

## Moulds and Forms

While piloting experimental castings and conducting research with reference to the literature, the author can determine best practices surrounding the application of casting resins within moulds and forms. Epoxy casting resin will stick to most surfaces especially rigid, hard materials but there are procedures that can be taken to prevent this from occurring.



Masking Tape is an extremely useful product when casting resins onto irregular shaped objects. Masking tape is impermeable to epoxy resin and once the curing process is fully completed the tape can be peeled off with comfort leaving the edges of the casting smooth and square. It is notable however that this process is only conventional with a base, namely, the precise shape of the preferred casting.

Masking tape is extremely flexible and it can be fixed to the edges of any base object thus manipulating it as a casting area.

Perspex/Acrylic is another useful material that can be manipulated to host an epoxy casting. Perspex/acrylic can be cut and formed with relative ease having little or no requirement for specialised expensive machinery. In addition there are several moulds readily available within a domestic household, these come in the form of confectionary tubs, plastic jugs, food containers and plastic bottles. There are many advantages of using perspex/acrylic as a moulding material which quite frankly outweigh the disadvantages. Perspex/acrylic moulds are recyclable and are incredibly resistant. It is a relatively cheap material and it is particularly common in the MTW classroom, therefore it is readily available for the creation of custom forms.



However there are some precautionary measures that one must take before using a perspex/acrylic form. The application of lubricant is essential; the cured resin cannot be released from the form without the aid of a suitable coating. Failure to apply lubricant will result in the casting having to be cut from the form. This can be rather expensive over time, once a form has been

tampered with or cut it is non-reusable and deemed worthless. A suitable lubricant comes in the form of WD40; it does not react or interfere with the casting or curing process within the form. Simply spray a light coat of WD40 to the inside surfaces of the form for successful release.

Another approach to creating moulds and forms is rather traditional. Wood is an extremely universal material that can be bent and laminated to produce unique casting areas, furthermore wood is in abundance within the MTW classroom. Forms can be easily constructed using glue and fixings but it is vital these moulds are watertight; failure to make wooden forms watertight will result in the resin seeping through any cracks or holes. To prevent any seeping apply silicone to the inside corners and cracks of the form, this will reinforce the watertight seal of the mould.



Unfortunately there are disadvantages when using wooden forms. Wooden forms are non-recyclable since epoxy resins cling to wood fibres. Once the resin is cast and cured an individual can cut the form from the resin with a band saw or handsaw and finish accordingly. One can prevent the epoxy from sticking to the wood fibres by lining the inside of the form with a plastic bag, preferable a black disposable garbage bag. The plastic bag may be fixed to the form by using spray adhesive. These plastic bags are non-stick therefore it is not necessary to apply WD40 as previously stated.



Silicone moulds are also viable moulding materials but these moulds tend to be rather expensive and cannot be manipulated to a desirable form. These moulds are prefabricated and for these reasons the author feels that are not suitable for classroom use. Revenue can be limited with reference to material sourcing in a MTW classroom, the author believes that purchasing prefabricated silicone moulds comes into the class of unnecessary expenditure.

On a final note, the author reiterates that the creation of forms can be a lifelong learning experience especially to those who wish to pursue a career in construction. Construction workers need the knowledge and skills to erect shuttering on site to cater for setting concrete.

