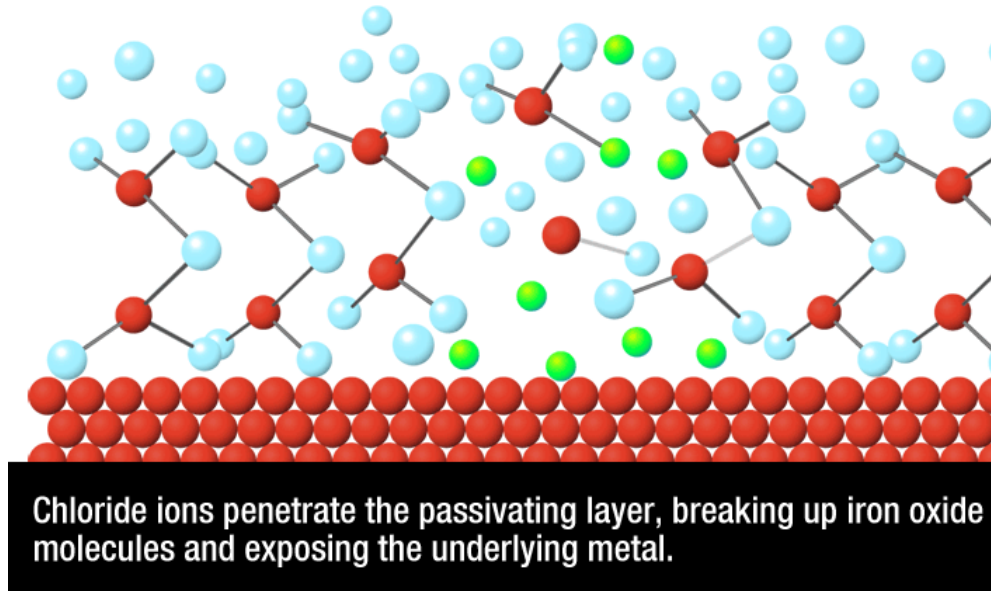
The background of the lower half of the image is a close-up photograph of a heavily corroded metal surface. The metal is pitted, cracked, and discolored, showing various shades of brown, orange, and blue. The texture is rough and uneven, highlighting the damage caused by corrosion.

*“Conventional surface preparation systems set up mechanisms for coating failure because they fail to account for & address the **roots of corrosion.**”*

Decontamination Is Key to Prevention

Microcontaminants are difficult to identify outside of the lab, thus remain in sufficient quantities to create a ‘ticking time bomb’ that disbands coatings, reducing coating life by 30-75 percent unless thoroughly eradicated. Extreme-clean hygiene results are increasingly important as the aggregate contaminant* load on steel surfaces multiplies exponentially with every generation of recycled steel. Even coatings claiming to be “surface-tolerant” cannot overcome chloride or sulfate corrosion cells embedded in steel.

