Cathedral Stone Products, Inc.

GUIDELINE FOR WRITING SPECIFICATIONS WHEN USING
CSP Rust Remover
SECTION 04 03 001 – RUST REMOVAL

SPECIFIER NOTES: Section can combine testing and sampling, assembly dismantling, repair, replacement, stain removal and cleaning both historic and period construction. Specified Rust Removal materials and methods can safely remove rust stains from a variety of contemporary and period material substrates, including Division 03 - period concrete pavers and castings; Division 04 - fired clay bricks, cut/polished and rough granite, limestone, brownstone, terracotta, cast concrete masonry; Division 05 - ornamental metals; and Division 06 - wood.

**** Division 05 – Metals require caution and generally must be protected from contact with these Rust Remover materials. Particularly aggressive reactions occur when they come in contact with copper or brass, which should be avoided.*

*Product can be used to remove both rust and efflorescence (salt) deposits from the noted substrates. *** Diagnosis of white stains and/or deposits that appear on the surface of concrete and masonry assemblies must conclusively determine whether oxidation or efflorescence is at work, because removal of these two similarly appearing conditions requires distinctly different treatment approaches.*

1. PART 1 – GENERAL

1.1. EXISTING CONDITIONS

1.1.1. Rust stains deface the period building façade and are scheduled for removal using cleaning materials and methods specified in this Section.

1.1.2. Work of this section has the potential to produce adverse effects on the period building that was placed in service at a time when archaic materials and other technologies were commonly incorporated in building construction, to the degree that they may behave differently from successor materials reformulated over time.

*** Period Properties are generally fifty years old or older, but are not presently listed on the National Register of Historic Places; but the decision has been made not to foreclose the possibility of future listing; hence the elevated level of caution in executing the Work.

*** Properties that have been listed, or are determined eligible for listing on the National Register of Historic Places should be specified with reference to special considerations defined by the National Historic Preservation Act and its implementing regulations, affording protection to historic properties under federal law, and in some instances, state law and/or local ordinances. Material producer can offer specific guidance in regard to that scenario. ***

1.1.2.1. Care shall be exercised during the performance of this Work to avoid collateral damages to the building and surrounding area, including other improved properties; avoiding any act that would damage their appearance or physical integrity.

1.2. WORK OF THIS SECTION

1.2.1. Provide qualified supervision with relevant experience needed to manage delivery of projects governed by codes and treatment standards for work affecting the integrity of period properties, including provision of skilled labor force in sufficient number who are trained and certified in the proper use of specified materials, methods, tools, and equipment.

1.2.2. Drawings and Schedules *** (Sheet and Identifier) *** locate and depict the extent of the work of this section.

1.2.3. Contractor shall provide effective and thorough capture of rinse water and other effluent materials, confine it in temporary containment pools, providing storage until stored fluids can be transferred to transportable containers and discharged without unacceptable consequences at permitted off-site disposal facility.

1.2.4. Protect building features not scheduled for treatment in this Work.

1.2.4.1. Secure draped material with edges sealed as needed to protect building features located near or adjacent to the work but not identified for treatment; including primary building features, landscape and planted areas adjacent to work.

1.2.4.2. Prevent unintended exposure to treatment materials reaching other buildings, cars, finishes, and improvements not scheduled for treatment under this section.

1.2.4.3. Draping material shall be clean 6-mil minimum thickness polyethylene sheet; or better; minimizing joints.

1.2.5. Produce Test Panels: apply cleaning material to small out of the way areas of building to determine optimal cleaning material application thickness and optimal dwell time before rinsing; to ensure best cleaning results for each substrate type.

1.2.5.1. Material producer will observe testing and advise regarding results and adjustments.

1.2.5.2. Confirm suitability of selected cleaning treatment for intended work objectives on substrate types presented at this building.

1.2.5.3. Note any instances where application fails to remove deposits, which may have been misidentified.

1.2.5.4. Prepare a written Statement, submitted to the Architect for approval; detailing how and where the treatment protocol was adjusted to produce the best results for each substrate type.

1.2.6. Organize work as series of discrete treatment areas, sized to permit easy completion of treatment operations from start to finish in a single workday.

