



Instructions For Application of Porous, Fast-Response Pressure Sensitive Paint

(Product ID: FP-XXX)

Warning! Use with adequate ventilation or appropriate respiratory protection. This product is flammable; do not spray near flame, heat, or sparks. This product contains solvents and propellants that may damage some plastic surfaces. Important! This paint is for measurement purposes and should not be touched with bare hands where oils could potentially contaminate the painted surface and affect the performance of the paint.

Directions:

1. Clean the model, calibration coupons, and a small test piece with alcohol or acetone on wipes.
2. The porous polymer PSP is shipped in 3 parts: part A, B, and C. First, determine how much paint you wish to spray on the model and remove this volume from part A. The volume of part B you need to add to part A is 4% of the part A volume. For example, if you want 40mL of paint for your model you would remove 40mL from part A into an empty jar and use the syringe to measure and add 1.6mL (4% of 40mL) from part B to the amount in the jar with part A. The syringe has markings in cc or cubic centimeter, and 1cc of water is 1mL of water. A syringe is included to make the process easier and if the syringe is rinsed with water after use, it may last a couple of uses. Once part A and B are measured together in a jar, put a lid on and shake the jar very well. Ideally, the paint in its container may also be partially submerged in an ultrasonic bath (cleaner) filled with water for a few minutes to enhance mixing. Part A and B compose the fast under layer for the PSP.
3. Pour the paint into the gun without filtering or straining. Thinning the paint is generally not recommended and ISSI will not warranty any paint once it has been thinned. However, the paint can be thinned with a small quantity of distilled water. Beware that too much will cause the paint to bead and adhere poorly.
4. Best results are achieved with a high volume low pressure (HVLV) spray gun. It produces less over spray, an overall smoother surface, and is easier to clean. Set the gun pressure to approximately 30 psig (200 kPa) and turn the siphon rate adjustment completely off. Open the siphon rate adjustment up until a light mist of paint is achieved from the nozzle of the spray gun when painting. The distance of the spray gun from the surface should be around 12 inches (30 cm). Some initial practice using inexpensive paints or some solvent will improve the results for novice painters. When ready for the base layer, apply a few quick passes with the spray gun until the surface is uniformly white and disassemble and clean the spray gun under the water tap immediately to prevent the base layer from setting in the spray gun. Let the surface dry at room temperature for 1 hour.
5. The same gun can be used to spray part C, the red top layer, if the gun is properly cleaned. Apply the top layer until the surface is uniformly pale pink and let the surface dry for 15 minutes. Purge the spray gun with solvent to clean it after the part C application. Once the surface is dry the model is ready for testing. If after running the test under the lamps or other excitation source for a few hours and the signal is diminished due to photo-bleaching, apply more overspray to enhance the fluorescence of the model and increase the signal to its previous level.

Storage & Care:

Photo-degradation of the paint in liquid form can occur if exposed to light. Store paint bottles and cans in a location away from room lighting or ambient lighting. Recommended locations are in a cabinet or locker that is located in an indoor climate controlled area. Keep this flammable material away from heat, sparks, flames, or other sources of ignition.

Once a surface is painted, keep out of room lighting or ambient lighting when not in use, storing the model in a locker or covering carefully to avoid scratching. Do not touch the model once painted. Oil from the skin can penetrate the painted surface causing permanent damage. If the model must be handled after painting, use latex or nitrile gloves, careful not to scratch the painted surface.

Most common reasons for Porous Fast Response paint failure:**1. Painted Too Thick**

Too many coats on the surface can cause flaking of the paint.

2. Rough Appearance of the Base Layer.

The surface was painted too dry. The distance between the spray gun and the surface should be shortened or a slower sweeping painting technique should be tried.

3. Poor Paint Adherence

Either too much base layer on the surface or oil or grease residue on the surface caused by poor surface preparation. Oil and grease on the surface also affect the performance of the paint and the quality of the data obtained. May not notice this by eye, but the temperature and pressure sensitivity of the paint will be compromised. Clean and repaint.

Pock marks or pits can also occur if the surface is not properly cleaned:

**Removal of PSP from surfaces:**

Caution: Acetone on wipes works best for metal surfaces, but will damage most plastic surfaces.

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