

## **Permalac Usage & Maintenance: Original, EF, and NT**

Permalac is a fast-drying, easy-to-apply, acrylic lacquer coating. Permalac Original, EF, and NT are highly resistant to environmental breakdown caused by UV, acid rain, and salt. They have outstanding adhesion to a variety of substrates, including patinated and polished metals, hard woods, and masonry or stone products. Users report excellent results on copper, brass, bronze, steel, aluminum, zinc, and painted wood substrates in both land and marine applications.

*The following instructions can be applied to all types of the Permalac Original, Permalac EF, and Permalac NT.*

Determine your method of application: This decision should be made based on your own experience and skill level, as well as the size and nature of the job. If the Permalac must be applied on location, it might be best to apply with a brush to avoid overspray. Small parts and jewelry might be best dipped. You might wish to spray a large project for speed and ease of application. Regardless of your application method, it is important that your substrate is clean and free of moisture. We recommend that you wipe non-porous substrates with acetone or lacquer thinner to degrease and assist in wetting.

Preparation of the substrate: We recommend you first clean your substrate using warm water, soap (a dish soap or any basic alcohol-free soap), and a soft cloth if you can visually observe dust, grime, or grease on its surface. Once this is done, follow up by further degreasing the substrate using lacquer thinner or acetone, and a clean rag. After you have finished, allow for the surface to become fully dry prior to starting Permalac application.

Spraying Permalac: When spraying Permalac, you may need to thin it first (not required for Permalac NT)\*. This can be done with most commercially available lacquer thinners. Peacock Laboratories also manufactures a complete array of thinners to suit varying weather conditions and customer preferences. The mix ratio is four parts Permalac to one part thinner. You may wish to increase this ratio to three parts Permalac to one part thinner if conditions are particularly hot and dry or if the substrate is particularly porous. For spraying steel, the mix ratio is one-part Permalac to one part thinner for the first coat, then four parts Permalac to one part thinner for the remaining coats. Once the Permalac has been reduced, it can be sprayed. Be sure to follow all the safety guidelines outlined in the SDS sheet(s). This includes using an NAIC-approved organic solvent respirator, goggles, and using Permalac in a ventilated area. The recommended spray gun is an HVLP sprayer with a 1.0-1.3 mm tip. Use 20-30 psi and adjust the gun so the material is fully atomized. You also want to avoid large droplets in your spray. When spraying, you want to be laying enough coating that the surface appears wet, and the droplets flow together. Apply 3 coats for interior applications OR 4-6 coats for exterior applications in this

manner (wood/stone may require 4-8 coats), allowing 30-60 minutes between coats. You may wish to add anywhere between 2-5% of our #500 retarding thinner to your lacquer mix to combat issues such as solvent pop or hazing because of high humidity or temperature in the surrounding environment. If you see orange peel, allow the Permalac to cure for 1 to 2 hours and then wet sand with 400 grit paper. Use a tack cloth to remove the resulting dust and moisture and apply a final coat of Permalac. When finished, allow 72 hours minimum before packing the item or putting it to use. Clean your equipment with acetone, xylene, Permalac Strip, or lacquer thinner.

\*Permalac NT usually doesn't require thinner, though it may be beneficial to use some for the first coat of product application to help "bite" the metal surface. Permalac NT Low Odor Thinner or #770 Low VOC thinner are recommended for this use. Thinner may also come in handy in conditions of high heat or humidity. Use a 1:1 ratio (lacquer to thinner) for the first coat, followed by a 4:1 ratio for subsequent coats.

Brushing Permalac: Permalac can be brushed on at full concentration. During hot weather, you may wish to thin the Permalac by 15% with a standard thinner or 5% with a retarding thinner to help flow out brush marks. Use a good quality solvent-grade brush and do not overwork. Apply 3 coats for interior applications OR 4-6 coats for exterior applications, waiting 30 minutes-1.5 hours between coats. Allow it to cure for 24 hours minimum (72 hours highly recommended). Clean-up with acetone. **PERMALAC DOES NOT ROLL ON WELL.**

Dipping Permalac: Use a hook or appropriate jig to dip your part into Permalac. Gently shake off any excess droplets. Allow to dry one hour and repeat. Allow to cure for 24 hours (72 hours highly recommended).

Maintaining/Cleaning Permalac: Wash Permalac-coated substrates with soap, water, and a soft sponge or rag. Do not use abrasive cleaners or scouring pads. Do not use solvents, such as mineral spirits or acetone. Do not use any cleaners with acidic components or any compounds such as ammonia. Scratches can be repaired by cleaning the damaged area with soap and water, allowing it to fully dry, then finally reapplying Permalac. Should you need to remove Permalac Original, EF, or NT, it can be stripped with either lacquer thinner or acetone. Surfaces coated with Permalac Original, EF, or NT are **NOT OKAY** to be cleaned with alcohol-containing cleaners. This will remove the finish.

Reapplying Permalac with time: Permalac usually lasts about 8-10 years on interior applications and approximately 3-5 years on exterior applications. It should still be reapplied as necessary to maintain the finish and its protective capabilities. Reapplication window for Permalac is every 3-5 years or as you see the finish begin to wear down with time. The existing Permalac layer can be cleaned with soap and water solution, and then coated on top with more layers of Permalac (as recommended in the first section). Alternatively, you can choose to strip down the Permalac layers currently existing on your substrate with acetone or lacquer thinner (soaked on a rag and wiped on for instance) and then reapply as recommended.