

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

For Pristine Australian Roads and Infrastructure.



OUR COMMITMENT

Astec Paints are committed to providing the Australian Roads and Infrastructure industry with functional products in systems that will minimise chemical impact to the environment, applicator and maintenance staff.

Research and development in this area assures our clients they receive quality products specified in systems that are fit for their designed use.

www.astecpaints.com.au

Page 1 of 9

Our wealth of "hands on" experience guarantees our client's receive knowledgeable service and quality technical support that insures the expected long term result is achieved.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

Introduction

Astec Sumolac is a permanent anti-graffiti coating that conforms to APAS spec No. 1441. When used in a product system as part of an Astec A-spec, specification No APA2017 or APA2018, it has proven to perform well in excess of it's required standard.

Sumolac should be installed by an Astec trained or experienced coating applicator and must be in strict accordance with Astec A-spec Specifications for Anti-graffiti systems. This includes correct surface preparation technique and the specified sealers, primers, base colour coats and topcoats.

Once installed, however, the system allows for the simple management and fast removal of graffiti by general in-house maintenance staff.

Specifications

The following Astec A-spec specification numbers are a suitable base for the removal process described on this document.

A-spec No APA2017 Appendix A
A-spec No APA2018 Appendix B

Critical Consideration

The overall long-term anti-graffiti performance of the system is due to an optimised match of product and low toxicity graffiti strippers. During the evaluation process in our product design laboratory the removal performance is labelled as the number of "hits" possible before recoating is required (the number of times applied graffiti can be removed)

Sumolac has proven to offer up to 150 hits as currently specified, however, if the following graffiti removal process is not strictly adhered to (e.g. the wrong graffiti removers are used), the number of hits can be greatly reduced or eliminated in one single removal.

It cannot be stressed enough that the following removal process be strictly adhered to. Only use the graffiti removers we specify. NEVER use other Solvents, Thinners or Fuels on Sumolac.

Tools required

- 50 or 100mm masking tape.
- 80mm roller cage frame.
- 230mm black disposable foam paint roller cover.
- Hack saw to cut foam roller.
- Ansell green rubber gloves.
- Protective face shield.
- Chemical resistant overalls.
- Chux Super Wipe, full roll.
- Astec Enviro-clean 750 ml
- Astec Graffiti Remover 750 ml
- Plastic 20 ltr bucket.
- Fresh water, warm preferred.
- Plastic bin and lid.

Your Aim During Graffiti Removal

The aim, is to completely remove the graffiti using the smallest amount of the lowest toxicity chemical possible and the smallest amount of our most precious resource, water. Maintaining this aim during the graffiti removal process will optimise the number of graffiti hits you can remove from Sumolac and offers you and our environment the lowest possible exposure to chemicals. Although it will work many times over, do not just step straight to using Astec Graffiti Remover.

Removal of Graffiti

Crayon

Crayons are resistant to water and most water soluble cleaners. In fact, water tends to spread crayon making the condition even worse. Therefore, other means, such as cold "mechanical" removal must be tried first.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

Immediate heat, or "wet" solvency treatment, will spread the crayon making the area to clean unnecessarily larger.

For the best results with crayon removal, please follow these steps:

Step 1: Cold treatment

1. Place a tray full of ice cubes into a zippered watertight freezer bag and rest it over an affected area for several minutes. The cold makes the crayon more brittle and intact as a solid.
2. Immediately use a ball of Chux Super Wipe to mechanically wipe off the iced crayon.
3. If the area is larger than the ice bag, use the same procedure systematically until the entire area is treated.
4. Do not use a brush or scraper of any description on Sumolac as it can unnecessarily abrade the surface.

Step 2: Warm treatment

1. Using a hair dryer (on "HI" setting), or a heat gun (on "MED"), heat the remaining crayon until it softens and can be absorbed and wiped off with a Chux Super Wipe.
2. Repeat the process over the entire area.
3. Only use as much heat as is needed to soften the crayon. Less is better for the life of Sumolac.