1.2.7. Employing the optimal treatment protocol, treat oxidation deposits on substrates.

1.2.8. After application of treatment material, leave undisturbed until expiration of defined Dwell Time and then remove treatment materials.

1.2.9. Remove cleaning materials and other residue by washing with copious amounts of fresh rinse water applied by hose or pressure washer at low pressure.

1.2.10. Re-apply cleaning material where offensive deposits remain after initial cleaning; repeat dwell and rinse protocol.

1.2.11. Intercept and safely redirect contaminated rinse water and chemical residue before it can reach surfaces not scheduled for treatment.

1.2.11.1. Collect rinse water and chemical residue before it can run uncontrolled onto adjacent building site;

1.2.11.1.A. Transfer from holding areas into transportable containers; for legal disposal off-site.

1.2.12. Do not substitute specified materials or methods without written authorization by the Architect.

1.3. RELATED WORK

1.3.1. Delivery and acceptance of the Work of this Section is governed by provisions in other documents comprising integral parts of this Agreement, including the Construction Agreement, General and Special Conditions, General Requirements, Drawings, Specifications, and cited Standards fully incorporated into the Agreement by reference; and defining the Project as a whole.

1.3.2. Coordinate the delivery of the complementary Work specified under other Sections.

*** (Related Sections noted here as complementary can be incorporated into a single section 02 03 00 Conservation Treatment for Existing Period Conditions or specified individually.) ***

1.3.2.1.	Section 00 43 25	Substitution Request Form (During Procurement
1.3.2.2.	Section 00 63 25	Substitution Request Form (During Construction)
1.3.2.3.	Section 01 00 00	Contractor Quality Control
1.3.2.4.	Section 01 56 39	Temporary Protection of Site and Plantings
1.3.2.5.	Section 01 35 91	Rehabilitation Treatment Procedures
1.3.2.6.	Section 01 54 23	Hoists and Scaffolding
1.3.2.7.	Section 01 74 19	Construction Debris Management and Disposal
1.3.2.8.	Section 02 42 96	Removal and Dismantling (Selective Demolition)
1.3.2.9.	Section 04 03 10	Masonry Cleaning (Soiling, Biological, Paint Removal)
1.3.2.10.	Section 04 03 22	Brick Unit Repair (Repair, Patch, Replace)
1.3.2.11.	Section 04 03 23	Masonry Repointing

1.4. REFERENCE STANDARDS

1.4.1. Material manufacturer’s written specifications and instructions.

1.4.2. National Park Service Advisory Publication - Guidelines for the Treatment of Historic Properties, offers preservation strategies and technical advice for adoption in planning and executing work on historic properties where no federal (or applicable state) stakeholder interests will be granted in the form of permits, funding, or other federal assistance. Where no government authority has jurisdiction over this work, adoption of and compliance with these standards shall be incorporated by reference and enforced as stated requirements of this Construction Agreement.

1.5. QUALITY MANAGEMENT

1.5.1. Quality Assurance

1.5.1.1. Contractor management assumes full responsibility to formulate and implement Quality Assurance practices that focus on ensuring quality requirements can be met before the Work is performed.

1.5.1.2. Demonstrate relevant experience, including minimum of five years' documented history of successfully managing comparable period masonry projects before the Contractor will be deemed eligible to Bid and then Work on the project.

1.5.1.3. Employ adequate numbers of skilled workmen trained and certified to install and work with the specified materials.

1.5.1.3.A. Successful completion of masonry repair material producer's Certification Workshop will be required by all supervisors and tradesmen scheduled to work on this project; offered through the treatment materials manufacturer.

1.5.1.3.B. Training shall include acceptable methods for preparation of substrate, handling, application and finishing of specified treatment materials.

1.5.1.3.C. Each worker completing this course will be provided with a personal photo identification badge evidencing successful completion of the training course and shall wear it at all times when working on this site.

1.5.1.4. Adding workers to the workforce prior to certification shall be prohibited.

1.5.2. Quality Control

1.5.2.1. Contractor management shall form and implement proactive Quality Control practices that focus on ensuring quality requirements are met during performance of the Work.

1.5.2.1.A. Implementation of Quality Controls shall conform with other project management objectives: deliver Work in accordance with the Contract Documents, applicable codes, regulations, and governing authorities.

