

**ASSESSMENT OF INSITU, GSS®
GRAFFITI RESISTANT COATINGS
AMERICAN POLYMER CORPORATION**

KTA- Tator, Inc Job No. 230418

PREPARED FOR:

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JUNE 12, 2003



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June 12, 2003

Mr. Michael N. Macris, President
American Polymer Corporation
9176 South 300 West, Suite 4
Sandy, Utah 84070

**Subject: Assessment of Insitu GSS
Graffiti Resistant Coatings**

Dear Mr. Macris:

We have completed our work on this most interesting and enlightening project and submit our final report for your review.

The report contains the findings of our field investigation and a discussion of those findings complete with photographic documentation. Those findings, coupled with a review of the chemical formulations for the *Graffiti Solution Systems*® and the teachings of your patents, have provided a basis for estimating a range of anticipated service life for your coating system under typical urban/suburban exposure.

The estimated service life of 15 to 20 years should not be a surprise since your formulations are based upon high performance industrial type coating systems. Those systems, in far more aggressive environments, typically provide maintenance free protection of substrates for up to 12 to 15 years.

Should you have any questions or require additional information, please do not hesitate to contact this office. We appreciate working with you and allowing KTA to conduct this independent study.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Barman', with a long, sweeping underline.

Barry Barman
Senior Consultant

RESULTS OF FIELD ASSESSMENT

During March, April and May 2003 a total of ten installations with locations in Los Angeles, Las Vegas and Salt Lake City were inspected. During the inspection all sites were evaluated for blistering, peeling, flaking, chalking and fading. Observations were made with and without the use of magnification with particular attention to the presence of any crazing or surface cracking that might indicate the start of the breakdown of the anti-graffiti top coat. The just completed Lowes Home Improvement Center located at the Tropicana Beltway, Las Vegas, NV was selected as a control against which to assess degradation of older installations.

For those surfaces made available for testing, graffiti was applied in the form of a permanent black marker. The heavily applied permanent marking ink was allowed to completely dry before attempting removal with Erasol®. The blemished areas were viewed under magnification for any signs of graffiti remaining on the surface and further examined for any changes in appearance from the surrounding, untested areas.

The findings of the field investigation are summarized in the table which follows. Photographic documentation of the results of the testing are append:

TABLE 1 – Results of Field Evaluation

DATE	SITE	SUBSTRATE	AGE (yrs)	SURFACE DEFECTS	GRAFFITI REMOVAL	CHANGES IN APPEARANCE
5-10-03	Lowes Center ¹ , Las Vegas, NV		New	None	n/a	n/a
3-28-03	Kodak Theater. ² Los Angeles, CA	Pre-cast, granite, EIFS	2	None	Total	None
5-10-03	Sahara ³ , Las Vegas, NV	Molded foam skin	6	None	n/a	n/a
5-10-03	Hwy 95 Sound wall Las Vegas, NV	Pre-cast concrete panels	1	None	Total	None
5-10-03	Palo Verde High School Summerlin, NV	Split Block, Metal Doors	6	None	Total	None

DATE	SITE	SUBSTRATE	AGE (yrs)	SURFACE DEFECTS	GRAFFITI REMOVAL	CHANGES IN APPEARANCE
5-14-03	Sandy City Fire Station Wall Sandy, UT	CMU-Smooth CMU Block	12	None	Total	None
5-14-03	The Boston Bldg, Salt Lake City, UT	Limestone, Granite, Brick	10	None	Total	None
5-14-03	Yannis, Salt Lake City, UT	Stucco, sand finish	6	None	Total	None
5-14-03	The ZMCI Center, Salt Lake City, UT	Multiple materials	11	None	Total	None
5-14-03	Eagle Gate Plaza, Salt Lake City, UT		10	None	Total	None

1. New installation to serve as control against which to compare others
2. Property inspected after tagging and removal by others
3. Visual evaluation for aesthetics, only – domes inaccessible to graffiti

DISCUSSION

At the time when the original coatings had been applied, each of the ten installations inspected had been prepared by cleaning to remove all dust, dirt, grease, oil and other foreign substances detrimental to adhesion. Each installation received multiple base coats of primer/sealer containing various amounts of filler specific to the type of substrate being protected. After achieving a pinhole free surface, each site then received multiple coats of the GSS-10™ Anti-Graffiti finish coat. The finished coating at each installation was inspected to ensure that a monolithic, pinhole-free surface was produced, prior to turn-over to the owner.

