Application Guide

PARTALL® One-Coat

PARTALL® One-Coat is a water based polyvinyl alcohol (PVA) coating comprised of solvent-resistant, film-forming materials. Once dry, the PVA film is resistant to solvents in the resin system used to make composites parts but is soluble in water. PARTALL® One-Coat contains 2-3 times the solids content of standard PVA coatings, giving it a thick viscosity that builds quickly. It is commonly used as a parting agent for separation between polyester, vinylester, or epoxy resins and various mold surfaces or as a release barrier when making rigid support shells for elastomeric rubber molds and is also specified as an anti-mutilation coating for aircraft windshields. PARTALL® One-Coat is not recommended for use with mold substrates or resins (e.g., phenolics) containing water or giving off water during cure or with automotive finishes.

PARTALL® One-Coat is easily removed from mold and part surfaces and from application equipment by peeling off in a continuous skin or by dissolving in water. Scrubbing with a soft bristle brush or sponge and the use of warm water also aid removal. For most composite casting processes PARTALL® One-Coat is used over wax such as PARTALL® Paste #2 or other mold release agents but may also be used as a stand alone release agent. PARTALL® One-Coat should be renewed for each part casting.

PREPARING THE MOLD SURFACE

Molding surface must be thoroughly dry and free of other parting agents and contaminants such as silicone, dust, and compressor oil prior to application of PARTALL® One-Coat. Porous molds (i.e., plaster or wood) must be sealed; composites grade sealers, such as FORMULA FIVE ® Mold Sealer and FORMULA FIVE ® Mold Sealer-S, are recommended but fairing compounds, automobile type primer-sealers, and lacquers may be sufficient. Rough wood molds or plugs may be adequately sealed with a number of coats of PARTALL® Paste #2. Waxes or sealers containing high levels of silicone should be avoided as they can create separation or pin holes in the PVA film. Best practice is to allow residual solvents to out-gas from sealers and waxes for at least one hour prior to application of PARTALL® One-Coat.

DIRECTIONS FOR USE

Use in a well-ventilated area with appropriate personal protection. PARTALL® One-Coat is ready to use as received for most purposes but may be diluted with clean water at a ratio of up to 1:1 to suit application method. Apply to mold surface in an even continuous coat with a brush, sponge, or roller and allow to dry completely prior to molding parts. If size and shape allow, application may also be made by flooding the mold surface with PARTALL® One-Coat and tipping to drain off excess. Clean application equipment thoroughly with water after use to avoid damage to metal parts.

PARTALL® One-Coat should be applied such that film is smooth and glossy without voids, separation, or pin holes. A density that just allows the liquid to flow together and form a continuous film without creating drips or runs on vertical surfaces or pooling on horizontal surfaces is ideal. Film should not sag or contain runs when applied. If application flaws appear in PVA film wash off with water and begin again.

Dry PVA film thickness should be 1-4 mils (25-100 µm) in order to protect surface from solvents found in thermoset casting or fabrication resins, paints, and adhesives. A wet film thickness of 20 mil (250 µm) wet film should result in dry film thickness of approximately 4 mil (100 µm). Test for film dryness by gently pressing finger onto film surface, which should be very smooth and glossy. If PVA comes off onto finger or if a finger impression is created on the mold surface then film is not yet dry. Do not begin casting or molding parts until surface is completely dry. Factors such as humidity and proximity to direct sunlight may cause drying time to vary.

The best procedure for separating a part 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 large or difficult parts it may be helpful to introduce water between the mold and part in order to dissolve the PVA film and float the part free. PARTALL® One-Coat generally comes off with the finished part and will need to be renewed on the mold for each molding cycle.

PARTALL® One-Coat is packaged in 55 gallon (208.2 liter) drums, 5 gallon (18.9 liter) pails, and 1 gallon (3.79 liter) bottles. Available colors are Purple and Clear (untinted).

DISCLAIMER: The information and recommendations contained herein are, to the best of our knowledge, accurate and reliable. No guarantee of their accuracy is made, however, and the products discussed are sold without warranty, express or implied, and upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses. Consult Material Safety Data Sheet (MSDS) prior to use.

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