1.5.2.2. Conform to applicable provisions of Section 01 40 00 – Contractor Quality Control; supplemented by the following minimum requirements.

1.5.2.2.A. Take appropriate precautions to avoid harm to building occupants, pedestrians and nearby property.

1.5.2.2.A.i. Temporarily cordon off active work areas to prevent public entry.

1.5.2.2.A.ii. Employ warning signage.

1.5.2.2.A.iii. Train workers to politely but firmly warn others away from work area.

1.5.2.2.A.iv. Terminate work at times when wind drift may expose passersby to risk, or cause damage to vehicles and adjacent property.

1.5.2.2.B. Protect adjacent site and building areas, surfaces, materials, and assemblies not scheduled for treatment under this section, avoiding chemical, mechanical impact, and other damage resulting from delivery of this work.

1.5.2.2.C. Protect trees, plants, foliage, storm sewers, and surrounding surfaces from chemical removers, neutralizers, residue, and rinse waters.

1.5.2.2.D. Provide protective barriers capable of resisting effects from specific chemical compounds applied in the work.

1.5.2.2.E. Cover air intakes, air conditioning vents and similar openings that may come in contact with the chemical cleaners, residues, and their fumes.

1.5.2.2.F. Leave covers in place throughout the cleaning process.

1.6. SUBMITTALS

1.6.1. Related Section 01 33 00 – Submittal Procedures shall govern work of this section.

1.6.1.1. Submittal Procedures obligate Contractor to submit certifications, shop drawings, product data, material samples, and mockups to the design team for review and approval, to verify that the contractor's understanding and planned execution of the design complies with due regard for specified materials, methods, and the Designer’s intentions; for approval by Architect.

1.6.2. Submittals

1.6.2.1. Contractor’s (written and illustrated) Work Plan shall include intended sub-division of work into manageable sections identifying estimated dates of delivery, estimated schedule of accumulating payment values, and other administrative items.

1.6.2.2. Copies of Qualification Certificates evidencing each field supervisor and worker has successfully completed relevant training programs, evidencing demonstrated ability to properly install the specified materials.

1.6.2.3. Contractor’s Request for Payment shall be accompanied by copies of related purchase orders, shipping tickets, receipts, materials tracking cards, etc. as evidence that the specified materials for the work of this section were ordered, received, and stored at the job site, annotated with date related items were incorporated into the work.

1.6.2.3.A. Falsified certification will be interpreted as fraud and will be prosecuted accordingly.

1.6.2.4. Permit accepting offsite legal disposal of waste rinse water and other construction debris.

1.6.2.5. Product Data: Manufacturer's specifications and information about materials, products, and systems.

1.6.2.6. Samples: Physical examples of materials, finishes, or colors submitted for Owner approval before installation.

1.6.2.7. Material Safety Data Sheets (MSDS) Material manufacturer's written instructions confirming that the Contractor has received instructions for the proper handling of the specified materials.

1.6.2.8. Shop Drawings: Detailed drawings showing how specific project elements will be fabricated and installed, when noted as a project requirement; for Architect approval.

1.6.2.8.A. Scaffolding

1.6.2.8.B. Safety plan including barrier placement for mobile hoist operations.

1.6.2.8.C. Rinse Water Effluent Containment System

1.7. DELIVERY, STORAGE, HANDLING

1.7.1. Deliver the product in original factory packaging with product listing label and manufacturing label.

1.7.1.1. Comply with the Manufacturer's written specifications and recommendations.

1.7.1.2. Handle and store all products with appropriate precautions as outlined in the Manufacturer's product literature and Material Safety Data Sheets (MSDS).

1.7.1.3. Organize material inventory storage to clearly distinguish between different material formulations and any differences with respect to areas of intended application; organized to prevent damage and deterioration.

2. PART 2 – PRODUCTS

2.1. ACCEPTABLE MATERIALS

2.1.1. Material Design Standard: biodegradable water-based gel cleaners intended for the removal of rust stains and efflorescence (salt) deposits on concrete, brick and stone masonry, wood, and metals.

