

Update from MPI – April 26, 2018

Due to the increase in the number of specifications calling for MPI #136 & MPI #39, we at the Master Painters Institute are very excited to announce that we are going to be converting our [MPI #136 Primer, Stain Blocking, Solvent Based](#) standard and our [MPI #39 Primer, Latex, for Interior Wood](#) from **Intended Use** to **Detailed Performance**

Pass results

Congratulations to the Latest MPI Level 1, 2A & 2B Training Grads

Level 1 [Essentials of Paint & Painting Technology](#)

- Clarence (Mike) Daniels, Benjamin Moore
- Deborah Haller, Benjamin Moore
- Gennaro Damelio, Benjamin Moore
- Marcos Albuquerque, Benjamin Moore
- Fernando N Gomez, Benjamin Moore
- Daniel Parry, Benjamin Moore
- Peter Knapp, Benjamin Moore
- Jordan Strilaiff, Benjamin Moore
- Todd Tavender, Benjamin Moore
- Cherise McAllister, Benjamin Moore

Level 2 [Maintenance Repainting](#).

- Mike Hintermeister, Benjamin Moore
 - Jason Stocki, Alpine Interior Systems
 - Russell Bate, Benjamin Moore
 - Matt Maguire, Benjamin Moore
 - Fernando Pupo, Benjamin Moore
 - Robert Yates, Benjamin Moore
 - Martin Joanis, Benjamin Moore
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Failure of a decorative sculpture coating.

Coatings failures are not limited to building painting projects such as concrete walls, wooden siding or drywall interiors. Consideration on avoiding coating failures should also apply to smaller decorative applications.

The following example of a decorative coatings failure was an interesting one for the qualified coatings inspector that reported on it. Artist's paints had been used to decorate sculptures in an exterior environment. Poor inter-coat adhesion between applied primer and artist paints and caused a coatings failure in some areas, ruining the overall appearance of these decorative sculptures, which were situated in a prime viewing location.

Continue reading to find out what caused the failure and how it could have been prevented, saving everyone involved much embarrassment, as well as increased costs.

Inspection of applied paint finishes to 7 fiberglass sculptures.

The inspected sculptures were made out of fiberglass and mounted on steel posts at 7 exterior locations around a popular city.

Each sculpture has been painted by a different artist. The artists having used artist type paints with a clear finish applied over the finished art work.

Methods of paint application included brush and/or spray application of multiple layers of color. The clear gloss finish applied over the art work was an artist type clear finish that can be removed with a solvent such as Mineral Spirits. A clear Anti-Graffiti coating was also applied over the finished art work due to the location of the sculptures and to help preserve their look.

The inspector had concerns that all of the finishes, including the clear topcoat, were artist's products that are designed for color clarity and fastness (non-fading), not for adhesion or protection properties. Upon further inspection it was found that there was also no reference in their product data sheets to exterior weather resistance and hardness. It was also unclear what sort of surface preparation, if any, had been carried out prior to painting.

The environment that the sculptures were situated in could sometimes be aggressive (thermal shock, expansion and contraction of the substrate, ultraviolet attack, water, rain snow, etc.) Add to that the problem of damage by impact and graffiti attack and you have a very tough environment that would normally require coatings that are very weather resistant but are also very abrasion and chemical resistant.

The only family of coatings that will survive all of these conditions are Epoxies and/or Polyurethane type finishes.

The Inspector found varying results from the initial inspection of the sculptures; from good adhesion to suffering from a complete coatings failure. Due to the unknown protection properties of the applied coating, it is not known if the good adhesion will last or if all of the sculptures could face the same failure fate.

Observations:

Sculpture 1

The paint finish was found to be in good condition. No fading or chalking was noted. There was a small patch found where the paint was removed down to the white primer. Some small nicks and scratches were found on the right side.