Step 3: Liquid treatment **Low Strength**

1. Ensure rubber gloves are worn during this process.
2. Try to time this process out of direct sun. Walls should not be preheated by hours of prior direct sun.
3. Remove any remaining stain with Astec Enviro-clean
4. Apply Enviro-clean to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.

5. Allow to dwell for 30 to 60 second.

6. Wipe/absorb the liquefied crayon with a Chux super wipe constantly turning and changing the contaminated Chux.
7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.
8. Repeat the process to the entire area until all crayon is removed.
9. With all crayon removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry Chux to polish the surface clean of any smears.
10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.

Step 3: Liquid treatment **High Strength**

1. Ensure rubber gloves, face shield and overalls are worn during this process.
2. Try to time this process out of direct sun or on sun heated walls.
3. Remove any remaining stain with Astec Graffiti Remover.
4. Apply Graffiti Remover to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.
5. Allow to dwell for 30 to 60 seconds.
6. Wipe/absorb the liquefied crayon with a Chux super wipe, constantly turning and changing the contaminated Chux.
7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.
8. Repeat the process to the entire area until all crayon is removed.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

9. With all crayon removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry Chux to polish the surface clean of any smears.
10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.

Pressure Pack Spray Paint and Inks

Pressure pack spray paint is the most common material used for graffiti and although its use allows for larger areas of graffiti to be applied in shorter times, it is in most cases the simplest to remove. In most cases an adhesive tape will remove up to 90% of the graffiti requiring only the minor use of chemical removers for the residue.

Step 1: Adhesive treatment

1. Apply crepe masking tape to the entire area of graffiti in parallel strips. Ensure that the strips of tape overlap by a few millimetres.
2. Cut a 230mm disposable black foam roller cover with a hack saw down to 80mm and install it onto an 80 mm cage roller frame.
3. Using the roller, press the installed tape hard into the surface. Ensure the entire area of tape is thoroughly pressed in the area of removal.
4. Allow the tape to stand for a few minutes.
5. Strip the tape from the surface.
6. Repeat the process until all graffiti is removed.
7. For touch up removal of overspray ball-up masking tape and use as a blotter.

Step 2: Liquid treatment Low Strength

1. Ensure rubber gloves are worn during this process.

2. Try to time this process out of direct sun. Walls should not be preheated by hours of prior direct sun.
3. Remove any remaining stain with Astec Enviro-clean.
4. Apply Enviro-clean to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.
5. Allow to dwell for 30 to 60 seconds.
6. Wipe/absorb the liquefied graffiti with a Chux Super Wipe constantly turning and changing the contaminated Chux.
7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.
8. Repeat the process to the entire area until all graffiti is removed.
9. With all graffiti removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry Chux to polish the surface clean of any smears.
10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.

Step 3: Liquid treatment High Strength

1. Ensure rubber gloves, face shield and overalls are worn during this process.
2. Try to time this process out of direct sun. Walls should not be preheated by hours of prior direct sun.
3. Remove any remaining stain with Astec Graffiti Remover.
4. Apply Graffiti Remover to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.
5. Allow to dwell for 30 to 60 seconds.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

6. Wipe/absorb the liquefied graffiti with a Chux super wipe constantly turning and changing the contaminated Chux.
 7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.
 8. Repeat the process to the entire area until all graffiti is removed.
 9. With all graffiti removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry Chux to polish the surface clean of any smears.
 10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.
4. Apply Enviro-clean to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.
 5. Allow to dwell for 30 to 60 seconds.

Felt tip Markers

The liquid dispersions and colours used in felt tip makers are wide and varied and may have extremely fine, highly milled pigments that can enter the surface of almost any material, including Sumolac. Therefore it is prudent that we inform our users that with some markers slight ghosting may occur in the film of Sumolac after the removal process. Although there are chemicals that can remove this ghosting the result is that the repeatability of the anti-graffiti will be reduced.

Step 1: Liquid treatment Low Strength

1. Ensure rubber gloves are worn during this process.
2. Try to time this process out of direct sun. Walls should not be preheated by hours of prior direct sun.
3. Remove the felt tip graffiti with Astec Enviro-clean.