2.1.1.1. CSP Light Duty Rust Remover

2.1.1.2. CSP Heavy Duty Rust Remover

2.1.2. Critical Material Characteristics

2.1.2.1. Biodegradable

2.1.2.2. Site preparation is limited to blending with paddle-mixer.

2.1.2.3. No measuring or adding chemistry.

2.1.2.4. Apply with brush, roller, or airless spray.

2.1.2.5. Gel clings to vertical and overhead surfaces

2.1.2.6. Short dwell time

2.1.2.7. User friendly and Worker-safe.

2.1.2.8. Water based formulation is easily cleaned up.

2.1.2.9. Contains no flammable fumes or caustic solvents. Contains no N Methyl Pyrrolidone (NMP)Acceptable treatment materials meeting

2.1.3. Acceptable treatment materials meeting Design Standard are available through:

Cathedral Stone Products, Inc.

7266 Park Circle Drive
Hanover, MD 21076
Telephone (410) 782-9150
Fax: (410) 782-9155
Email info@cathedralstone.com
Order online: cathedralstone.com

2.2. ACCESSORIES

2.2.1. Other Materials

2.2.1.1. Clean potable water.
2.2.1.2. Masking tapes, 2-inch wide, blue color
2.2.1.3. Heavy duty packaging tape, clear
2.2.1.4. Painter's canvas, drop cloth
2.2.1.5. Polyethylene sheeting, 6-mil thickness, heavy duty, clear or black.

2.2.2. Tools Never Use Wire Brush on Masonry

2.2.2.1. Surface Temperature Gauge
2.2.2.2. Application Brushes and Rollers (3/4" nap)
2.2.2.3. Soft, clean, absorbent rags.
2.2.2.4. Stiff natural-bristle brushes.
2.2.2.5. Stainless steel and plastic putty knives, paint scrapers.
2.2.2.6. Wire brush for removing rust bloom from metal substrates ONLY.

2.2.3. Personnel Protection

2.2.3.1. Eye and skin protection
2.2.3.2. Rubber gloves
2.2.3.3. Long chemical apron.

2.2.4. Equipment

2.2.4.1. Airless Spray

2.2.4.1.A. Titan 640i or larger equal pump.
2.2.4.1.B. Adjustable pressure control (100 to 600 psi)
2.2.4.1.C. Fan Tip size 0.19-inch diameter or larger, with chemical resistant packings.

2.2.4.2. Standard Pressure Washers (Removal)

2.2.4.2.A. Controllable pressure, 600 psi minimum to no greater than 1200 psi at tip.
2.2.4.2.B. Fan Tip size 0.19-inch diameter or larger, with chemical resistant packings.

2.2.5. Provide other equipment and materials not specifically described but required for a complete and proper installation as selected by the Contractor, subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. WORK

3.1.1. Remove rust stains from period building exterior finish surfaces comprised of *** Specifier Selection *** fired clay bricks, brownstone, cast concrete, and mortar comprised of sand and lime. ***

3.2. OBSERVERS

3.2.1. Architect will periodically observe progress of the work and issue timely supplemental instructions, answers to questions, and approvals as needed; facilitating the orderly and efficient delivery of the work by the Contractor.

3.2.1.1. Contractor shall allow qualified observers access to and assisted use of lift devices and scaffolding, as needed, to monitor progress and review completed work.

3.3. SITE ACCEPTANCE

3.3.1. Examine the areas and conditions under which work of this Section will be performed to establish extent of work, adequacy of access, and extent to which protection will be needed by adjacent improvements.

3.3.2. Inspect existing conditions considering the work and confirm that conditions in the field conform to information provided in these Contract Documents.

3.3.2.1. If conditions are not as expected, notify the Architect immediately seeking supplemental instructions.

3.3.2.2. Do not proceed with work until unsatisfactory conditions are corrected or acceptable supplemental instructions are issued by Architect.

3.4. SAFETY

3.4.1. Contractor shall provide for the safety of his workers and for the public at all times.

3.4.2. Protect public and private property, including motor vehicles, adjacent surfaces of building, mechanical equipment, building site, plants, and other properties from harm resulting from Work.

3.4.3. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of work.

3.4.4. Specified materials are not intended for internal consumption.

3.4.4.1. Keep out of reach of children and animals.

3.5. TEST PANELS

3.5.1. Give seven (7) days' advance written notice to Owner, Architect and Material Producer's Representative with date, time, and location test panel work will commence.

