Most release agents can be sprayed on your Master/Model without causing any harm, but if you are not sure, check with your supplier. **THIS IS AN IMPORTANT STEP.** If you do not use a release agent your second pour of silicone will bind to the first pour and you are left with a solid block of rubber with your Master/Model comfortably stuck inside.

**STEP 9**

**Measure, Mix & Pour** you RTV Silicone as per manufacturers instructions as you did previously

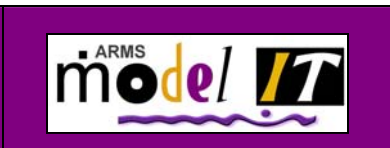
**STEP 10**

**CURING & DEMOULDING – Part 2** Leave the mould to cure, as before.

Use a spatula or flat-sided tool to release the rubber from the mould box & base. Find where the two halves of rubber meet. Carefully but firmly pull the rubber apart. Remove your Master



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