6. Wipe/absorb the liquefied graffiti with a Chux Super Wipe constantly turning and changing the contaminated Chux.
7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.
8. Repeat the process to the entire area until all graffiti is removed.
9. With all graffiti removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry Chux to polish the surface clean of any smears.
10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.

Step 3: Liquid treatment High Strength

1. Ensure rubber gloves, face shield and overalls are worn during this process.
2. Try to time this process out of direct sun. Walls should not be preheated by hours of prior direct sun.
3. Remove any remaining stain with Astec Graffiti Remover.
4. Apply Graffiti Remover to the graffiti in small manageable areas 500mm X 500mm. Apply only sufficient quantities so as not to allow run off down the wall.
5. Allow to dwell for 30 to 60 seconds.
6. Wipe/absorb off the liquefied graffiti with a Chux Super Wipe constantly turning and changing the contaminated Chux.
7. The aim is to subtract the liquefied graffiti with the suction created by the Chux while minimizing any runs down the wall surface.

8. Repeat the process to the entire area until all graffiti is removed.
9. With all graffiti removed, dilute Astec Enviro-clean in a bucket with water, (4 water to 1 Enviro-clean). Use a clean Chux to wet the surface with the solution and a dry

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

Chux to polish the surface clean of any smears.

10. **Note;** use only Chux Super Wipes as they do not abrade the surface of Sumolac thus ensuring long-term repeatability of the graffiti removal process.

Performance

Sumolac is a heavily modified marine grade 2K polyurethane that resists the entry of environmental contaminants such as chloride ions, vehicle exhaust, airborne dust and dirt.

Aside from the anti-graffiti properties the product will last on exposure to UV light in excess of 15 years before recoating is required.

Apart from normal laboratory testing Sumolac has been exposed to varied environmental conditions on exterior exposed sites throughout many Asian and Australian cities for the past 14 years. The constant evaluation of Sumolac on these sites has proven Sumolac will maintain its clarity, adhesion and film integrity even in harsh environmental conditions.

Weathering Results

Accelerated Weathering (ASTM G53-96)
6000hrs of UVB 313 Lamps/Moisture testing, in accordance to ASTM G53-96. Samples were exposed to four hour cycles of U.V.B. at an irradiance of 1.05 then moisture at 60 deg C for a total period of 6000 hrs.

- Excellent retention of clarity.
- Slight drop in adhesion.

www.astecpaints.com.au

- Little to no gloss drop, or surface change.

Maintenance

Other than the removal of graffiti and/or repairs required due to impact damage, Sumolac requires no specialised maintenance procedures.

When Sumolac is used and maintained in accordance with our Care and Maintenance Procedures the product has proven to tolerate up to 150 hits of graffiti before recoating is required.

However, in some urban environments where graffiti is a constant daily battle and a seesaw approach is the only initial answer, we have seen Sumolac re-application required within four months of the first application. But re-application time will be extended as graffiti artists become frustrated at the quick removal of their tags.

General Cleaning.

Sumolac will maintain a clean appearance over long periods of time as most environmental contaminants will not stick to the film and will readily wash off with rain. However, in circumstances where rain fall is low and/or the wall is not exposed to the weather, (as with car park internals), it may be prudent to wash the wall at regular intervals to maintain its pristine appearance and remove any potentially abrasive contaminants. Cleaning can be carried out as follows;

Option 1

1. Using a backpack spray, apply a light mist of Astec Enviro-clean to the wall and allow to stand for 5 minutes.
2. Using a low pressure water spray, rinse the surface working from the top of the wall down.
3. If there are areas of vehicle exhaust spotting that require further cleaning use only Chux Super Wipes and Enviro-clean.

4. If the entire wall requires scrubbing, wrap a Chux Super Wipe around a floor sponge to do so.

become more difficult to remove with the normal procedures.

2. The wall starts to show heavy signs of ghosting.
3. The wall has vehicle impact damage that has severely marred the Sumolac or has broken through it's film.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

Option 2

1. For larger areas use a high pressure water cleaner with a detergent venturi nozzle.
2. Feed Astec Enviro-clean through the cleaner and clean the wall down.
3. Allow to stand for 5 minutes after detergent cleaning.
4. Switch off the detergent feed to the gun and rinse the wall from top down with clean water.

