

White Paper
Anti-Graffiti Coating
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Executive Summary

Graffiti vandalism is costing the UK over £1 billion per year just to remove it.

The railway industry in particular is prone to graffiti vandalism with knock on effects to train services and fare paying customers.

Trespassing onto railway lines is potentially fatal.

Blocksil has a family of very thin film nano particle sized coatings that repel graffiti.

Within the coating family is a system for buildings that is self-cleaning.

The coating family is easy to apply and can be done so on site, thereby making the coatings much more useful to the client.

Business Challenge

Graffiti can trace its origins back thousands of years and can be in the form of words, pictures or a combination of both.

Another name for graffiti is street art. Street art's popularity has risen dramatically in recent years, partly due to prominent artists such as Banksy, Bambi and Vhils. Research commissioned by the Affordable Art Fair¹ and the University of Warwick² reveal that neighbourhoods that have a higher proportion of urban art such as murals and outdoor sculptures have experienced an increase in the market value of local properties. One Banksy was sold at a New York auction for almost \$2 million.

The Affordable Art Fair research shows that 43% of British people would rather be in an area with beautiful murals and street art than a local coffee shop, while 29% of Britons would like to commission an artist to paint a mural on the outside of their own house. Many believe that the art enhances community spirit and lifts people's moods.

But then one has the other type of graffiti, often found on areas of private or public property that are not in constant use. Here the graffiti takes the form of names or words spray painted onto walls, fences, barriers, bridges, trains and signs. Aside from the offensive nature of some of this type of graffiti, this graffiti can only be described as vandalism.

The estimated cost to the UK for cleaning up all graffiti is over £1 billion³ per year. This amount of money would pay for the National Health Service for approximately three days⁴.

Between 2009 and 2014, the city of Glasgow⁵ spent out more than £2 million removing graffiti from across the city. In terms of "volume", Glasgow City Council have to remove over 100,000 metres of graffiti per year.

The railway industry is also targeted by graffiti vandals. Here the annual spend in removing graffiti is estimated to be £40 million per year, excluding disruption to services and paying customers. In addition to graffiti onto the sides of rolling stock and property, London Underground alone believes it costs up to £10 million a year to replace all the glass etched with graffiti³.

The number of graffiti incidents on trains, stations and lines has more than doubled between the first quarter of 2013 and the first quarter of 2018⁶.

And then there is the personal cost of graffiti.

In June 2018 three young men were killed when hit by a train near a south London station. These three men were engaged in railway graffiti activity⁷.

Those caught causing graffiti can be prosecuted under the Criminal Damage Act 1971 or the Anti-Social Behaviour Act 2003, but of course the perpetrators have to be caught first.

If graffiti cannot be stopped then there is a clear case for making it easier to remove and this is where Blocksil can help.

Solution

At Blocksil we have developed a family of thin film, transparent coatings that will bond to non-porous and porous surfaces and which have inherent anti-graffiti properties that cause paints and inks to reticulate. Any marking left behind wipes away easily with a damp cloth. In some cases the cloth may need to be wetted with a light solvent such as Isopropyl Alcohol

The same coating family also provides a barrier to prevent solvents or light acids from attacking the substrate.

These nano coatings are air cured and so can be applied on site. Application is by hand though a couple of the coatings in the family can also be sprayed. Extraction must be used and proper face protection must be worn if spraying to avoid inhalation of the coating.

For railway use the coatings have been tested to and passed the Europe wide standard: Reaction to fire: EN 45545-2-2013 R1.

For non-graffiti use the coatings can be used to help keep deep cleaned buildings and stonework clean for longer. The member of the nano coating family used here has photocatalytic properties, meaning it will displace anything attempting to grow on it provided the coating is subjected to UV light – from daylight. A self-cleaning coating, it is ideal for historic buildings and signage for example, where algae build up is undesirable.

Target Markets

Industries that could use the Blocksil family of nano coatings and help reduce the cost of cleaning up graffiti include:

- Buildings – commercial, industrial and domestic
- Civil Engineering
- Private property
- Railway
- Utilities

Countries that could use our nano coatings - worldwide.

Benefits

- Can be applied on site
- Can be applied onto a wide variety of substrates
- Easy to use with minimal training
- Graffiti is very easily removed off the coating
- Quick drying
- Transparent so coloured substrate is still visible
- Very thin film
- Worldwide uses

Technical Specifications

- Apply as a coating by brush, roller, cloth or spray
- Coating thickness is 5 microns to 10 microns
- Cure time: touch dry in 20 minutes, full cure either 1 hour at 60°C or 5 days at ambient
- Satisfies EN 45545-2-213 R1
- Solvent based
- Transparent
- Theoretical coverage of 60 to 80 square metres per litre at 5 microns thickness

Summary

By using Blocksil nano coatings clients will reduce the costs involved with graffiti damage by making the graffiti easier to remove.

The coatings also keep coated surfaces cleaner and easier to clean.

Easy to apply, the Blocksil nano coatings have the potential to locally transform equipment and infrastructure by reducing ongoing cleaning costs.

References

- 1 www.affordableartfair.com
- 2 University of Warwick
- 3 Penningtons Manches
- 4 National Health Service
- 5 Evening Times, Glasgow
- 6 British Transport Police
- 7 BBC