3.5.2. Test panels shall be produced by the Contractor for each substrate type:

3.5.2.1. Each Test Panel shall measure 12” x 12” minimum, bounded on four sides by 2-inch-wide blue mastic tape, typical.

3.5.2.2. Results of work may vary due to sun orientation, temperature, substrate type, and remover composition; requiring adjustments in dwell time and application.

3.5.2.3. Cooperate with material producer’s representative in selecting the type and degree of variations selected when producing the test panels.

3.5.2.4. Determine the relative effectiveness of specified stain removal materials and methods on this period assembly where variations in the material application thickness and dwell time produces a range of results.

3.5.2.5. Identify the optimum approach that will be used in executing the remaining work.

3.5.2.6. Calculate jobsite treatment material consumption rates after test panels have been completed.

3.5.2.7. Allowance for re-testing when results are inconclusive or unsatisfactory.

3.5.2.7.A. Produce up to three (3) additional test panels in new locations for each substrate type; as directed by the material producer’s representative.

3.5.2.7.B. Satisfactory test panels may be incorporated into the finished work.

3.5.2.8. Each test panel shall be carefully labeled to identify time, temperature, relative humidity, substrate type, location, material/method variations depicted; presented in chart form; photographed for inclusion and reference in test report.

3.5.2.9. Test Report - Contractor shall prepare a written illustrated report detailing test observations associated with each variation, including description of method employed, material, concentration of chemicals, dwell time, and other elements and variable test conditions

3.5.2.10. Where coatings other than stains are present, such as paint, other remover types may be required to completely expose the original substrate.

3.5.2.11. Halt cleaning operations that result in any permanent damage to surfaces.

3.5.2.11.A. Notify Architect in writing providing photographs of damage and observations leading to this conclusion.

3.6. MOCKUP

3.6.1. Each tradesman scheduled to provide this work shall produce samples of his workmanship illustrating acceptable removal of stains on each substrate type, performed using verified Test Panel Protocols, applying specified materials on each substrate type.

3.6.1.1. Provide sample areas of sufficient size and number to illustrate a reasonable range of results to be expected of each tradesman.

3.6.1.2. Provide sample work identified as having been performed by each tradesman assigned to that task illustrating each individual’s ability to produce acceptable Work.

3.6.1.3. Place masking tape around accepted mockup and label to identify as an accepted Standard for that tradesman.

3.6.1.4. Maintain mockup until final close-out of this work.

3.6.1.5. Photograph each Mockup and submit electronic copy to the Architect for his records and approval.

3.6.2. Mockup will serve multiple purposes.

3.6.2.1. Mockup work will serve as reference standard for evaluation and acceptance of work by certified tradesmen.

3.6.2.2. Mockup work will serve as reference standards for evaluation and acceptance of the Contractor's Request for Payment.

3.6.2.3. Approval of mockups and sample work does not constitute approval of deviations from the Contract Documents that may be contained in mockups.

3.7. PROTECTION OF PROPERTY

3.7.1. Cover or otherwise protect areas not scheduled for treatment under this Section, including adjacent and adjoining surfaces where over-spray or runoff may occur.

3.7.1.1. Cost of repair and restoration of adjacent surfaces, materials, and assemblies damaged by the Work of this section shall be borne by the Contractor with no added cost to the Owner.

3.7.1.1.A. Repairs shall be performed by qualified tradesmen skilled in the type of repair required, to the satisfaction of the Owner's representative.

3.7.1.2. Heavy duty plastic (polyethylene) sheets provide adequate protection for most substrates.

3.7.1.3. Airless Spray under still conditions requires plastic sheet protection for the area extending approximately three (3) feet away from actual sprayer operation.

3.7.1.4. Special care shall be paid to placement and sealing protective sheeting applied to windows and glass, concrete mosaic tile ornamentation, and historic materials not scheduled for work under this section.

3.7.1.4.A. Glass can be etched by these materials, and it must be protected from unintended damage due to the performance of this work.

3.7.1.4.A.i. Glass sensitivity to treatment materials varies according to source of manufacture, age and other factors.

