# Polycraft Chromatic Alginate

Polycraft Chromatic Alginate is a non-toxic non-allergenic moulding material which is safe to use on all areas of the body. Its chromatic feature ensures ease of use as it changes colour during the mixing and setting process giving you a visual indication at each stage of the process. As with all fast setting moulding materials preparation is crucial, have all quantities and materials measured and ready for use. Ensure that the model is aware before starting of how they should pose, perform a dry run to avoid material wastage, if casting hands ensure model is aware not to curl fingers as air may get trapped underneath the fingers.

If moulding hands or feet you can use polythene bags or drink bottles or a plastic containers. The advantage of using plastic containers is that the container will in turn become a support jacket for the mould however you do use more material with a container than plastic bags.

If casting onto any area with long hair use a petroleum jelly such as Vaseline to act as a barrier, do not use the petroleum jelly on non hairy areas such as breasts as the alginate will slide off.

## Setting Times

The recommended water temperature for mixing is 23˚C, colder water will slow the set time, warmer water will accelerate set time.

| Temp ˚C | Mixing Time ( PINK ) | Approximate Working Time from start of mixing ( PURPLE ) | Approximate Setting Time from start of mixing ( WHITE ) |
|---|---|---|---|
| 21˚C | 140 sec | 130 sec | 200 sec |
| 23˚C | 120 sec | 120 sec | 180 sec |
| 25˚C | 100 sec | 110 sec | 160 sec |

## Mixing Ratios

Add 100g of powder to 250ml – 300ml of water, for a full 450g bag of alginate you would add 1350ml of water. You can add more water than this ratio which will thin the mix which will slow the setting times of the above chart, a thinner mix helps to reduce air being trapped in the mould. If spreading the alginate onto a model it is not recommended to add more water than the standard mix ratio as it becomes too difficult to spread when thin.

## Approximate Alginate Quantities

- 100g in a suitable container is enough for a baby hand or foot.
- 450g of alginate would be enough for a medium size hand or breast. Unenclosed areas of the body such as the breasts will require a modroc bandage to encase the mould to maintain the mould shape.
- A large adult male hand will require approx 675g (1.5 bags) of alginate.
- An adult foot would require 2 x 450g bags, however this amount is dependent on the size of the foot and the container used.
- A face mould would require 450g alginate and again a modroc bandage would be used to support the mould.
- A full neck to crotch pregnant belly would require 4 - 5 bags, if attempting this cast ensure you have successfully cast small areas as this is a very demanding cast. A large amount of modroc bandages would be required to support this large mould.
- A bum cast from mid back to upper thighs would require approx 4 bags of alginate and approx 8 rolls of modroc to support mould.

## Application

Measure water into container and have your mixing tools ready, for small amounts wooden mixing sticks are adequate for larger amounts a paint mixing paddle can ensure alginate is mixed thoroughly and quickly. Empty the alginate into the water and mix vigorously until a smooth mix is obtained. Material will be bright pink during mixing. When the mix changes to a pale pink colour transfer it quickly into your moulding bag / container or start applying it directly onto the model, you have approx 120 seconds at this stage. If placing limbs into a container ensure the limb is not touching any surface of the container, wriggle limb to release any trapped air. The mix will now start to turn white, this is the setting stage, the model must now stay still. Once the mix is completely white and firm to the touch (approx 3.5 minutes from start) the limbs can now wriggle to release from mould. If you are making an surface mould such as a face or torso mould the model must remain in the mould until modroc bandages have been applied to the mould to maintain shape. Ideally the alginate mould should be cast immediately however if you need to store the mould you can keep it in a sealed container with a damp cloth to maintain moisture level and use mould within 48 hours. Do not store the cast in water as it will degrade. Ensure that all unused alginate and casting powders are stored in airtight containers.

## Casting into Alginate Mould

The most common casting material for alginate moulds is casting plaster, there are many types of casting plasters , read mixing instructions carefully before use. Mix your plaster mix thoroughly and allow to stand for a few minutes after mixing to allow air bubbles to escape. The list below gives approximations for the quantity of casting powder required :

- Baby hands and feet , 1kg of plaster is enough for 450g of alginate and will cast approx 5 hands or feet.
- Up to 2kg of plaster is required per breast cast.
- A full face cast requires approx 2kg of plaster
- Approx 3kg plaster is required for an adult foot.
- A full torso cast will need approx 20kg of plaster, its also worth bulking out the centre with polystyrene block.

When the plaster in the cast has set gently cut and break away the alginate, take care when removing alginate around fingers. If fingers are broken off you can reattach with PVA glue.

While you can cast other materials in alginate moulds, due to the high levels of moisture in the mould they are generally unsuitable for most polyester, epoxy and polyurethane resins. To cast these materials generally you would cast plaster into the alginate mould and then make a latex or silicone mould from the plaster cast, the latex or silicone mould can then be used with a variety of casting materials.