

ADDRESSING AN EXPENSIVE AND GROWING GRAFFITI PROBLEM

SHERWIN-WILLIAMS COIL COATINGS
GRAFFITI RESISTANT COATINGS
FOR COIL AND EXTRUSION BUILDING SYSTEMS

White Paper



SHERWIN-WILLIAMS
Coil Coatings



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Over the last three years, the damage from urban graffiti has grown significantly, increasing the urgency for municipal authorities, local governments, and private building owners to address the problem. Data shows that the sooner graffiti is removed, the less likely additional graffiti will occur in the same area^{1,2}. Due to growing damage, many cities are passing removal regulations with intensified timeline requirements.

Facility managers, municipalities, and building owners are finding that these new graffiti regulations are challenging. Traditional methods to remove graffiti are expensive, time-consuming, and typically involve harsh chemicals, sand-blasting, and repainting of metal surfaces. Fortunately, advancements in technology are setting new standards for addressing graffiti quickly and cost-effectively on metal buildings, rail and subway cars, and other substrates.

Recent advances in graffiti resistant metal coatings, paired with environmentally-friendly cleaning solutions are mitigating the issue of the growing graffiti problem.

GRAFFITI AND ITS CHALLENGES

Graffiti is any type of undesirable marking, etching, or painting that defaces public or private property. Graffiti-based vandalism is on the rise in the United States, costing an estimated \$12 billion in annual cleanup expenses. Although urban areas face the most issues, graffiti is found all over the country and is not limited to gang activity.

Few graffiti offenders are caught and the vandalism is not typically reported to the police, making the scope

of the problem unknown. In some media outlets, graffiti is glamorized as a form of street art, which contributes to its growth. The difference between graffiti and art is having permission to create markings on a building or structure. When done without permission, marking a public or private property is illegal.

Graffiti – typically under 6-square feet in size – falls into one of several categories:

- **Gang Graffiti:** Indicates threats of violence or marks territories
- **Copycat Gang Graffiti:** Mimics gang graffiti
- **Tagger Graffiti:** Includes a range of markings from an individual's signature mark to more complex art on the side of a building, bridge, or other outdoor venue
- **Conventional Graffiti:** Expresses isolated messages typically associated with exuberant youth
- **Ideological Graffiti:** Conveys political messages or racial, religious or ethnic slurs

Graffiti has a serious cumulative effect — one incident often attracts another. Graffiti can contribute to fear of gangs and neighborhood blight among the general public, translating to lost ridership on transit systems, reduced retail sales, and declining property values. Some estimates say commercial real estate value can drop between 25% to 30% if graffiti is present within two blocks of a building.

Graffiti is often associated with other public problems such as littering, loitering, public urination, shoplifting of materials used to make graffiti, gang violence, and property destruction.

COMMON LOCATIONS FOR GRAFFITI:

Graffiti perpetrators often choose a location adjacent to public spaces because they want a large viewing audience. Light-colored surfaces are typically selected so the markings show up better. Common graffiti targets include:

- **Transit-Oriented Spaces:** Inner and outer sides of buses, trains, subways, transit stations, shelters, bridges, freeway overpasses, streets, sidewalks, and parking garages
- **Signage:** Traffic and freeway signs, and billboards
- **Buildings:** Business and residence walls facing streets, garages, fences, and sheds; large walls without windows and doors provide the perfect canvas for large-scale projects
- **Parks:** Statues, monuments, park benches, vending machines, and trees

TYPICAL MEDIUMS USED FOR GRAFFITI:

Battery acid used for etching is the most challenging substance to remove, followed by Sharpie brand permanent markers. Other common substances for marking include shoe polish, lipstick, pens, pencils, razors, glass cutters, and glass-etching fluid. Spray paint is another common medium because it allows perpetrators to work quickly while covering a large area.