** Typically, iron sulfide & ionically bonded iron salt*

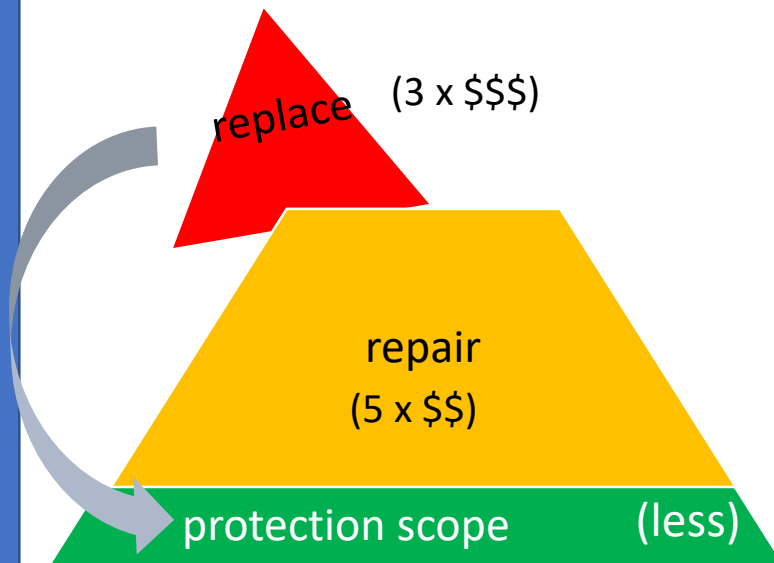


Decontamination disrupts and removes strongly bonded microcontaminants and salts embedded in blasted surfaces, eliminating risk of underfilm disbondment and blisters that allow water or water vapor to permeate to the substrate and initiate under film corrosion reactions.

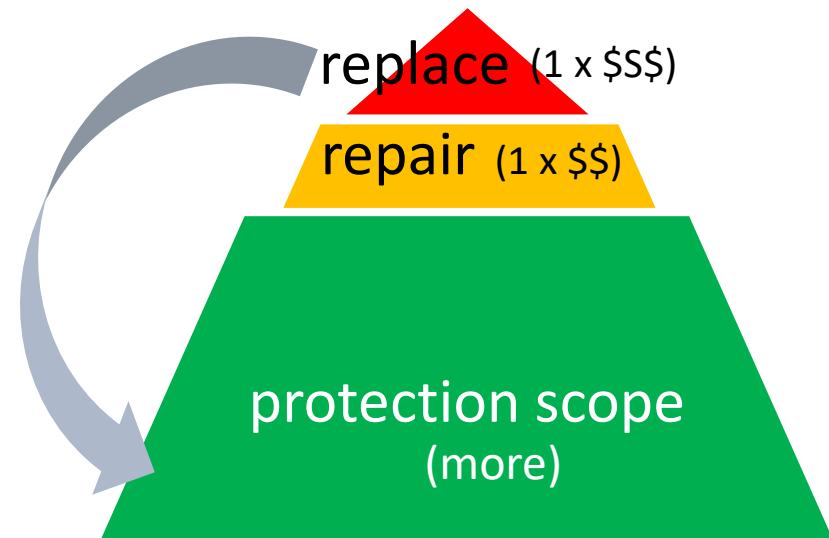
Corrosion control begins from Day 1:

1. Achieving good bonding/adhesion in practical situations requires consideration of situational variations (meteorological, geographical, seasonal, etc.) that confound attempts perfect or near-perfect surface preparation.
2. Protective coatings do not properly bond/adhere to contaminated surfaces. Surface contamination and site circumstances directly correlate to corrosion-vulnerabilities inherent in adhesion failures.
3. Corrosion vulnerabilities can be eliminated by preparing metal surfaces to provide an optimally receptive surface prior to protective coating.

Component incidents & costs over service life of a facility or major industrial asset

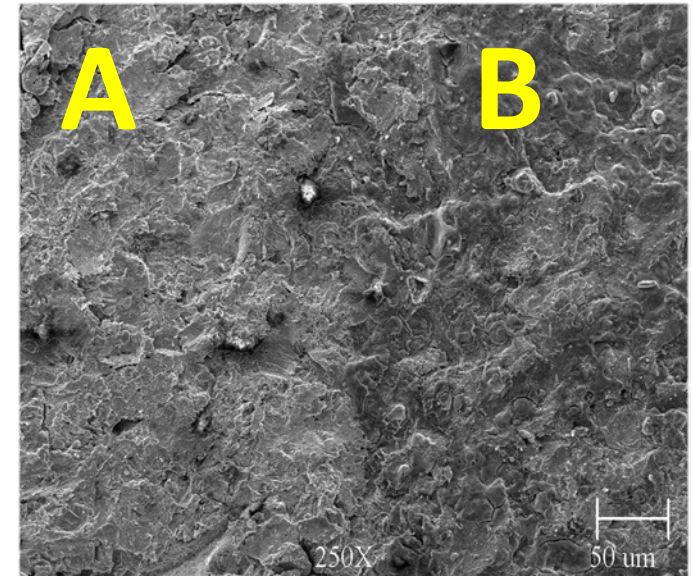
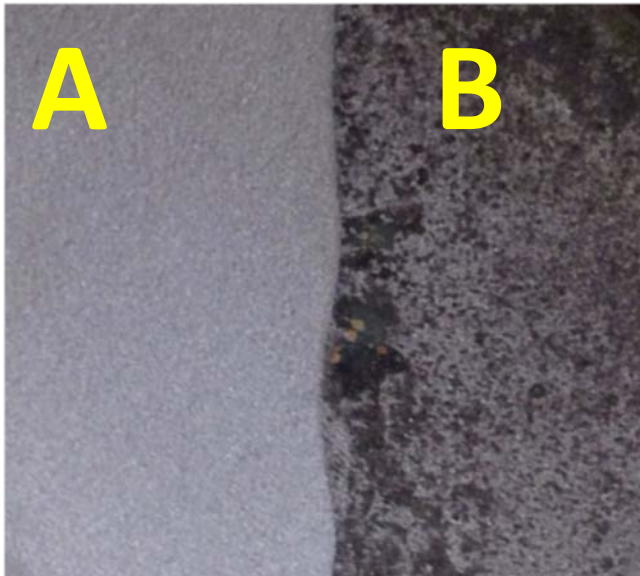


