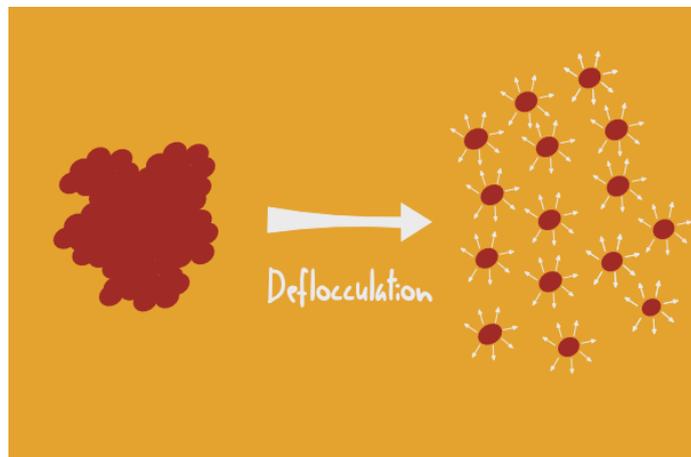


# HOW TO: CASTING SLIPS

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Up!

A good casting slip has as much clay in as little water as possible; but is still runny enough to pour in and out of a mould. It sounds simple however there are some things to consider.

The process which makes a slip 'runny' or less viscous to use, by its correct terminology, is **deflocculation**. A magic liquid or powder is added in very small quantities which creates a small electrical charge that moves particles apart, think of a flock of sheep all moving away from each other in a field. But this is not a permanent state, it can change, and this is the frustration of casting slips.



Subtle changes in the water, the age of the slip and even the mixing equipment can make a perfect slip/slurry change from perfectly deflocculated to **flocculated**. Think now of the sheep coming together, where the particles will clump, and it becomes thick and sticky. It is tempting to just add water and thin the mixture but if you do you run the risk of having a slip that casts too thin. The mould would absorb too much water and your casting times would be lengthened. If you add more deflocculant then it too will cast thin, not release from the mould well and even crack. The casting slip/slurry remaining will be difficult to rework.

The best tip is before doing anything make sure you give the slip/slurry a good mixing. Many problems can be resolved by simply doing this before you change the chemistry of the liquid. Measure the specific gravity, this will tell you if you have the right amount of water to clay in the mix. See paragraph: Checking the specific gravity, if its 1.7-1.8 then it should be correct. Anything less would suggest it has too much water, anything higher would suggest it has too much clay. If it has too much water, then you can either let it settle and take off a bit with a pipette or you can add more clay to redress the balance. If it has too much clay then add a little water, but above all get the specific gravity right before using a deflocculant.

Each of the Hot Clay casting slip powders will have their own individual deflocculant requirements. It is always best to be very cautious when adding it, in fact I would recommend not using the full amount, as your water quality will have an effect. Mix as you go and if you follow our video tutorial,

you will get guidance on the right sort of consistency. It's an advantage not to use too much deflocculant, as its easier to add more rather than adjust the water/clay balance.

## Hot Clay drill and mixing advice for casting slips.

The mixing of a casting slip is very important, and it should not be shortened to speed up the process. With our Hot Clay range of Powdered Casting Slips sold in buckets we are using very small volumes of powdered clay therefore we can confidently suggest the mixing with a normal domestic drill. However, we do advise that **quality drills** should be used but not used continuously as the motor will get hot and the appliance will fail. We advise resting the drill to cool between bursts.



Another stage of mixing is to sieve your slip through a 100-mesh sieve, this way there are no lumps that will be cast into your mould, ensuring you have a smooth cast.

If you wish to make larger quantities of slip using the Hot Clay Powdered Casting Slip, then we advocate the use of proper mixers for example <https://www.hot-clay.com/gladstone-g80-glaze-mixer-free-uk-delivery.html>

## Checking the specific gravity.

To check the specific gravity of a liquid. Fill a container to the brim with water and weigh on accurate scales then record the weight. Fill the same container with the slip to the brim as before and weigh once again recording the information. Then simply divide the water from the liquid, it will give you a value such as... 1.75 A good casting slip should be **1.8** but for hobby casts lesser values are acceptable such as 1.7.

This is only basic guidance on casting slips, for more reading we recommend [Digitalfire](#).