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UBC Building Roof Vent Repair

An Eco-friendly Rust Solution Enables University to Meet ESG Objectives

Client Profile

UBC Facilities Group is responsible for facilities and utilities on the UBC Vancouver campus. The Group's seven departments manage the planning, development, operations and maintenance of areas like buildings, public spaces, landscaping, power, water, and heating on the Vancouver campus. Wrapped in 800 hectares of dense forest known as Pacific Spirit Regional Park, UBC's campus contains more than 838,000 square metres of academic building space, and another 760,000 square metres of ancillary space such as student housing and athletic facilities.

Challenge

UBC Building Operations needed to come up with a cost efficient solution to repair 12 highly corroded vents on the roof of the Geography Building, which was located at 1984 West Mall, Vancouver, BC. This building was constructed in 1924 as a semi-permanent building to house the faculty, but it remains in operation to this day. Safety of the workers and paint crews were of high importance as anti-corrosion solutions deployed in the past required rigorous safety protocols due to toxins from the chemical surface preparation and noxious paint fumes.
In addition, previous attempts to address the rust with conventional anti-corrosion paint resulted in the need for frequent re-application.

Solution

There were two options considered:
The first option was to use the conventional anti-corrosion paints used in the past, knowing their downsides:

- Requires significant surface preparation to remove rust from the surface,
- Solution involves the release of off-gases, causing serious toxicity issues to the environment and affecting human and animal health [1]

The second option was to apply the NanoTech rust converter directly on the existing rust to stop the corrosion and protect the rusted surfaces from future corrosion. The Nanotech process only took 1 day due to the minimal surface preparation requirements and environmental protocols.

[1] Abo El-Enin SA, Amin A. Review of corrosion inhibitors for industrial applications. International Journal of Engineering Research and Reviews. 2015;3:127-145

Benefit & Results

Protecting workers from the hazards of toxic fumes released from paints, and surface preparation methods, such as abrasive blasting,is top of mind for all organizations when performing building maintenance. NanoTech's water-based rust converter provided a non-toxic, durable and long lasting option for UBC's Roof Vent project. Key benefits include:

No dangerous surface preparation processes required prior to application (no sandblasting, no acid washing)

Strong adherence between the rust converter and metal surface providing a long-lasting solution

Water-based product has no gases, bad odours or toxic fumes

No specialized equipment required for applying product

Achieve environmental objectives – water-based formula that's good for people & the environment

Saves time and money due to fast and easy application

> *I enjoyed this product because it was very easy to use and I felt more at ease using it knowing that it's non-toxic, and it smelled pretty good. It was also quite interesting to see the instant reaction that would take place and the little time it took for it to dry. Lastly, I was very satisfied with its quality considering how strongly the rust converter stuck to the surface of the vents.*

- Painter on site for UBC maintenance project

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About NanoTech Innovation

NanoTech Innovation is a material science company which develops technologies for industries operating in challenging corrosive environments. Rigorous testing and customer case studies are proving significant cost savings and industry advantages. NanoTech's rust primer is a brush on/spray-on primer, which is applied to dry or slightly wet surfaces as a liquid and dries quickly into a stable, long lasting coating. The NanoTech rust converter can be used on any rusted metal surfaces such as vents or roofs.

For more information please contact
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