maintenance-focused
corrosion control



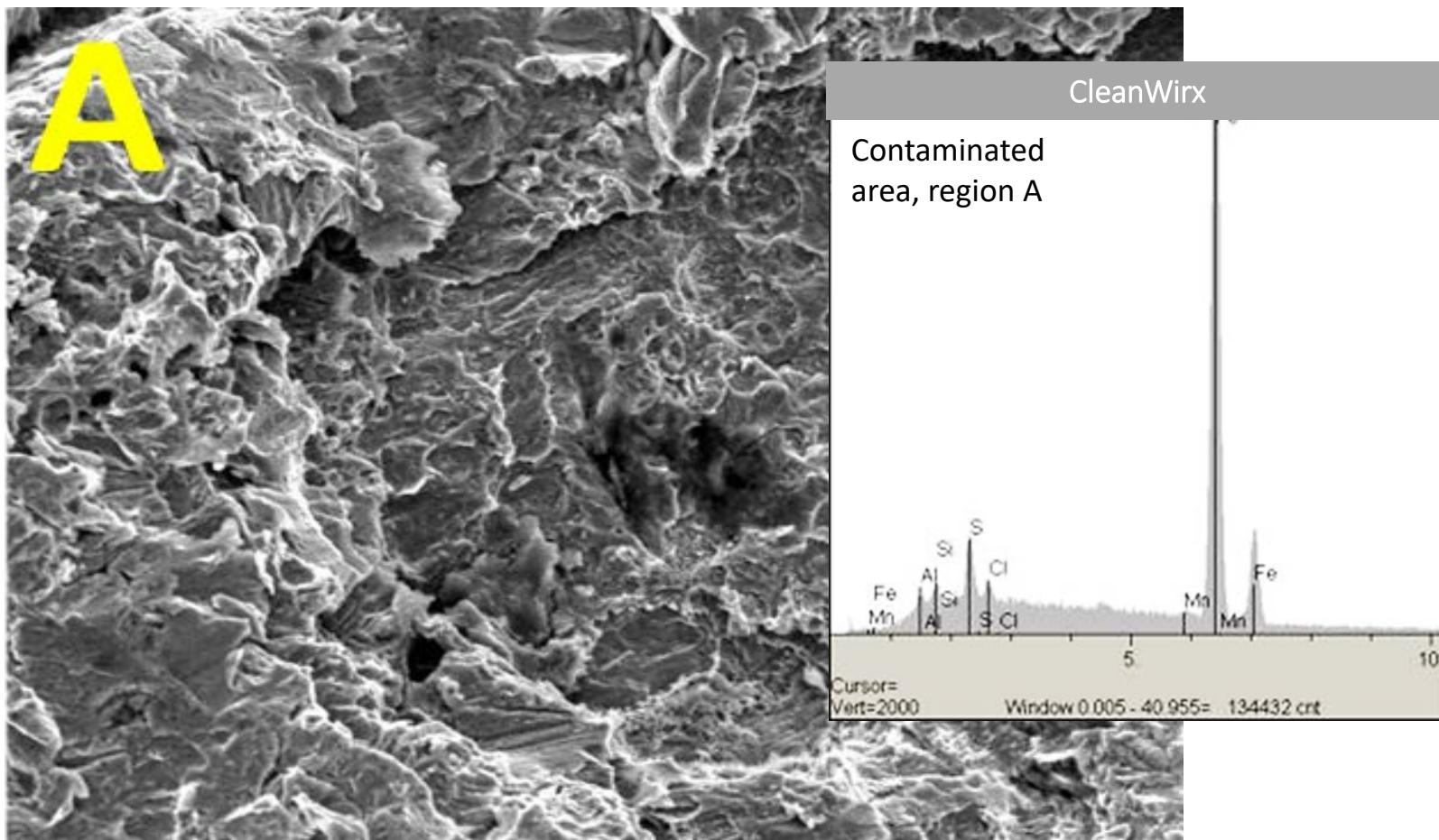
prevention-focused
corrosion control

Steel Plate Blasted to NACE #1 / SSPC-SP 5 