

SLUSH MOLDING PROCESS

Slush molding is an excellent method of producing open, hollow objects, including rain boots, shoes, toys, dolls and automotive products, such as protective skin coatings on arm rests, head rests and crash pads. The basic process of slush molding involves exposing a hollow mold to heat, filling a hollow mold with vinyl plastisol or vinyl powder compound, gelling an inner layer or wall of plastisol or partially fused powder compound in the mold, inverting the mold to pour out the excess liquid plastisol or unfused powder compound and then heating the mold again to fuse the vinyl compound which remains in the mold. The mold is then cooled and the finished part is removed.

Slush molding can be a simple hand operation for limited production, or an elaborate conveyerized system for long runs. This process can be a one pour method, where finished or semi-finished products can be made by one slushing step, or a multiple-pour method where two or more slushing steps are used.

The wall thickness of the slush molded part, made from powder compound at a given oven temperature, is determined by several factors: the thickness of the metal wall of the mold, the length of time the mold is preheated, and the amount and type of plasticizer in the compound. Molds used in slush molding are produced from spun, machined or electroformed aluminum. Vinyl powder compound will reproduce the surface finish of the mold, whether matte or glossy. Mold porosity, depending upon severity, may cause such detrimental effects as surface gloss reduction, pinholing, and voids in the molded part.

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