The protected surfaces included slump stone, split face block, stucco, limestone, brick, pre-cast aggregate, EIFS, granite and painted metal. The duration of exposure ranged from a few months to 12 years with locations in Los Angeles, Las Vegas and Salt Lake City. All locations are exposed to high levels of ultra-violet light, a major contributor to early paint deterioration. Upon inspection none of the installations appear to have degraded in any way. There was no peeling, flaking, chalking or discernable fading. Examination under 30X magnification showed no crazing or surface cracking or any other signs of resin breakdown. After application and removal of graffiti using Erasol®

remover, all surfaces tested allowed for the complete removal of graffiti without any staining, shadowing, ghosting or any change in appearance of the surface. Re-examination under 30X showed no trace of any black permanent marker ink and there was no change in appearance from the surrounding areas.

The primer/sealer base coats are formulated as both water reducible or solvent reducible blends of acrylic modified resin systems that achieve filling, sealing and waterproofing. They form strong adhesive bonds to a variety of substrates and allow for moisture vapor transmission rates such that they are considered to be "breathable coatings". The finish coats are either modified epoxy resin based systems or polyurethane resin based formulations. Both types of formulations possess excellent weathering properties and provide outstanding resistance to solvents and most chemical agents that might be found in graffiti tagging materials. Most important, they are virtually unaffected by the proprietary release agent, a powerful biodegradable, non-toxic solvent that is a major component of the Erasol® remover. In the final analysis, it is fair to say that the chemistry of the coatings used in the *Graffiti Solution System*® is far more like the coatings classified as high performance industrial coatings than those typically used on building exteriors. These high performance systems, in far more aggressive environments, typically provide maintenance free protection of substrates for some 12 to 15 years. In mild environments epoxy-urethane systems have provided more than 30 years of service life

Thus, based on the chemistry of the systems in use and the findings of this field investigation it is estimated that the GSS graffiti preventive coatings will provide from 15 to 20 years of service life under typical urban/suburban installations. It is cautioned however, that certain organic pigments typically used to formulate red and blue coatings are prone to fading. If included in the GSS color coat they may not possess sufficient light stability to pass a 15 to 20 year fade test. Nevertheless, the graffiti protection will not be compromised.

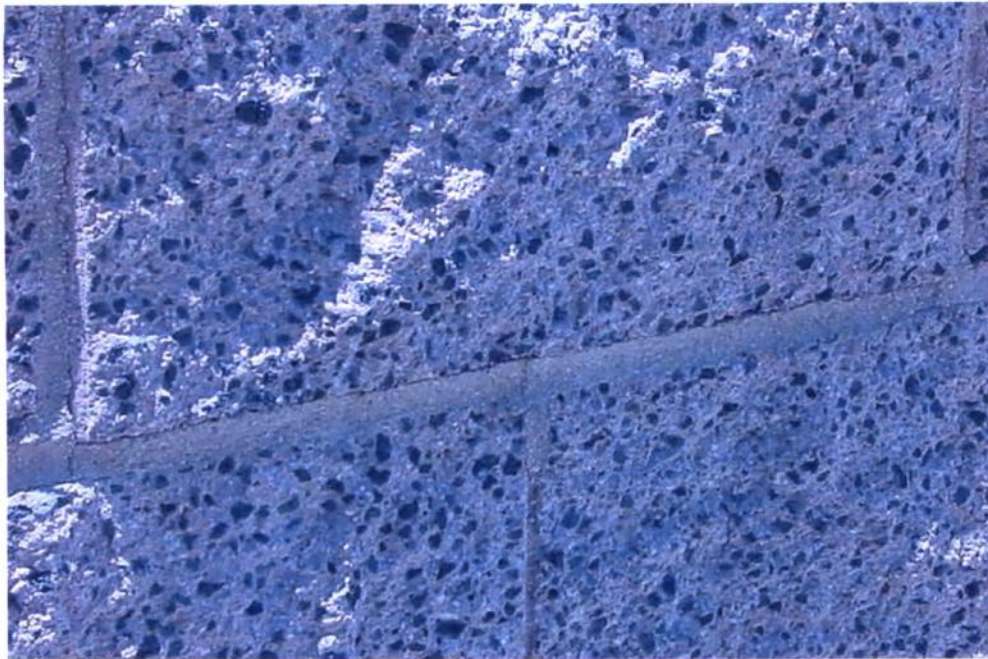
NOTICE: This report represents the opinion of KTA-TATOR, INC. This report is issued in conformance with generally acceptable industry practices. While customary precautions were taken to insure that the information gathered and presented is accurate, complete and technically correct, it is based on the information, data, time, materials, and/or samples afforded.



