



Certified Coating Specialists Inc.

Professionalism in painting, safety, environmental stewardship – realizable value

Waste Water Treatment Plants (WWTP) A Genuine Challenge to Protect

It is said by industrial coaters globally, that they see more coating failures in WWTP then just about anywhere else. The primary cause of these failures is first the severity of the environment, secondly placed at the feet of the specifier and thirdly on contractors that do not fully understand the challenges they are faced with.

SPECIFYING INDUSTRIAL COATINGS FOR SEVERE CORROSION ENVIRONMENT SERVICE

The majority of specifiers rely primarily on standards as provided by AWWA and the opinions of coating sales representatives. The salesperson's responsibility is to promote the correct coating system as recommended by their technical department; however the mission is to get the sale. Most suppliers do not consider when the system will be deployed, how adamantly the contractor will be held to the systems deployment specifications, what the experience and qualifications of the supplier are, what equipment the contractor has, what impact time of year (weather) will have on the cost of work. While both the specifier and the supplier are putting together a proper specification it will be based on optimum conditions which will usually be seriously strained by unforeseen events. Events that will cost someone, usually the owner, far more than anticipated.



Banff, AB. Fermenter: Coated Launder



Banff, AB.

CERTIFIED COATING SPECIALISTS INC– CERTIFIED, EXPERIENCED, PROPERLY EQUIPPED, PROFESSIONAL

At **CCS** we are SSPC QP1: Certified for the Coating of Complex Structures, as well as certified in the application of Plural Component, 100% Solid Urethanes. **CCS** has trained and certified personnel in all areas of coating system implementation and experience in WWTP coating application requirements. NACE certified inspectors on staff.

When **CCS** is selected as your coating contractor we strive to make everyone aware of the pitfalls before they occur, not after. **CCS's** mission is to **exceed customer expectations**. It's important to us to help the entire team as much as we can to get through the job with the least amount of stress. Proper specifying, effective quality control oversight, contractors committed to excellence, will all come together to provide the corrosion inhibition desired by the owner.

WHEEL ABRADING – WHY IT DOESN'T WORK FOR SEVERE ENVIROMENTS

One of the primary causes of coating failures in WWTP is the allowance of wheel abrading as an acceptable form of surface profiling for thick film coatings. Wheel abrading on structural steel components generally provides a profile depth of 1 mil and a low grade holding coat. A profile is supposed to be approximately 1/3 of the depth of the prime coat being applied and when an organic epoxy or mastic is required 1 mil is generally insufficient. Most WWTP steel specifications require coating thicknesses on steel to be 8+ mils. Finally, wheel abrading is done with steel shot which peens the substrate, not angularly cuts into it. All coating specifications require angular profiling for effective anchoring. Practically every steel fabricator asks for or just goes ahead and uses wheel abrading because it is less expensive than proper profiling which is believed a necessity to win the tender. These facts together have led to many coating failures especially in severe service environments like WWTP.



Vernon, BC. CCS Site Set Up.



Vernon, BC. Digester Insulated Tarping Due to December Execution.

EFFECTIVE CONCRETE COATING

The effectiveness of a concrete pour is based on a strong and adhered to, quality control plan that the general contractor and the owner support and enforce.

Some of the key issues are:

- New concrete cannot be coated until it is cured and dry; old concrete until it is dry. Not ensuring that moisture content is below 5% almost always leads to failure.
- Concrete needs to be effectively grit blasted to ensure adequate profile over the entire substrate.
- Excessive bug holes must be filled. The general must ensure that new concrete is effectively vibrated to eliminate bug holes, but whether new or old concrete, all bug holes must be filled with a 100% solid filling agent so not to delay contract further by having to wait for moisture evaporation of a water based filler.
- When applying 100% solid coatings it must be done in multiple thin coats with at least one coat being back rolled.
- It is CCS's opinion that a professional inspector should be on site and monitoring the entire process from start to finish.



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