

WORKING WITH WAX

First some tips to help get you started and use the material safely.

The wax consists of a mixture of microcrystalline, hard rosin and paraffin which we blend ourselves to form this standard foundry wax. It is exactly the same as the wax we use everyday in the lost-wax ceramic shell process and is ideal for directly creating sculptures, which can later be cast into bronze.

Wax can be carved in its hard state, warmed until soft and modelled like clay or melted to a liquid and poured into moulds. With a little practice you will soon find it to be an extremely flexible and versatile material. It can also be formed into sheets or other shapes and fabricated by welding together using hot knives to build constructions. Other materials such as paper, wood and natural materials can be incorporated. In fact, anything can be added provided it will burn away.

Once the wax is cold and set hard, it has a good deal of strength and unlike clay does not need to be supported with armatures. And it won't dry out and crack. Stored in a relatively cool environment the work is completely safe. Never leave your work near a heat source or the direct sun, however or you will be very disappointed to find a lump of sticky wax where you left your sculpture. Get to know the material. If you aren't happy with what you have made, melt it down and try again. The wax can be re-melted as many times as you like.



Don't be put off – used carefully and sensibly wax is a clean and safe material, but be aware of the dangers. Please contact us if there is anything you are not sure about.

GETTING STARTED

The only equipment you will need to start work are:

- Something to heat the wax – a gas or paraffin camping stove is ideal. To soften the wax for modelling a bowl of warm water is all you need or simply place the wax near a fire or radiator. If the wax is formed into thin sheets it can be torn off and the warmth of your hand will make it workable.
- A metal container if you plan to melt the wax – an old saucepan is perfect.
- A selection of metal tools – old knives or hacksaw blades make great modelling tools. These can be sharpened or filed to make your own modelling tools. Heat in the flame and use to weld and shape the surface. A candle or oil burner can be used to warm the tips of the tools. Or try a small electric soldering iron. You will soon build a set of the tools you need and spot new ones to try out.
- A place to work. This should be well ventilated if you intend to melt wax. The fume is not toxic but can be irritating if allowed to build up in an enclosed space. If you are not working in a studio or workshop be careful – wax can be messy and at the very least, work on a large board.

MELTING WAX

To use wax safely is important to be aware of the possible dangers.

The risk of fire

- **NEVER leave melting wax unattended.** If the wax become over heated it will burst into flames which could ignite surrounding areas with obvious results. If you do have a pan fire, turn off the heat source immediately and place a lid or damped cloth over the pan. Cutting off the air supply to the fire will stop it burning. Leave the pan alone until it cools.
- **NEVER throw water on to a pan fire.** This will actually feed oxygen to the fire causing it to violently flare with frightening results!
- **NEVER try to move a burning pan.** Molten wax could spill on to your skin resulting in a serious burn. Other materials could become ignited causing a serious fire. There is no need to take the temperature any higher than the enough to melt the wax. If it starts to smoke it's too hot!
- Keep the volume of the wax in the pan to below three quarters full as this will help to avoid spilling.
- Wax expands considerable when heated. When re-melting a pan containing hard wax always heat one side of the pan first to allow the flow of the expanding liquid wax to escape to top. This will avoid a chance of pressure building up in bottom of the pan which can result in an explosion.
- Minor skin burns caused by dripping wax and mishandling hot tools are painful – so be careful.

CASTING THE WORK

Waxes for bronze

There are some limitations to be considered when preparing a wax for a one off casting.

- If the wax becomes too thick, it may cause a problem with shrinkage when cast in bronze. If it is too thin it may not work at all. Aim to keep the maximum thickness in any one spot to 25mm and the minimum to 5mm although this is a guide as it can also depend on the shape of the piece.
- For larger sculptures, you will need to make your wax hollow keeping the wall thickness to about 5mm.
- Small waxes generally cast very successfully, but sometimes casting can go wrong. Think about the time invested in making the wax. This process is great for quick sketches. If you have spent a lot of time on the work, consider making a mould of the piece first. We are happy to advise.
- The ceramic shell process requires the wax to be reasonably strong. Again we can advise you.

Free wax sculpture by Sylvia Worthington



When your sculpture is ready, send us a photo or sketch with the dimensions or arrange to visit the foundry and see the process first hand.