1. Foam-skinned dome at Sahara protected with flat color coat system. Note uniformity of appearance after 6 years of exposure.



2. Note uniformity of color and gloss with no visible surface defects.



3. Clear GSS system applied to a highly textured block wall at Palo Verde High School. Note the surface is pinhole free yet the texture has not been obscured.



4. A more porous split-face block surface at the Palo Verde High School that has been treated with a base coat system containing a greater amount of filler.



5. Steel faced doors protected with clear GSS-10, Gloss. Note retention of gloss and color after 6 years of exposure.



6. View of a wall that was partially sandblasted removing a portion of the GSS system. Note how water intrusion of the unprotected (upper area) has resulted in mottling effect while the protected area remains uniform in appearance.



7. Color coated gray, flat GSS system applied to CMU block at the Sandy City Fire Station perimeter wall with black permanent marker type graffiti on the lower blocks.



8. View of spray application of Erasol to the graffiti. Note how the graffiti is totally dissolved by the remove.



9. Close-up of wall after rinsing the graffiti removed area with water. Note the complete removal of the graffiti with no staining, ghosting or shadowing.



10. Close-up view of wall after drying. Note that the color coat has been virtually unaffected by the Erasol - there is no change in color or gloss when compared to the surrounding areas of wall after graffiti removal.



11. Flat, white color coat GSS system applied to sand textured stucco.



12. Flat, white sand textured stucco wall with black permanent marker type graffiti.



13. View of spray application of Erasol to the graffiti. Note how the graffiti is totally dissolved by the remover.



14. View of the stucco wall after removal of graffiti with Erasol. Note the total removal of the black markings with no apparent change to the white color coat.