Recoating

As Sumolac is a coating that is designed to repel paint, special consideration must be given to the specified preparation before recoating takes place. Failure to do so will result in partial or complete adhesion failure.

In addition, as Sumolac is subjected to conditions not normally experienced by surface coatings, (i.e. the graffiti removal process), consideration must be given to coating maintenance.

Maintenance staff responsible for the functional or decorative performance of an anti-graffiti system may notice the following surface conditions that dictate the type and timing of maintenance that is required.

Where any of the following conditions are found a clear coat only or full system replacement will be required.

Conditions;

1. The wall will not tolerate any further graffiti removal. The graffiti has

4. The surface of the Sumolac is starting to show gloss drop and slight chalking, indicates the end of its life cycle.

Clear Re-Coat Only

Preparation

1. We do not recommend partial areas or touch-ups be done with Sumolac. A full area that terminates within architectural detail should be selected (e.g. between two expansion joints).
2. Remove contaminants such as graffiti, tire rubber or exhaust spotting with Astec Graffiti Remover.
3. Apply Astec Enviro-clean with a low pressure backpack spray to flood the selected area while at the same time scrubbing the surface with a stiff bristled broom.
4. Immediately after scrubbing, high pressure water clean the surface from the top down in horizontal sections.
5. **Note;** Always high pressure wash from the top down as washing from bottom up will allow contaminants to flow back over the cleaned areas.
6. Allow the surface to dry completely.
7. Use a non-directional sander to remove all gloss from the entire surface with 180 or 240 grit sand paper.
8. Care must be taken not to sand completely through the existing Sumolac thereby disturbing coloured base coats.
9. Alternatively, sweep blast at a low angle the entire area with a sand

blaster and grit approved by local authorities.

10. Again, care must be taken not to break through the Sumolac and disturb any existing coloured base coats.
11. **Note;** good surface preparation of Sumolac is the complete removal of all gloss. The surface of the Sumolac will appear milky after abrasion. This will disappear after recoating with Sumolac.

Care and Maintenance of Sumolac Permanent Anti-graffiti Coatings.

12. Remove all sanding dust from the surface without the use of water.
13. Wipe the entire surface with Astec All Purpose Thinners just prior to coating application.
14. DO NOT USE WATER AT ANY STAGE JUST PRIOR TO COATING APPLICATION.

Application

Apply Sumolac in accordance with Astec A-spec No. APA2018

(Sumolac sections only)

Full System Replacement

Preparation

1. We do not recommend partial areas or touch-ups be done with Sumolac. A full area that terminates within architectural detail should be selected (e.g. between two expansion joints).
2. Complete removal should only be carried out by a contractor experienced in the use of industrial strength paint strippers.

Disclaimer;

The technical data is based on data believed by Astec Paints to be true however, no guarantee of accuracy is given or implied and issued information is given in good faith for the assistance of users. All warranties and Astec makes no representation as to the accuracy, completeness or person dealing with the product does so at their own risk and must maintain of suitability and compliance to ensure their proper use. Astec has no liability for the products are stored, handled, used or applied, therefore our recommendations and Astec accepts no responsibility if the recommendations are not followed.

3. Apply Astec Regel 1 to 1m² sections of the wall starting at the uppermost section of the wall.
4. Allow to stand for 15 minutes.
5. Using low pressure steam, remove the coatings from the wall. The water temperature must be as high as possible, just under the temperature where the water turns to steam.
6. Multiple applications may be required to completely remove the system.
7. Alternatively, sand blast at a low angle the entire area with a sand blaster and grit approved by local authorities.
8. Care must be taken not to deface the substrate if sand blasting is selected as the method of removal.
9. Allow the entire surface to thoroughly dry.

Application

Apply Sumolac in accordance with Astec A-spec No. APA2017 or A-spec No. APA2018 or A-spec as specified for the project.

www.astecpaints.com.au

Page 9 of 9

Astec Paints Australasia Pty Ltd
22 -24 Pinn Street
Netley S.A. 5037



Ph +61 8 8297 2000
Fax +61 8 8297 2555