Standard, then exposed to ambient conditions for 5 hours.



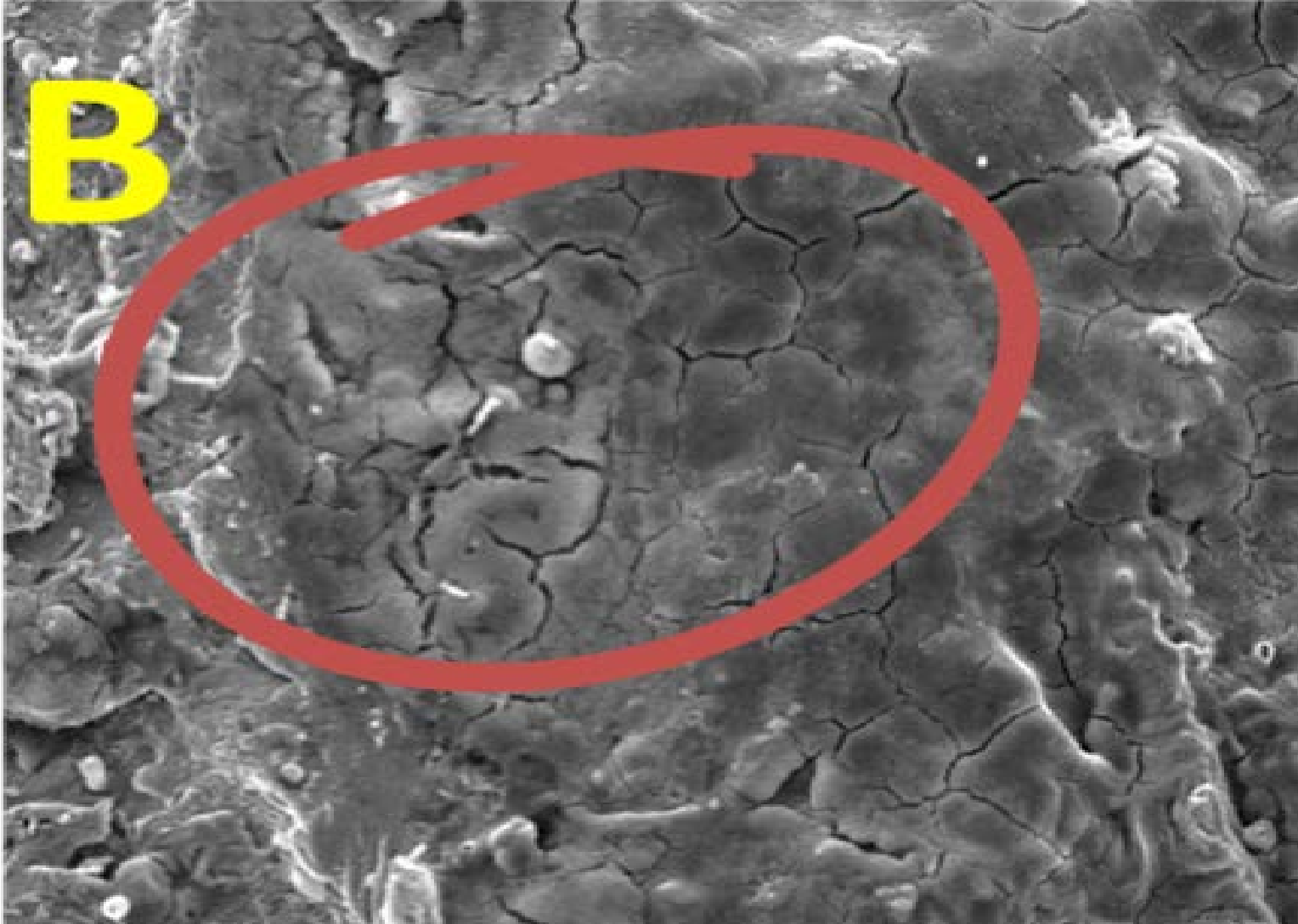
A: CleanWirx Surfactant Decontamination
B: Control (blast only)

