PVA Release Film

Part # - 13

Inexpensive and Effective Barrier
PVA (Polyvinyl Alcohol) should be used with #1016 Wax to aid in the release of parts from a mold. It should be applied in three thin mist coats over nonporous, waxed mold surfaces. After the final wax coat has dried, begin by spraying a light tack coat of PVA. Typically, within 5 minutes the final heavier coats can be added. The PVA dries to form a smooth, glossy film. After part release, the residual film can be removed with water. We recommend using our 123-A or 126-A Touch Up Spray Guns for larger molds, but for smaller molds, use our 2251 Preval Sprayer. PVA can also be sprayed over any polyester repair to provide an airless tack-free cure.

General Product Information
PVA Release Film is a water and alcohol-based polyvinyl alcohol (PVA) coating comprised of water-soluble, film forming materials. The dry PVA film is resistant to the solvents in the resin system used to make composites parts but is soluble in water. It is particularly recommended as a parting agent for separation between polyester or epoxy resins and various mold surfaces but may be used with most thermoset resins. PVA Release Film is not recommended for use with resin or substrates containing water or giving off water during cure.

PVA Release Film parts easily from mold surface and is readily dissolved from molded parts and spray equipment with water. For most composite casting processes PVA Release Film is used over wax or other mold release agents.

Preparing Mold Surface
Before application of PVA Release Film porous molds (i.e., plaster or wood) should first be sealed with lacquer or similar coating and waxed. Composites grade sealers and fairing compounds are recommended but a good surface on plaster or wood may be obtained with automobile type primer-sealers and lacquers. Rough wood molds or plugs may be adequately sealed with a number of coats of #1016 Partall Paste Wax. Apply mold release wax to mold or plug surfaces according to instructions and polish each coat to a shine.

Directions for Use
PVA Release Film is ready to use as received and should not be diluted. Preferred application is with a spraygun. Good results may be obtained with a sponge applicator or paint brush or by dipping substrate and draining excess PVA. Recommended air pressure with HVLP spraygun is 22 - 24 PSI (1.5 - 1.7 BAR) at the gun. When using a traditional spraygun adjust air pressure to 60 - 90 PSI (4 - 6 BAR). Normal gun to substrate spraying distance is 12 -18 inches (30 - 45 cm). On new or unseasoned polyester or vinylester molds, apply multiple coats of PVA Release Film to surface and allow each coat to dry completely before proceeding. On seasoned mold, apply one or two coats of PVA Release Film. Do not begin molding until PVA on surface is completely dry. Drying time is approximately 15 - 30 minutes per coat depending on ambient temperature and humidity. On new or reconditioned molds dry film thickness should be at least 2 - 4 mils (50 - 100 micrometers), about the thickness of an industrial type trash bag. 1 - 2 mils (25 - 50 micrometers) is recommended on seasoned molds. PVA Release Film will exhibit a white foamy appearance when sprayed but will dry to a clear coat. Film should not sag or contain runs when applied. If application flaws appear in PVA film wash off with water and begin again. Make certain that PVA Release Film is completely dry before proceeding with molding process. Film should be very smooth and glossy when dry. A dull, hazy or grainy film may result from too thin a PVA film from insufficient spray - spray PVA to wet look. If spray air bubbles are trapped in PVA film try higher air pressure. One gallon (3.79 liters) covers about 400 feet² (40 m²).
Removing Part from Mold

The best procedure for separating parts from a mold depends on the size and shape of the part. In most cases a part can be lifted from the mold after loosening around the edges. Injecting compressed air between the part and mold at the edge is sometimes useful. On difficult or large parts it may be helpful to introduce water between mold and part to dissolve the PVA parting film helping to float the part free. PVA parting film generally comes off with the part and will need to be renewed on the mold for each part.