



CUSTOMER SERVICES BULLETIN

MAKING A FIBERGLASS PART FROM A ONE PIECE MOLD

Once the fiberglass mold is complete, the process for laying up the item inside the mold can commence. Before starting, refer to the Waxing a Fiberglass Plug & Mold bulletin for mold preparation.

The first two layers into the mold, unwaxed gelcoat, are usually sprayed to ensure uniform thickness, however it can be brushed or rolled into smaller molds paying close attention to ensure uniform coverage. If the gelcoat is not put on evenly, cure problems and premature release may result. Each gelcoat layer should be applied at a 10 - 15 Mil thickness to prevent wrinkling when the next layer is applied. Each gelcoat layer should cure for 6 - 8 hours before the next layer of gelcoat or fiberglass is applied.

At this point the first layer of fiberglass can be applied. When laying up the mold, unwaxed resin should be used. This will eliminate the need to sand in between layers of fiberglass. The first and second layer of fiberglass should be chopped strand mat to prevent pattern transfer through the gelcoat, which may occur if other fiberglass materials are used. The part can then be built up alternating layers of mat and woven roving. It is recommended that an aluminum or bristle-type de-airing roller is used to remove air which may be trapped inside the laminate. The de-airing roller will push the fiberglass down, bringing the resin to the surface which will reduce the amount of resin required to saturate the subsequent layer, thus producing a stronger and lighter laminate. To reduce heat build-up and distortion, do not lay-up more than two layers of fiberglass at a time. A waxed resin or gelcoat may be used as the final layer, eliminating the tacky surface of an unwaxed resin.

The addition of core materials, such as balsa wood, plywood, or various foam cores, may be incorporated into the laminate to provide greater strength and stiffness while reducing the weight of the end product by reducing the amount of fiberglass required.

The end product should be allowed to cure for one week before removing it from the mold. This will reduce the tendency of the item to warp as the laminate cures. To remove the part from the mold, small wooden or plastic wedges can be used to separate the edges. With a rubber mallet, gently tap the mold until the two parts separate. Water may be poured between the two parts to dissolve the PVA to aid in de-molding, as well, the addition of an air nipple may be glassed into the mold to also aid in release.

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