Left: Marker, Middle: Shoe Polish, Right: Spray Paint



NEW LAWS GOVERNING PROMPT REMOVAL OF GRAFFITI

According to data from Graffiti Hurts, a grassroots community education program, “Rapid removal of graffiti is an effective prevention tool. Data shows that removal within 24 to 48 hours results in a nearly zero rate of recurrence.”¹

Most Keep America Beautiful affiliates credit the reduction in graffiti in their communities to rapid removal.”²

Due to the large uptick in graffiti and substantiated research on the importance of quick removal to thwart additional graffiti, many new laws have been passed. Strict regulation around removal timeframes is quickly becoming the norm. In some cities and jurisdictions, property owners have as little as 48 hours to remove the graffiti. Some graffiti regulations provide more time for removal, but often it is no more than seven days.

TRADITIONAL GRAFFITI REMOVAL

The typical processes to remove graffiti are complex, expensive, and time-consuming:

- **Spray Painting:** This short-term solution covers the graffiti, but leaves a fresh canvas for new perpetrators.
- **Chemical Removers:** This removal type will often etch, mar or damage the surface and leave a halo (outline), flashing or shadow with the graffiti visible but in a faded form. Strong solvents have to be used on concrete but will quickly damage a coated substrate, such as a metal building or rail car, which then requires stripping of the coating and repainting for complete resolution.
- **Pressure Washing:** Solvents added to water can be an effective approach depending on the graffiti medium used, but pressure washing can also wear down or damage the coating.
- **Stripping Paint:** Using MEK or paint thinners, the graffiti is stripped from the surface and then repainted.
- **Sandblasting and Repainting:** A complete and effective removal often involves sandblasting the graffiti then repainting, which is a time-consuming, expensive, and multi-day process.



TYPES OF GRAFFITI RESISTANT COATINGS

As the problem of graffiti removal on buildings and structures increases, a number of coatings have been developed that claim graffiti resistance, making them easier to clean if graffiti occurs.

CLEAR TOP COATINGS

Three types of clear coatings can be used to protect from graffiti:

- **Sacrificial Coating:** Forms a clear barrier over the surface it is protecting. Graffiti is removed by pressure washing the surface, but the coating is also removed and must be reapplied. The coating is typically a polymer and forms a weak bond with the substrate, which is why it washes off easily.
- **Semi-Sacrificial Coating:** Acts as a sealer to protect the pores of the coating or surface of the wall. If the surface is vandalized, the markings are removed using a combination of solvents and pressure washing. Typically, these coatings need to be reapplied every other time the graffiti is removed.
- **Permanent Clear Coating:** Provides a barrier so graffiti cannot adhere permanently to the coating. This type of coating can be made from polyurethanes, nanoparticles, fluorinated hydrocarbons or siloxanes, and each one works a little differently but can be effective. A permanent clearcoat can easily add 20% or more to the overall cost of the coating for a building. In addition, the solvent used to remove the graffiti can damage the clear coating.

GRAFFITI-RESISTANCE COATINGS THAT MEET ASTM D6578/D6578M STANDARDS:

Many coatings manufacturers are making paints and coatings that they claim can resist common substances used in graffiti marking. However, it can be challenging to compare these claims. That process is now easier through the ASTM D6578/D6578M Standard developed by ASTM International, one of the world's largest organizations developing international standards. This standardized method of evaluating anti-graffiti coatings allows owners to compare claims made by different manufacturers on the effectiveness of their graffiti resistant coatings. It provides a set of conditions for measurement that include a defined set of markings removed by a defined set of cleaning agents. ASTM-tested mediums include spray paint, permanent marker, wax crayon, ballpoint ink, and water-based ink markers.

RAPID ADOPTION OF ASTM D6578/D6578M STANDARD FOR COATINGS IN NEW CONSTRUCTION:

Since graffiti is such a costly, large, and growing problem architects are quickly moving to specify ASTM D6578/D6578M compliant coatings to ensure graffiti resistance on the building materials they select in new construction. Sherwin-Williams, a global coating manufacturer, has taken the steps to ensure that all of their coil coatings are ASTM D6578/D6578M compliant.



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GRAFFITI REMOVAL FROM GRAFFITI RESISTANT COIL COATINGS

With the right blend of coatings and removal products, building owners and maintenance managers can now remove graffiti themselves and be back in business in a matter of minutes instead of days to weeks. There is

no damage to the coating as compared to traditional harsh chemicals used to remove graffiti, which can easily damage a painted surface or burn the graffiti marking into the surface of the coating.

