

Maintenance Painting of Highways Structures UKHSS 19A



RHINOCEROS is currently working on achieving certification for Sector Scheme 19A by early summer 2009. We are also training personnel under the Industrial Coatings Applicator Training Scheme. We have our own in house ICATS approved trainer.

We have completed contracts for Transport for London blast cleaning and repainting D-rings and for Edinburgh City Council blast cleaning and repainting bridge parapets and subway walls.

"Our sub-contractor, RHINOCEROS, performed very well on this job. The thorough preparation and attention to detail impressed the client who walked past the works every day. The completed works have improved the visual aspect of this area and improved road safety. The client has said that they will extend this work to all roads on their network. A good result which will benefit the public and road users in London."

Phil Skegg, Ringway Jacobs
HWMC for Transport for London.



"RHINOCEROS PERFORMED WELL ALTHOUGH PLAGUED BY POOR WEATHER CONDITIONS, TO PROVIDE AN EXCELLENT STANDARD OF WORKMANSHIP WHICH IS ACCEPTABLE TO THE CITY OF EDINBURGH COUNCIL....."

**ALEX LEISHMAN, STRUCTURES CLERK OF WORKS,
EDINBURGH CITY COUNCIL**

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A-71 Calder Road , Sighthill, Edinburgh

A contract for Edinburgh City Council to blast clean and repaint 966 metres of parapet railings, remove graffiti from and apply an anti-graffiti coating to 2201 sq metres of underpass walls and soffits. The site is a section of the busy A-71 Calder Road in Sighthill Edinburgh.

The parapet railings run alongside the road. Work on these sections is restricted to between peak hours effectively 9.45am and 3.45pm. In order to minimize the dust hazard to drivers we had planned to do a full wet blast using the Quill Falcon Quikblast system.

Ice Pellets

Work started in December 2007 under adverse weather conditions, cold and wet. One morning we recorded -9 degrees Celsius. The blast pot was delivering abrasive and ice pellets instead of water!

Blast Cleaning

We had constructed a blast containment structure from scaffold tube mounted on wheels which we could roll along over the railings and remove when the traffic management had to come off the road. The cold and wet weather increased the flash rusting so much that we reverted to traditional dry blasting using medium copper slag. Using our 3 bag pot from Airblast Ltd of Peterborough powered by a 550cfm compressor supplied by Speedy Hire in Glasgow, fitted with an air cooler, considerably increased our rate of production.

Priming

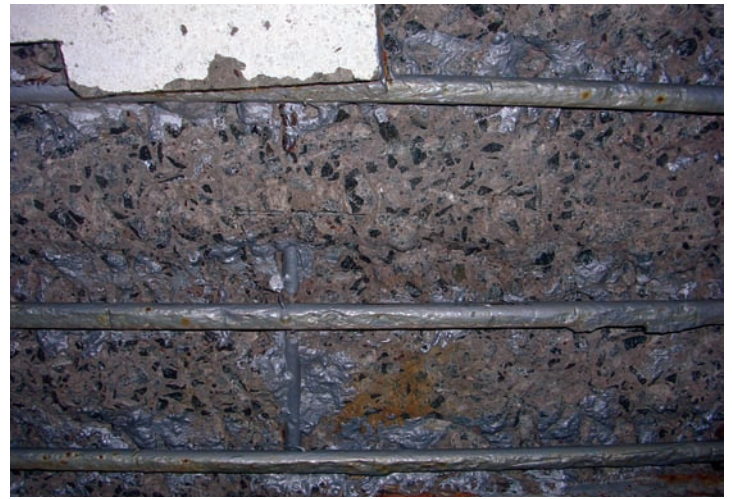
We were then able to apply the HA115 aluminium epoxy primer immediately following the blast cleaning, on the days when it was not raining or misty. On the sections adjacent to the roadside the surface was then subject to contamination from waterborne debris thrown up by the traffic. These sections then received a second coat of primer after rubbing down and cleaning off. Although this took extra time and materials it did help us to achieve the required film thickness!



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Concrete Repairs

We carried out concrete repairs particularly around rusting rebar which was blast cleaned, primed and repaired using Weber HB40 epoxy repair mortar. One of the underpasses presented us with a badly deteriorated substrate. The walls had previously been coated with a textured material which had de-laminated from the original smooth concrete finish. We removed all the material which could be removed manually. Using Weber Keycoat and Fairing coat we repaired the surfaces and then skimmed the entire surface with Weber Fairing Coat ready to receive the anti-graffiti paint system.



Containment and Dust Control

Michael Williams Engineering Ltd of Cambridge designed and built for us a custom dust extraction unit. This extracts all dust, debris and abrasive material from the blast area. The spent material and debris can then be bagged or skipped for removal off site and disposal. In order to reduce costs and environmental damage about 25% of the abrasive material is sieved and re-used.



Painting

We applied one and in some areas, two coats of Amercoat 4376 aluminium epoxy primer as HA115 followed by two coats of Amercoat 4377 two pack epoxy as undercoat and finally two coats of Amercoat 450E in white. The second coat of finish was necessary to achieve the required dry film thickness of 300 microns and adequate opacity with the white paint over the grey undercoat.



Paint Inspection and Testing

This was carried out by Inspecc Ltd of Fife. The test results showed that our thorough blast cleaning and brush application of all coats of paint consistently achieved or exceeded the required film thickness over the entire 966 metres of parapets painted.

Final word from the Client

Alex Leishman, Structures clerk of works, Edinburgh City Council said "Rhino performed well although plagued by poor weather conditions, to provide an excellent standard of workmanship which is acceptable to The City of Edinburgh Council..."



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D- Rings London

Transport for London had a problem with severe corrosion on steel D-rings (the islands on roads supporting illuminated beacons) The coatings on these have to withstand a very harsh environment, water, road salt and grit. Corrosion works up from the lower edge approx 50mm below the asphalt surface.

Power wire brushing was completely ineffective. We brought in our Quill Falcon Quick Blast kit. Powering this with a three tool compressor and using fine copper slag we were able to blast clean some 50 D rings in a reasonably short time. We were hampered by poor weather, traffic management restrictions and short days.

After blast cleaning the whole area was pressure cleaned and all abrasive and debris collected and bagged for safe disposal. The steel ring was then dried using a propane torch. A power wire brush was then used to remove the flash rusting prior to applying Amercoat 4376 (HA115)

Finally we applied Leighs Paints Roadline M6 coating system in white. Swarco Megalux reflective beads are applied to this methacrylate coating whilst curing to produce a highly reflective surface.

Transport for London engineers were extremely pleased with the work and the results:



"OUR SUB-CONTRACTOR, RHINOCEROS, PERFORMED VERY WELL ON THIS JOB. THE THOROUGH PREPARATION AND ATTENTION TO DETAIL IMPRESSED THE CLIENT WHO WALKED PAST THE WORKS EVERY DAY. THE COMPLETED WORKS HAVE IMPROVED THE VISUAL ASPECT OF THIS AREA AND IMPROVED ROAD SAFETY. THE CLIENT HAS SAID THAT THEY WILL EXTEND THIS WORK TO ALL ROADS ON THEIR NETWORK. A GOOD RESULT WHICH WILL BENEFIT THE PUBLIC AND ROAD USERS IN LONDON."

**PHIL SKEGG
RINGWAY JACOBS
HWMC FOR TRANSPORT FOR LONDON.**

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