

Gelflex Remeltable PVC

Gelflex is a meltable PVC Resin which can be poured over a model to form a flexible mould. Good tensile strength and flexibility will allow castings with deep undercuts to be removed from a one piece Gelflex mould without damage. The material melts at 130°/135°C and is poured over suitable masters. A release agent is not normally required. A major advantage is that when the mould is worn or requires replacement, it can be cut up, remelted and reused.

Heating Appliances

A purpose designed melter is strongly recommended, however, quantities up to say 1kg can be very carefully melted in a metal saucepan on an electric hot-plate or gas ring. Larger quantities, up to 5kgs can be melted in an aluminium Maslin Pan with a flat base, the tapered pan being supported by a cylinder of sheet aluminium under the handle brackets so that the base is 10mm above the surface of the hot plate. In all cases lids should be fitted, a thermometer used to prevent overheating, and kept under constant attention. The equipment must stand on a fire-proof bench or floor. Neither of the above methods are advised for permanent usage as both these methods can be quite hazardous and are not recommended for very regular use. Oil and water baths are unsuitable. Small quantities of Gelflex can be melted in a Microwave Oven, place the diced material in a microwave proof container, cover with clingfilm and heat for around 4 minutes at high setting.

Melting Instructions

Cut the Gelflex in small pieces and melt small quantities stirring gently with a wooden spatula to achieve an even temperature and prevent burning. When the compound becomes liquid continue adding small amounts, stirring occasionally until the total amount is liquid. If

the material overheats it will fume heavily and rapidly change to a dark brown colour, immediately remove from the heat and avoid breathing the fumes.

Mould Making

A model of almost any rigid material can be used provided it will withstand the melting point of the compound. Porous materials such as plasters, wood, cement, etc. should be sealed to prevent entrapped air escaping and forming bubbles on the mould face. This can be done by applying two coats of a solvent based lacquer especially designed for use with Gelflex. We understand that "Unibond" also makes an effective sealer.

Metal or non-porous models do not require sealing before pouring Gelflex. Models should be secured to a level base board.

For large moulds, some form of support will be necessary. For example, a sheet of aluminium rolled into a cylindrical shape and placed around the model. This should be tied to prevent unrolling. Before pouring, place damp modelling clay or similar material tightly around the outer base of the cylinder to prevent leakage. In cold conditions, large, bulky metal models should be slight warmed to prevent rapid setting of the Gelflex. Pour the molten Gelflex slowly down the sides of the mould box to prevent air bubbles and splashes, take care not to pour the liquid directly onto the model. Continue pouring until the model is covered to a depth of at least 25mm (1") above its highest point. Allow the Gelflex to cool and set before removing the mould from its support.

Most models can be eased gently from the mould by hand. If the model has undercuts which prevent it coming away freely, then the mould will have to be cut. Where possible cut the back of the mould and use a number of elastic bands to hold the mould in position, the cut edges will then not interfere with the castings.

The mould is now ready for use without the use of release agents. Small blemishes in the mould, such as blisters, may be repaired by gently playing a small flame, such as a gas jet over the defect until it melts to a smooth surface. A heated knife-blade is also useful to even out rough spots, bubbles and make good repairs.

Remelting

When the mould becomes worn, it can be cut up; any dirt can be washed off with water and household liquid detergent without affecting the compound. After cleaning the material is ready for remelting. The melting appliance should be clean and free from charred material. Burnt or very old Gelflex should not be re-used.

Handling and Safety

Gelflex is made from polymerised PVC resin, and is considered quite safe to handle provided sensible precautions are observed. When melting there will be some fuming which originates from the plasticisers which are unpleasant rather than harmful. Adequate ventilation is therefore very important.

Prolonged skin contact should be avoided and people with particularly sensitive skins should use Barrier Cream.

Ingestion should be avoided and food and drink should not be allowed in areas where Gelflex is stored or used. Smoking should also be avoided. In the event of ingestion, medical advice should be sought.

Molten Gelflex is considerably hotter than boiling water, and will stick to the skin. Handle with care using suitable gloves and eye protection.

In the event of a skin burn, place the affected area under cold running water for at least two

minutes, or apply an anti-burn ointment with a loose bandage or dressing, to avoid air contact. In cases of serious skin burns seek medical advice.

If molten Gelflex is to be carried any distance, suitable containers should be used with well fitted lids.

Gelflex is solvent free with a flash point of approximately 320°F. It will not ignite rapidly but a persistent fire could cause ignition and decomposition which is acidic and toxic in nature. In the event of a fire, use dry sand or CO₂.

Additional Information

The recommendations and technical information given in this leaflet is based on our research and general experience. Whilst we believe this information to be accurate and reliable, no guarantee of its accuracy is made and it is understood that you will, by your own tests, determine the suitability of our products and the technical information supplied by us or your own particular purpose.

Trylon supply a wide range of other flexible mould making materials, further details on request.