3.7.1.4.A.ii. If needed, select an obscure location and conduct small test applying treatment gel to glass as means to gauge sensitivity of period glass and adequacy of protection.

3.8. RINSE WATER CONTAINMENT

3.8.1. Collect contaminated rinse water and chemical effluent and contain it for off-site legal disposal.

3.8.1.1. Submit shop drawings depicting the Contractor's proposed design for required rinse water effluent containment system.

3.8.1.2. Drawings shall include dimensions, plan identifying membrane placement and extent, including placement of anchors and joints.

3.8.1.3. Drawings shall include placement of dams, both to retain fluids at the perimeter and interior subdivisions; with details of configuration, seals, and anchors.

3.8.1.4. Provide calculated storage volumes with acceptable freeboard for each subdivided pool.

3.8.1.5. Provide details responding to site slopes and other special conditions.

3.8.1.6. Provide written description of strategy, including pumps, hoses, and fittings needed to transfer pool contents to temporary storage containers proposed for transport to disposal facility, designating planned disposal frequency, distance to disposal facility, and related details needed to assess the adequacy of these provisions; for approval by Architect.

3.8.1.7. Submit copy of waste rinse water disposal permit, for Architect approval.

3.9. MATERIAL HANDLING

3.9.1. Safety

3.9.1.1. Before use, refer to the Safety Data Sheet for important health/safety information.

3.9.1.2. Industry practices prudently suggest that safety goggles, gloves, and a dust mask should be worn for protection when handling these products.

3.9.1.3. Only use these materials for approved applications.

3.10. Mixing

3.10.1. Mix product until material becomes uniform color and texture using high speed drill fitted with paint mixing paddle.

3.10.2. Do not dilute treatment material.

3.10.3. Do not substitute, supplement, adulterate, or otherwise alter factory produced treatment materials specified for this work.

3.10.3.1. Do not add water, acids, bases, caustics, solvents, or other agents or additives.

3.11. Substrate Surface Temperature

3.11.1. Never allow these materials to freeze.

3.11.2. Test surface temperatures before applying cleaning materials; confirming substrate surface temperature between 40° F and 95° F (5° C to 32° C).

3.11.2.1. Product performs effectively at lower end of this temperature range but requires longer dwell time, determined by test panel as needed in the field.

3.12. APPLICATION

3.12.1. Select one or more manageable surface work areas where the day's work can be started and completed in one working shift; and where moisture in substrates can be applied; and corrected, if needed; and once cleaning material has been applied, moisture in gel treatment material can be monitored and corrected as needed, for full extent of dwell period.

3.12.2. Before commencing stain removal treatment, confirm that rinse water containment provisions are in place and have not been disturbed in a way that will compromise its ability to contain all of the effluent fluids and hold it until removed for disposal off-site.

3.12.3. Provide sufficient manpower to perform the various stages of the Work and monitor its progress, record and confirm that appropriate treatment protocol will be used.

3.12.4. Substrate repairs performed under other sections shall be fully cured prior to commencing these operations.

3.12.5. Protect adjacent material when applicable with tape, drop cloths, paper, plastic or other means.

3.12.6. Confirm and record acceptable substrate surface temperature.

3.12.7. Wetting Substrates

3.12.7.1. Remove any loose particulates.

3.12.7.2. Wet the substrate using clean water; sprayed by hose or low-pressure tank.

3.12.7.2.A. Wet vertical and overhead substrate with sufficient water to retain dampness once liquid runoff has occurred;

3.12.7.2.B. Wet horizontal surfaces with sufficient water to dampen the substrate without significant ponding, which shall be blown or brushed away before applying gel treatment materials.

3.12.7.2.C. If the moistened surface dries at any location before installing treatment materials, repeatedly wet as needed before proceeding with application.

3.12.8. Applying Treatment Materials

3.12.8.1. Record time of application and dwell time required at each location, reflecting the applicable treatment protocol defined through testing.

3.12.8.2. Minimum wet film applications should equal or exceed 5 mils.

3.12.8.3. Typical coverage rates produce 80 to 120 sf per gallon on rough, porous substrates

3.12.8.4. With airless sprayer, natural bristle brush, or roller (where surface is smooth), apply layer of gel treatment material, establishing an even-thickness on substrate; applying with airless sprayer; bristle brush; or where surfaces are smooth, using ¾" nap roller.

