

METAL POWDER FILLERS

"Cold Casting"

Metal Powders are added to resins to create metallic finish sculptures or castings. The method is known as "Cold Casting," whereby a metal powder is blended with a Polyester or Urethane Resin and poured into a Silicone RTV mold. Once part has cured, it is removed and the surface is polished to a desired finish and then sealed to prevent oxidation. This technique is faster and cost effective for producing metal parts over traditional methods of foundry casting, i.e. lost wax process.

METAL POWDERS **Blend 200-300% with Resin**

Bronze CB-21

Copper CC-11

Brass CG-10

Iron CI-30

Amount of Metal Filler: Recommended levels of additional filler are based on Total Resin Weight—A + B. Fillers are premixed to the A and B sides of mixture prior to blending both components. *Example:* Total Resin Weight is 200 Grams. Using Bronze CB-21 @ 300% mix ratio, a total of 600 grams (3 x 200) need to be added to resin system, 300 Grams to each component (A and B) prior to blending. Note: If using a polyester resin, add to resin prior to adding the Catalyst.

Recommended Resins: Polyester—Gelcoat (Clear) and SPR-29L Clear laminating, or Urethane Casting Resin—Siltec, Siltool, Silcast II, Quickcast.

Method: Using Silicone RTV Mold

Mixing and Processing

- 1) Blend appropriate amounts of metal filler with resin and pour into mold cavity. If parts are small, then solid casting is easiest -filling the entire mold cavity with metal/resin mixture. But for larger size parts, slush casting—rotating mold or brushing in metal/resin till it sets up—then back filling the hollow cavity with straight resin to reinforce and strengthen part works well.
- 2) If slush casting, additional weight can be added to the backfill resin to simulate the weight of real metal. Lead, shards of metal, or adding CC-200 filler can be added to achieve this effect.
- 3) Allow part to fully cure before demolding—45minutes to several hours. Note: Adding fillers will slow resin gel and cure times, especially in thin cross section areas. Therefore, allow extra time to demold part. To accelerate cure, add heat, i.e., pre-heat mold prior to casting.

Finishing and Sealing

- 1) Using fine steel wool or Scotch Brite pad, hand abrade the surface to bring out the desired level of gloss and shine. Once metal surface is exposed, move to finer grits of steel wool from 0 to 0000. Care should be taken not to abrade past the metal surface. For high polish, use a plastic rouge and buffing wheel.
- 2) Once desired finish is achieved and to prevent oxidation, apply a high gloss clear coat—Clear urethane varnish, Acrylic clear coat.

Storage:

Properly store all fillers in airtight, sealed containers to avoid moisture contamination.

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