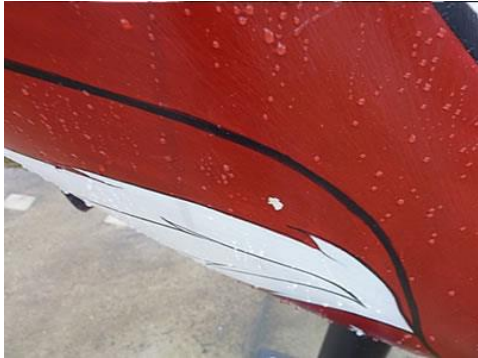
This sculpture should be monitored over the next few seasons to see if any further delamination occurs but as of today's date, adhesion of the remaining paint was found to be acceptable.



Small delaminated area down to primer



Scrapes and black marks on the side



Small scrape in the finish down to the fiberglass primer

Sculpture 2

The paint finish was found to be in good condition. A small area was found to have impact damage. A long scratch, perhaps done by a key, was found under the head. Repairs would involve filling with a fiberglass filler and then touch-ups by the artist if possible.



Sculpture 3

The paint finish was found to be in good condition. Other than a small scratch on the side of the tail, no significant damage or paint problems were found.



Small scratch in finish on side of tail

Sculpture 4

There was a significant size “blister” on the top left side of the sculpture. The blister was actually an area of coating (down to the primed fiberglass) that has allowed a little water under the film. The water then froze, expanding the paint film into a blister causing further delamination. The coating showed no signs of developing sufficient adhesion and could be peeled back easily. The adhesion of the entire layer of artist paint is questionable. Complete removal may be required.



Blister showing delamination of film



Blister broken and pulled back – no adhesion found

Sculpture 5

The paint finish on the sculpture was found to be in good condition. Some small scratches and abrasion found on the leading vertical edge of the sculpture.



Small scuffed areas, edge of sculpture

Sculpture 6

The paint finish was found to be in good condition. Small impact damage.



Very small impact damaged area

Sculpture 7

Adhesion of the applied artists finish was found to be questionable. At the base of the sculpture large multiple “blisters” were found. The blisters were the result of poor adhesion of the paint film that has let in a bit of water. The water then froze, expanding the paint film into a blister. Pulling back the blistered coating revealed that the coating has no adhesion and continued to peel back easily. The adhesion of the entire layer of artist finish is questionable. Complete removal may be required.



Base of sculpture - Large blisters



No adhesion of the surrounding paint finish

Summary on Sculpture Inspection:

- Adhesion of the artist layers of paint was found to be poor on the two of the sculptures. Delamination is down to the primer. Complete removal may be required.
- No fading or discoloring was noted.
- The gloss of the clear finish was found to be stable.
- Some damage was found to due impacts. Localized repairs are possible.
- Dirt run-off streaks were common to all sculptures.
- The level of protection and longevity of the applied artist’s paints, including the clear finish, is questionable as the finishes may not be designed for the harsh environment and physical abuse the sculptures are subject to.

Cleaning the sculptures:

The clear finish applied over the artwork is designed to protect the underlying coating, produce an even gloss, and generally enhance the colors of the art work.

Cleaning of the sculptures (dirt run–off streaks) should be performed by scrubbing with a soft bristle brush and a mild washing solution. Rinsing should be done by using a hose at low water pressure. Power washing and harsh cleaning agents should NOT be used.

Note #2:

It is not known to this inspector all the processes that the different artists did while doing the finishing. Working environment, over-coat and re-coat times, thinning of the artist’s coatings, etc.

On the sculptures that had poor adhesion, the exposed primer was found to be quite shiny indicating that the surfaces had not been sanded prior to the application of the artist's paints.

Regardless of preparation and procedures, the artist paint systems are designed for interior exposure. Research into the product data sheets of the artist's paints and clear finishes did not indicate that the artist finishes would have good long term resistance to harsh environments and abrasion.

An industrial type exterior finish that incorporates Epoxy and / Polyurethane type finishes would have been the more appropriate types of finishes.