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PA0810 PVA Film Parting Agent

DESCRIPTION

PA0810 is a water/ alcohol solution of water soluble, film forming materials. It is particularly recommended as a parting layer for separation between polyester or epoxy resins and various mold surfaces. It is not recommended for use with resins containing water or giving off water during cure - i.e. phenolic.

PA0810 is normally applied by spraying on the mold surface, and dries at room temperature to form a smooth, very glossy film. It will not shrink or pull away from corners or curved surfaces. After curing of the resin, the film parts easily from the mold and is readily removed from the parts with water.

On most mold surfaces, an occasional coating with PA0801 Paste Wax is required before application of the PA0810 PVA film. PA0801 is a fluorocarbon/wax based compound useful as a general purpose parting agent on metal or composite molds as well as a prime coat for PA0801 PVA film.

PREPARATION OF THE MOLD SURFACE

Porous molds must first be sealed with lacquer or a similar coating. A good surface on plaster may be obtained with automobile type primer-sealers and lacquers. Plaster molds must first be thoroughly dried. Metal or plastic molds should be free of other parting agents, especially silicone types. Cleaning with fine steel wool or sandpaper will not affect the high gloss obtained with PA0801. Deep scratches or pits will fill with PA0810 solution and increase drying time.

APPLICATION OF PA0801 PASTE WAX

Apply a thin coat of PA0801 Paste Wax to the mold with a rag, wipe off the excess with a clean dry rag and buff when moderately dry. One application of Paste Wax is usually good for from 3 to 5 molding cycles.

APPLICATION OF PA0810 FILM

PA0810 is ready to use as receive, and should not be diluted. It is best applied to the mold by spraying although it can be brushed on. Best results are obtained with as fine a spray as possible. To this end, use a small orifice in the gun, 90 to 100 psi air pressure at the gun, and close the needle about halfway. Normal spraying distance is from 12 to 18 inches. Apply a thin coat first (mist coat) and follow with a heavier coat. A spray density of just enough to allow the liquid to flow together and form a continuous film is best. One gallon will cover about 400 square feet. Drying time is from 15 to 30 minutes (depending on the weather and normal application). When dry, the film should be very smooth and glossy. A dull film may result from insufficient spray and may have pinholes.

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REMOVING PART FROM THE MOLD

The best procedure for separating the part from the mold depends upon the size and shape of the part. In most cases, the part can be lifted from the mold after loosening around the edges. A jet of air between the part and the mold at the edge is sometimes helpful. On large curved parts, it may be necessary to first tap over the surface with a rubber mallet. A very strong blast of air (or a few squirts with a CO₂ fire extinguisher) will free very rigid parts that can't be flexed. The PA0810 film will stay with the part and can easily be washed off with water. The spray gun can be cleaned with water.

SUPPLEMENTARY NOTES and RECOMMENDATIONS

A mold, properly coated with these release agents, will produce molded parts with smooth, glossy surfaces requiring no further finishing. In addition, since the resin is separated from the mold surface by an impenetrable film, a properly prepared mold will last indefinitely with very little maintenance.

The general techniques for applying these release agents are described herein. However, until these techniques have been learned by experience, various troubles may arise. These are described below along with corrective action:

1. **AIR BUBBLES IN THE FILM**
Pressure too low. Use at least 80 psi at the gun. Generally, the higher the pressure the better.
2. **FILM SOLUTION RUNS**
Spray si too heavy. Close needle controlling trigger motion about half way.
3. **FILM WON'T WET EVENLY**
PA0801 Paste Wax not buffed out. If wetting is even except for small spots, gun must be dirty. Gun must be cleaned, especially inside the siphon tube. Stainless steel orifice, needle and siphon tube will give less trouble. Mold contaminated with other types of parting agents. PA0810 has been contaminated or diluted.
4. **SURFACE ON PART IS ROUGH OR DULL IN PLACES**
PA0810 film is not heavy enough in these places to form film.
5. **SURFACE ON PART IS ROUGH AND DULL ALL OVER**
PA0810 PVA Film is merely dusted on. The second coat must be applied heavy enough to form wet surface after spraying. Mold surface contaminated with some type of self-polishing wax. Some finishes of this type contain alcohol soluble ingredients which are attacked by the alcohol in the PA0810 solution. Mold must be thoroughly cleaned and coated with PA0801 Paste Wax.
6. **HARD WHITE BUILD-UP ACCUMULATES ON MOLD**
PA0810 Film is not heavy enough. This type of build-up occurs where the resin has contacted the mold surface and especially if the curing temperature exceeds 150°F. This type of build-up must be removed by buffing or hand rubbing with fine abrasives or mold finishing compounds.

NOTE: In connection with the last three troubles mentioned, it should be re-emphasized that they cannot occur if the PA0810 Film is applied to form a solid, integrated film. As a check on technique: A properly applied film of PA0810 may, when dry, be easily lifted from the mold surface and will be free of pinholes. Such a film is approximately .2 to .4 mills thick.

In all occurrences, the above troubles were overcome by the proper application of PA0801 and PA0810.