ZERO Detectable Visible & Non-Visible Soluble Salts



What Conventional Methods Leave Behind:

Detectable Soluble Salts & Microcontaminants



Criteria for Soluble Salts (Cl-)

Salt



Pressure psi



(bar)

Sodium Chloride

Up to 2,200

(15)

Ferrous Chloride

Up to 3,700

(25)

Zinc Chloride

Up to 22,900

(160)

Calcium Chloride

Up to 3,900

(27)

Prevention

vs.

Reaction



Decontamination:

Low sensitivity to humidity

Reliable; passes inspection first time.

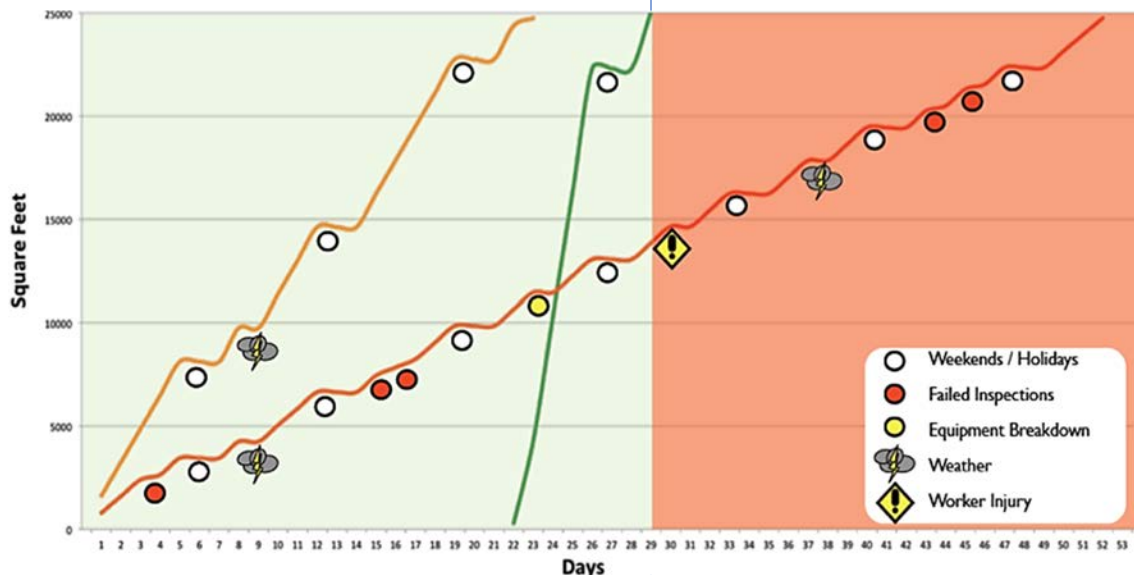
Do not need to coat same-day.