3.12.8.5. Apply materials and scrub areas exhibiting thick rust or dirty conditions; using natural bristle brush.

3.12.8.5.A. After scrubbing to remove heavy deposits, reapply even thickness of gel to substrate.

3.12.8.6. Hang polyethylene plastic sheet cover loosely over face of gel treatment application when it is subject to direct sunlight, high wind, high heat (over 85 F); or if heavy rain is expected; to prevent wash-off or premature uncontrollable drying.

3.12.8.6.A. Otherwise leave work uncovered.

3.12.9. Monitoring and Moistening Gel Treatments

3.12.9.1. Treatment materials shall be initially applied to water-dampened substrates.

3.12.9.2. Gel treatment materials shall remain on substrate surface for site specific time periods determined through testing.

3.12.9.2.A. Monitor gel material application and, if drying excessively, remoisten by applying overcoat of additional gel, repeating as needed to maintain required moist condition until the end of the dwell period.

3.12.9.3. Never allow gel treatment materials to completely dry on substrate surface.

3.13. DWELL TIME

3.13.1. Employ stopwatch or similar timer device to monitor and signal beginning and end of the dwell time.

3.13.2. Leave cleaner on substrate only as long as determined acceptable on the test panels.

3.13.3. The time typically required for treatment materials under normal conditions to adequately clean various substrates ranges from five (5) to thirty (30) minutes.

3.13.4. Property specific dwell times must be determined in the field by observing results obtained as known variables are manipulated on actual target period substrates.

3.13.5. Extremely thick rust deposits may require longer dwell times with treatment materials remaining on the substrate for four (4) to six (6) hours.

3.13.5.1. Repeated overcoating with fresh gel to maintain moist conditions may be needed to prevent excessive drying.

3.14. REMOVAL AND CLEANUP

3.14.1. Leave cleaner on substrate only as long as determined acceptable on the test panels.

3.14.2. Remove treatment materials from substrate at end of dwell period, before it can dry further, applying copious amounts of clean, potable water, taking care not to allow uncontrolled runoff of contaminated water onto site.

3.14.2.1. Rinse surface with surfactant cleaner and pressure washer or hose, working from the bottom up.

3.14.2.1.A. Intercept rinse water runoff and direct it into containment area, where it shall be stored until extracted into containers for transport to off-site permitted disposal site.

3.14.2.1.B. Location where pressure washing is not feasible, remove cleaner from all surfaces with clean rags saturated in denatured alcohol, cycling rags often, to remove any residue.

3.14.2.1.C. Dispose of rags in accordance with Federal, State and Local regulations.

3.14.3. Remove treatment materials from substrate panels in same sequence as applied.

3.14.4. Do not allow contaminated water to run off onto other surfaces and dry.

3.14.5. Do not allow cleaning materials to dry on the building or to remain longer than their dwell time.

3.14.6. Clean substrate, removing treatment material and other residue by rinsing surface with copious amounts of water, ideally dispensed from a power washer.

3.14.6.1. Confirm by testing before widespread use that the power washer will not cut or damage the substrate surface; reducing its output pressure as needed beforehand to safeguard the substrate.

3.14.7. Additional applications may be applied if necessary.

3.15. CORRECT UNACCEPTABLE WORK

3.15.1. Remediate unacceptable repairs when Architect determines that the quality of the finished work has been degraded by inappropriate installation or cleaning techniques.

3.15.1.1. Submit written remediation plan detailing methods and materials to be employed when addressing unacceptable work; for Architect's review and approval.

3.16. JOB SITE CLEANING

3.16.1. As the work progresses, remove construction debris and discarded packaging, rubbish, cans, sponges, and rags at the end of each workday.

3.16.2. Periodically remove containers of contaminated water produced by this work and dispose of off-site legally.

3.16.3. Upon completion of work, remove all construction debris, including scaffolding, containment construction, material overage, containers and product packaging, and selectively demolished building materials; be disposed of legally off-site and at Contractor's expense.

END OF SECTION 05/20/2025

Cathedral Stone Products
Technical Support
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