

Adding Color Pigments and Creating Casting Effects Using Matrix™ Dryve™



PRODUCT OVERVIEW

Matrix™ Dryve™ can be colored by adding **Buddy Rhodes™ Pure Collection** powder pigments. **Metal powders** (bronze, pewter, brass, etc.) can be added to give the look of real metal castings at a fraction of the cost. Casting effects are also possible using **Cast Magic™** powders. You can create marbling and other effects using inexpensive fillers and pigments. Stone effects can be achieved using **Quarry Tone™** stone effects powders. Create long lasting glow in the dark effects by adding **Glow Worm™** glow powder.

COLORING DRYVE™ USING BUDDY RHODES PURE PIGMENTS...

Dryve™ cannot be colored using liquid urethane colorants or other liquid pigments. Various color effects can be achieved by using Buddy Rhodes Pure Collection™ powdered pigments. Pure pigments are added as a percentage of Dryve™ powder.

Loading Rates - Maximum loading rate is 5% of Powder by weight for most Pure Collection™ powdered pigments.

IMPORTANT - Super Red - SB05 and Super Violet - SB88 are extremely concentrated, the maximum loading rate is 1% of powder by weight.

We recommend using a 100 parts Dryve™ powder to 35 parts water by weight mix ratio when adding Pure Collection™ pigments to Dryve™

Combining Pure Collection™ Pigments With Dryve™ - Measure pigment by weight of Dryve™ powder. Add powdered pigment to water. Use a turbine mixer attached to a drill to combine Pure Collection™ powdered pigment with water.

Mix pigment and water until completely blended, 30 - 60 seconds. Add Dryve™ powder to pigmented water and drill mix until dry powder is thoroughly dispersed into water (min. 60 seconds) and lumps disappear – mixture should have a creamy consistency.

IMPORTANT - The cure time for castings with Pure Collection™ pigments added is extended, depending on the amount of pigment added.

MAKING "COLD CAST" ELEMENTS...

Reproducing the look of metal (bronze, brass, copper, etc.) is a common application for Dryve™ because you can achieve the look of real metal at a fraction of the cost. -325 mesh bronze powder is recommended and should be pre-mixed with Dryve™ powder prior to adding water. An accurate gram scale is necessary.

Adding a dark pigment (Buddy Rhodes™ Carbon Black for example) to the dry mix will give the final casting added definition and dimension. The chart below outlines example mix ratios for use with real metal powders:

Parts By Weight

| Metal Powder | Dryve™ Powder | Water | Metal Ratio | Pigment |
|---------------|---------------|-------------|-------------|---------|
| Aluminum | 100 Parts | 50-60 Parts | 100 Parts | 2 Parts |
| Brass | 100 Parts | 40-50 Parts | 200 Parts | 2 Parts |
| Bronze | 100 Parts | 30-40 Parts | 200 Parts | 2 Parts |
| Copper | 100 Parts | 50-60 Parts | 200 Parts | 2 Parts |
| Nickel-Silver | 100 Parts | 40-50 Parts | 200 Parts | 2 Parts |

Metal powders are available from Smooth-On or your Smooth-On distributor. **WARNING: Adding metal powder will reduce the pot life significantly.** Matrix™ Retarder will extend the working time of the material if necessary. See Matrix™ Dryve™ Technical Bulletin for details.

Mix a small initial batch using metal powder as shown in chart above and brush mixture over mold surface. Let cure for 10-15 minutes. Mix a 2nd batch using no metal powder – 100 parts Dryve™ to 27 parts water by weight. If using a hand layup technique, dip fiberglass matting into liquid. Squeeze out excess and lay over previous layer. Repeat until 3/8" (1 cm.) thickness is attained.

Post Finishing Cold Cast Bronze Elements - To bring forth the metallic finish, buff with steel wool or sand paper (400 grit). Patina coloring can then be done using cupric nitrate (green) or ferric nitrate (yellow)

IMPORTANT: Casting **must** be sealed with wax or clear acrylic spray to prevent oxidation.

MAKING STONE-LIKE ELEMENTS USING QUARRY TONE™ FILLERS...

Reproducing the look of real stone is also a common application. Mixing in **Quarry Tone™** stone effect fillers will yield realistic stone effects (with appropriate post-finishing technique). The following mix ratio is offered as an example.

We recommend using a 100 parts Dryve™ powder to parts by weight mix ratio when adding Quarry Tone™ powders.

Parts By Volume

| Dryve™ Powder | Quarry Tone | Mix Thoroughly | Water |
|----------------------|--------------------|-----------------------|--------------|
| 100 | 100 | Mix | 70 |

Post Finishing Stone-Like Elements - To bring forth the stone finish, buff with wet Scotchbrite™ abrasive pad or stiff nylon brush. Do this as soon as the piece is demolded. The longer the casting cures, the harder it will be to buff the surface to bring out the stone finish.

USING DRYVE™ WITH GLOW WORM™ GLOW POWDERS

Glow Worm™ powders can be combined with Dryve™ to create castings which glow in the dark for many hours after being exposed to light. **We recommend using Matrix™ Accelerator when combining Dryve™ with Glow Worm™ Powders.** Weigh out and combine Dryve™ and Glow Worm powders in a mixing container. In another clean container, weight out and combine water and accelerator solution. See Matrix™ Dryve™ TB for instructions. Add water/accelerator mixture to dry components and drill mix for 60 seconds.

Parts By Weight

| Dryve™ Powder | Water | Glow Worm Powder | Matrix™ Accelerator Solution |
|----------------------|--------------|-------------------------|-------------------------------------|
| 100 | 38.5 | 50 | 1.5 |

USING DRYVE™ WITH CAST MAGIC™ POWDERS...

A glossy silicone mold without release agent is recommended for best results with Cast Magic™ powders.

Cast Magic™ Powder is brushed onto clean mold surface and excess removed (lightly blown from surface of mold with compressed air). Dryve™ can then be poured gently into mold. The surface texture of your mold will affect your results.

A mask must be worn when working with Cast Magic™, do not breathe particles. If applying using a hand lay up method, do not brush initial layer of material onto mold surface as this can displace Cast Magic™ from mold surface creating uneven results by disrupting surface coverage. Slush casting or rotationally casting initial face coat is recommended. Additional layers can then be applied for lay up with or without glass reinforcement.

Pigmenting Dryve™ using Buddy Rhodes Pure Collection™ Carbon Black pigment is recommended for more dramatic color effects. See Cast Magic™ color chart at smooth-on.com/castmagic for examples.

PAINTING AND SURFACE PREPARATION...

Matrix™ Dryve™ castings must be allowed 24 hours of drying in an environment with less than 50% humidity prior to painting. After drying for 24 hours, release agents must be removed from castings, otherwise paint will not stick.

To remove Ease Release™ 2831 or Sonite™ Wax from a Dryve™ casting, a cleaning solution of 10 Parts warm water (120°F / 49°C) and 1 Part dishwashing detergent should be used. Using a soft nylon brush, scrub over the entire piece two to three times making sure to get into all the surface details. Remove soap solution from castings by rinsing under warm water and allow them to air dry before sealing or painting.



Call Us Anytime With Questions About Your Application.

Toll-free: (800) 381-1733 Fax: (610) 252-6200

www.smooth-on.com is loaded with information about mold making, casting and more.