



PO Box 668, Seymour, TN 37865  
Phone/Fax: 865-773-0599

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## CermaKrome Application Instructions

CermaKrome is a high temperature, corrosion resistant, thermal barrier coating, that polishes to a high luster near chrome appearance. Will not turn blue with extreme heat. It is also water based with no VOC. The finish can be a high polished near chrome or a burnished aluminum or this can be used as a base coat for other coatings after it has been cured and lightly etched.

These instructions have been written to address common questions in application. Please see the video "Preparation and Application of CermaKrome" available our web site and on YouTube.com for additional information.

### **Surface preparation:**

- The parts to be coated must be clean and free of all oils, grease, moisture, dust, scale or corrosion.
  - If the part has oils, grease or other contaminants it must be cleaned to allow the coating to adhere to the substrate. This can be done by pre-baking the part at over 500° F. Solvents can be used if they will completely evaporate without any residue. The part should be free of oils before sand blasting.
- Sand blast with 100 grit aluminum oxide or similar.
  - After sand blasting clean any residue off with high pressure air. Protect yourself with safety shield, goggles and respirator.
- If needed a rinse with acetone or lacquer thinner can be done to further clean the part.

### **Preparation of the coating:**

- Shake and stir the coating before use. Putting the coating in a blender and setting it on high for a few minutes will prepare the coating for spraying.
  - If the coating has been in storage for more than 1 month, recondition it by running it in a blender on high for 15 min or until hot. Let it cool then stir and use as normally.

### **Equipment:**

- Use an airbrush or detail touch-up spray gun with about a 1 mm tip, to apply the coating.
- Use a respirator with the correct NIOSH filter (consult the MSDS before using). Wear safety glasses or goggles. Wear gloves to protect your hands from the coating and from solvents

### **Spraying the coating:**

- Spray the coating in all hard to reach areas first then move out to the other areas.
- Inspect part for complete coverage. Part should be glossy wet without runs or sags.

### **Tips on Spraying:**

- This coating is water based and as such is sensitive to changes in temperature and humidity in the spray area. The following are guidelines to adjusting for various weather conditions.
  - If the temperature in the spray area is below 70° F. warm the part (80° to 110° F.) before applying CermaKrome.
  - If the humidity in the spray area is below 50% add distilled water to the coating to be sprayed. Add water only to the coating that will be used in the next hour. You may add an amount between 5% and 40% of volume of the coating depending on how warm and/or dry the air is.
    - CermaKrome will in high humidity conditions absorb water from the air as it is sprayed, it will in low humidity conditions loose water to the air as it is sprayed. CermaKrome is designed to allow you to add distilled water to it when the humidity is low or the temperature is high, so that it will dry slower and flow out.
- CermaKrome will not polish easily if it is applied in a way that causes "orange peel". Adding a little distilled water will help to flow out the coating and make a smoother surface if this is happening.
- Air pressure should be much higher than with solvent based coatings. Some spray guns will require as much



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as 50 to 75 psi or higher, do not exceed the safe limits of your spray equipment.

#### **Drying the Coating:**

- If CermaKrome does not dry in 20 minutes after it has been sprayed it may be placed in a warm (not over 110° F.) area to help dry it.

#### **Tips on Drying:**

- If the humidity is very low the coating may not turn gray when it is dry to the touch. If this happens the coating needs to have more water added to it for spraying, or the drying temperature was too high. It has skinned over and is not allowing the water to evaporate, this can result in the coating delaminating during baking, or it can prevent the coating from polishing properly.
- The coating will absorb water from the air if the humidity is high, or if left overnight. It will turn green again. Keep the parts in a warm dry area until the coating can be cured.

#### **Curing the Coating:**

- After the coating is dry, it is to be baked at 500° F. (part temperature) for 1 hour minimum.

#### **Tips on Curing:**

- The cure time can be reduced by curing at a higher temperature. Curing at 800° F. will only require 35 minutes.
- Curing at 600° F. or more will give a harder surface to the coating and will polish brighter, if the coating is very smooth.

#### **Polishing the Coating:**

After the coating is cured, it will need to be polished or burnished. This will seal the coating and make it corrosion resistant.

- Burnishing may be done in a number of ways.
  - Rub with 0000 steel wool
  - Blast with fine (#12 to #14) glass bead at low pressure (about 25 psi).
  - Wet sand with 1000 grit wet dry sand paper
- Polishing can be done in a number of ways.
  - Vibratory polisher, with Ceramic Beads of 3 mm, 4 mm and 6 mm diameters using R-2 soap and pure water (filtered, distilled, demineralized, etc...).
  - Buffing wheel with aluminum polishing compound
  - Hand rubbing with Polishing compound

#### **Tips on Polishing:**

- Any or all of the above methods may be used.
- Burnishing the part before polishing will make the polishing go faster.
- Burnishing the part with glass bead will help seal tight corners and other areas that the polishing will not get into.
- Burnishing the part before polishing will hide some cosmetic flaws in the coating finish.
- Burnishing the part before polishing will increase the corrosion resistance of the coating by many times.
- The level of R-2 or equivalent soap in the polisher will be part of how bright the polished finish is.
  - A simple test for this level is to put your hand into the beads as they are moving in the polisher for a few seconds, pull your hand out and rub your fingers together. If the soap level is correct you should not feel the friction of your finger prints.

#### **Additional Notes:**