SHERWIN-WILLIAMS COIL COATINGS GRAFFITI RESISTANT COATINGS

Sherwin-Williams launched a unique approach to keep buildings graffiti-free with an ASTM-compliant graffiti-resistant system that has been tested and approved for all Sherwin-Williams Coil and Extrusion building products. Sherwin-Williams aligned with Graffiti Removal Services (GRS) to create this sustainable, cost-effective system. The robust properties of these coatings, combined with the innovative cleaning system provided by GRS, means that this solution not only applies to future projects, but to existing installations with Sherwin-Williams' coatings. Every coating in Sherwin-Williams product line is protected against the dangers of disfiguring damages from graffiti vandalism, no matter which coating is specified for a building.

GRS's non-toxic products use a brush-on, wipe-off application with no dwell time to quickly and effectively remove graffiti without damaging the underlying Sherwin-Williams coating. The water-soluble, biodegradable

cleaning system is easy to use and gives maintenance professionals a powerful tool in the fight against graffiti. All GRS products are EPA and VOC compliant. These products are made from soluble alcohol, are biodegradable, and can be rinsed off with water. They contain no phosphates, chlorinated hydrocarbons, xylene or any other substance known to cause environmental or health destruction.

These removal agents are safe and effective. They do not damage the coating or gloss level. The combination of high-performance metal coatings and Graffiti Removal Services' tested and approved cleaning system can save building, property, and transit owners significant costs.

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CASE STUDIES

BRUSH-ON/WIPE-OFF CLEANING WITH GRAFFITI COATINGS

When your building is attacked by a graffiti vandal, you want the coating to be able to resist whatever is coming at it – including spray paint. Sherwin-Williams’ graffiti-resistant system provides a solution that can make graffiti removal easy and cost-effective.



BEFORE: Spray paint graffiti markings on surface coated with Sherwin-Williams Coil Coatings’ ASTM-compliant coating.



DURING: Easy brush-on/wipe-off cleaning application.



AFTER: Cleaning with GRS non-toxic solution, the surface will look new with no coating damage within a few minutes.

PORTLAND RAIL CAR CLEANED IN TWO HOURS AND BACK ON TRACK

Dealing with graffiti on your installations can be messy, time-consuming, costly, and often ineffective. The simple brush-on/wipe-off method of Sherwin-Williams’ graffiti-resistant system provides a solution that is quick, cost-effective, and extremely efficient.



BEFORE: In Portland, Oregon, a rail car was damaged with extensive graffiti markings that were done using spray paint.



DURING: Due to the size of the project the GRS solution was spray applied for easy application.



AFTER: Rather than take the rail car out of service for several days to strip and repaint this rail car, was cleaned with the GRS non-toxic solution and back in service within two hours.

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CONCLUSION

FIGHTING GRAFFITI WITH NEW, MORE COST-EFFECTIVE SOLUTIONS

Graffiti is a significant and growing problem in cities across the U.S., costing more than \$12 billion in annual cleanup. The solution is complex, multi-faceted, and requires excellent cooperation among cities, building owners, communities, and manufacturers to combat the problem on multiple levels. For building, property, and

transit owners and managers, graffiti resistant metal coatings paired with simple cleaning solutions are setting a new standard for addressing graffiti quickly and cost-effectively.

SOURCE

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SOURCES

¹ Jay Beswick and Bernie Garrett, Graffiti Prevention Systems, data from over 1,500 sites in Los Angeles County from 1990-1991, www.graffitihurts.org/prevention/tipsprevetion.jsp

² Survey of Keep America Beautiful affiliates conducted for Graffiti Hurts, 2000, www.graffitihurts.org/prevention/tipsprevetion.jsp

Sherwin-Williams Coil Coatings Technical Team and www.valsparcoilextrusion.com/en/innovate/graffiti-resistance/
Center for Problem-Oriented Policing, www.popcenter.org/problems/graffiti/print/

ASTM International, www.astm.org

ASTM International, www.astm.org/Standards/D6578.htm

Graffiti Hurts, www.graffitihurts.org

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