No dehumidification needed.

Removes visible & non-visible contaminants

Conventional methods:

- ❌ Require favorable conditions
- ❌ Are plagued by failed inspections
- ❌ Require same-day, immediate coating
- ❌ Require dehumidification during blasting
- ❌ Do not remove non-visible contaminants

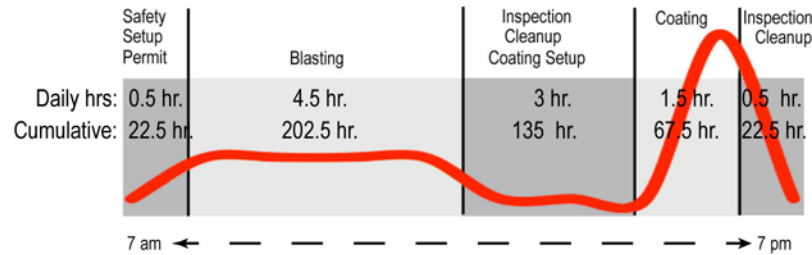


RAW DEAL

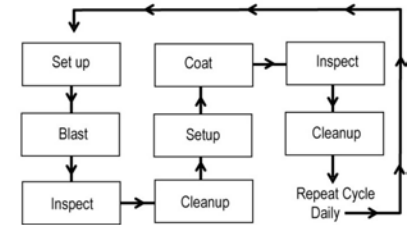
36,000 sq. ft. @800 sq. ft./day blasted and coated = 45 days to complete project

Traditional Method

Daily Blast & Coat Productivity Curve



45 Days



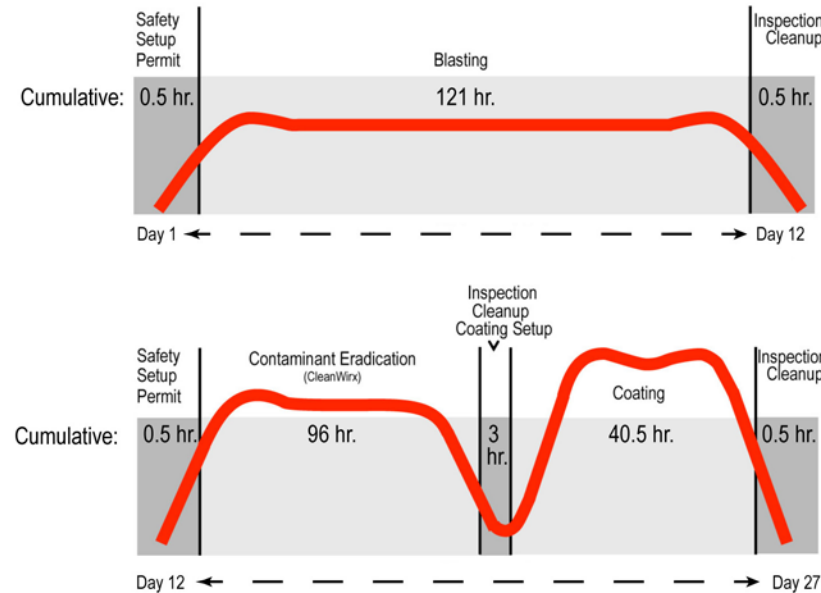
Start/Stop Process
Cycles Interrupted
and Repeated DAILY
Until Completion. 45x



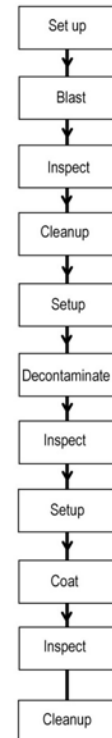
36,000 sq. ft. @1,350 sq. ft./day blasted and coated = 27 days to complete project

Decontamination Method

Daily Blast & Coat Productivity Curve



27 Days



Single
Continuous
Uninterrupted
Process
(Start to
Finish. No
Repetition.)
1x



Industrial Safety Handrail (42"x72"x1.675" Diameter)