EAGLE GATE PLAZA TESTING



15. Surface with applied graffiti

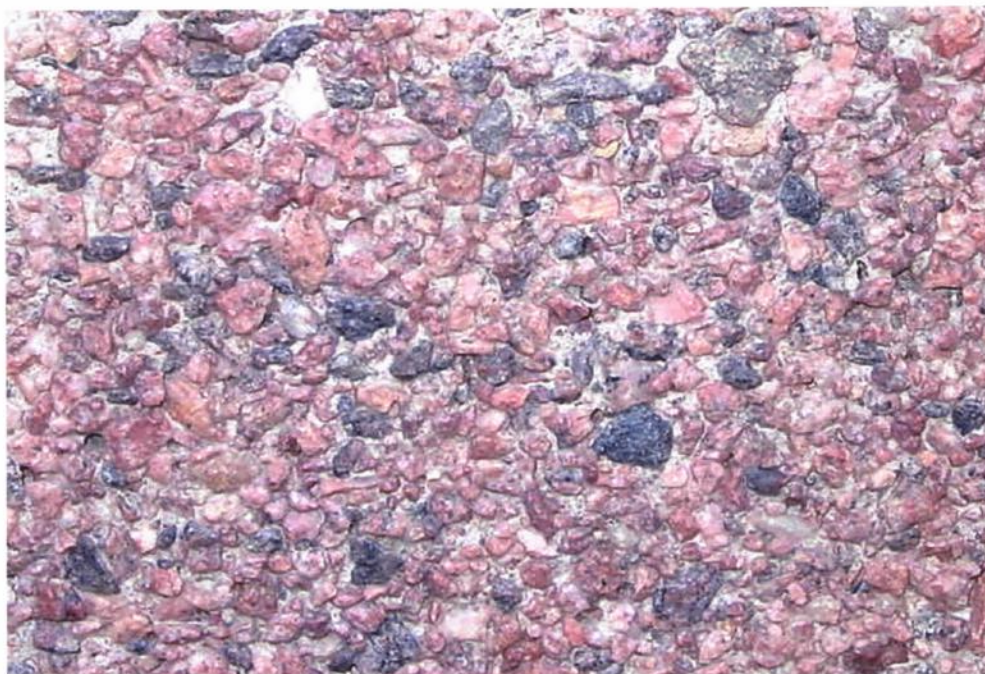


16. Applied graffiti being removed with Erasol.

EAGLE GATE PLAZA TESTING (cont'd)



17. Surface after graffiti removal.



18. Close-up of surface after removal. Note the total lack of any black staining.

ZCMI CENTER TESTING



19. General view of Center.



20. Surface with applied graffiti.

ZCMI CENTER TESTING (cont'd)



21. Applied graffiti being removed with Erasol.



22. Close-up of surface after removal. Note the total lack of any black staining.

BOSTON BUILDING TESTING



23. Surface with applied graffiti.



24. Applied graffiti being removed with Erasol.

BOSTON BUILDING TESTING (cont'd)

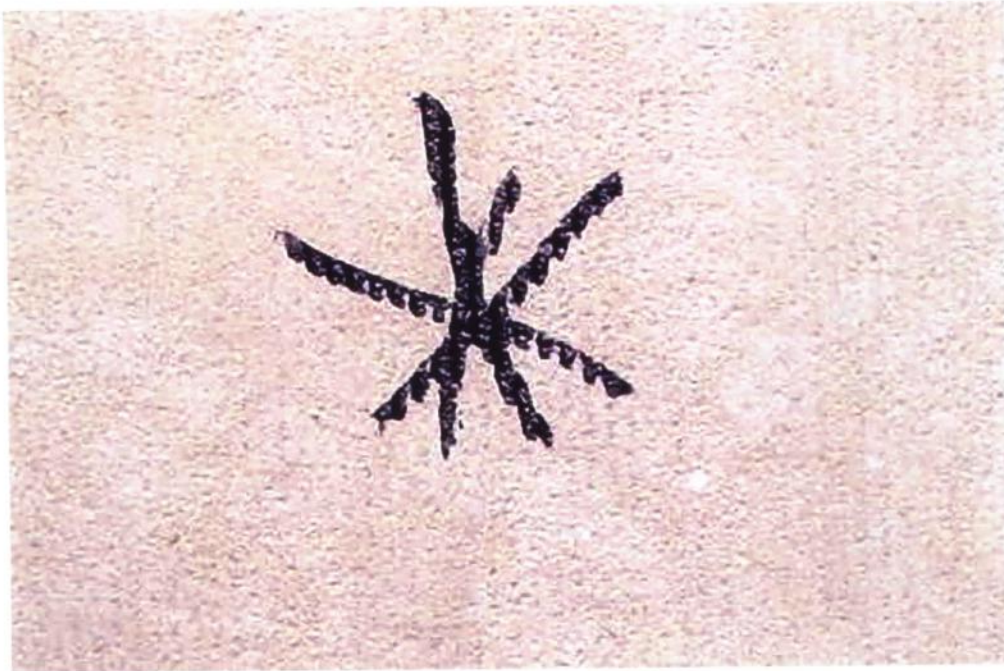


25. Erasol being flushed with water



26. Close-up of surface after removal. Note the total lack of any black staining.

BOSTON BUILDING TESTING (cont'd)



27. Surface with applied graffiti.



28. Close-up of surface after removal. Note the total lack of any black staining.

BOSTON BUILDING TESTING (cont'd)



29. Surface with applied graffiti.



30. Applied graffiti being removed with Erasol.

BOSTON BUILDING TESTING (cont'd)



31. Close-up of surface after removal. Note the total lack of any black staining.

HIGHWAY 95 SOUND WALL TAGGED WITH GRAFFITI



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HIGHWAY 95 SOUND WALL AFTER GRAFFITI REMOVAL



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