Steel/Alloy

Stainless Steel 316

Avg. Cost 8' Handrail	\$100.00	\$600.00
Expected Service Life (without recoating)	<3 years	<10 years
Recoating Maintenance Events (Conventional Methods)	10	3
Cost of Maintenance per Event (Conventional Methods)	\$3.91 to \$12.01/sq. ft., depending on coatings	
Cost + Maintenance Events 30-years (Conventional Methods)	Avg. \$8060.00	Avg. \$2,988.00
Cost of Replacement Only 30-years (No Maintenance)	\$1,000.00	\$1,800.00
Cost of Handrail + CleanWirx + 1 Maintenance Event / 30-years	\$471.00	\$971.00
SAVINGS CLEANWIRX OVER CONVENTIONAL METHODS	\$7,589.00	\$2,017
SAVINGS CLEANWIRX OVER REPLACEMENT	\$529.00	\$829.00

Little assets = save more than 50% over replacement; save exponentially over conventional methods
Big assets = Even Greater Cost of Ownership Savings

135-Foot Oil Storage Tank*	Conventional Process	CleanWirx Decontamination
Expected Future Maintenance Events	5	1
Typical Service Cost (per ft ²)	\$10.00	\$15.00
Total Future Costs (2% inflation)	\$1,019,000	\$303,000
Present Value Cost (7% discount)	\$344,000	\$96,000
Added Cost (per ft ²)	NA	\$5.00
Net Benefit (PV)	NA	\$16.50
Net Benefit vs. Cost (ROI)	NA	230%

**15,000 sq. ft. interior lining, 30-yr expected service life*

HIGHER VALUE



Measurement	Conventional Methods/Processes	CleanWirx Decontamination	Incremental Benefit
Maintenance Cycle	5-8 years	15-18+ years	10+ Years
Maintenance Events (over a 30-year life)	4-6 events	1-2 events	2-5 Fewer
Economical			Up to 40% Less
Longer Asset Life	30 Years	10-15 years longer	30%-50%
Liability and Health / Safety Risks			Greatly Reduced

(Markham, Texas)



Piping to brine pit with 300,000 ppm salt concentration treated with CleanWirx, then coated with standard Ameron coating. Piping remained in environment for 11 years with NO additional coating or maintenance.

Identical “control” piping was prepared using Conventional methods, then coated with identical standard Ameron coating. “Control” piping required four separate coating/corrosion maintenance projects during the same 11-year time period.

(Markham, Texas)



1. Outer flange treated with Cleanwirx.
2. Inner flange was treated using Conventional methods & products.
3. Seam between the flanges was "taped and waxed."
4. Entire component was identically coated.

Aggressive corrosion worked its way up from beneath coating to demonstrate clearly and visibly the limitations of conventional methods and products.

Less Costly Blast Processes

- ✓ Less Intensive Visual Standard Achieves Beyond Standard Results
- ✓ Use Inspection Blast as Final Blast
- ✓ Low sensitivity to humidity; drastically reduces weather delays.
- ✓ NEVER re-blast due to precipitation.
- ✓ Promotes tight, reliable scheduling; greater productivity
- ✓ Up to 50% less total surface prep project time

Better Results

- ✓ Hygiene levels go beyond SSPC/NACE industry standards.
- ✓ Surfaces reflect permanent, extremely high levels of metal hygiene (zero ionic contaminants).
- ✓ No dehumidification, acid wash, Inhibitors needed.
- ✓ Leaves surface ready to coat with no film or residue.
- ✓ Creates optimally receptive surface for maximum coating adhesion & performance.

Operational Impact

- ✓ Less Demand on Other Equipment; Greater Equipment Availability
- ✓ Greater Productivity; Fewer Demurrage Charges
- ✓ Biodegradable, <1% VOC; safer for workers & environment.
- ✓ Increases efficiency: surface prep **streamlined** to single, continuous process.

Questions?



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