



# D/2 Biological Solution

**Division 04900-Masonry Restoration and Cleaning**

## **Part 1 – GENERAL**

### **1.1 RELATED DOCUMENTS**

- A. The Contract Documents shall govern work of this section. Provide materials, labor, equipment, and services necessary to furnish, deliver, and install all work of this section as shown on the drawings, as specified herein, and/or as required by job conditions.

### **1.2 SUMMARY OF WORK**

- A. This section includes, but is not limited to, the following:
  - a. Removal of stains from biological growth by chemicals from all architectural surfaces including, but not limited to: masonry, concrete, cast stone, limestone, marble, granite, brownstone, travertine, wood and canvas. Mock- ups will determine the best appropriate method.
- B. Visual Requirements:
  - a. Maintain aesthetic or historic qualities of Project by protecting work designated to remain.

### **1.3 REFERENCES**

- A. Manufacturer's specifications and instructions.

### **1.4 SUBMITTAL**

- A. Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: Submit manufacturer's specifications and installation instructions for products used including finishing materials and methods.
- C. Submit manufacturer's technical data sheet for product indicated including recommendations for their application and use.
- D. Submit a work plan describing capture, storage, and disposal as required and/or governed by any and all local, state, and/or federal laws, codes, and regulations.

- E. Samples: Provide sample installation of product. Locations per the owner or owner's representative's directions.

### **1.5 QUALITY ASSURANCE**

- A. Mock-ups: Prepare sample of D/2 Biological Solution on the appropriate substrate indicated. See 1.6 Test Panels.
- B. Provide at least one person who shall be present at all times during the execution of the work of this section, who shall be thoroughly familiar with the specified requirements, and the materials and methods needed for their execution, and who shall direct all work performed under this section.
- C. Provide adequate numbers of workers skilled in the necessary crafts and properly informed of the specialized methods and materials to be used in this work.

### **1.6 TEST PANELS**

- A. The Contractor shall arrange for providing test panels. Minimum size of test panels shall be a 5 ft. by 5 ft. area. Manufacturer's application instructions shall be followed. Allow a minimum of 7 days drying time before inspection or longer if possible. Some forms of biological staining will continue to diminish for as long as three to four weeks or longer. Test panel shall serve as the performance standard and remain available for comparison during the cleaning process.
- B. Contractor shall prepare a written report detailing results of testing including description of methods employed, materials, concentration of cleaner, dwell times and other elements of test procedures as defined above.
- C. Each test panel must be carefully labeled, charted, and photographed. Approved test panels will become a part of the Work, and serve as the quality standard for similar type work on this project.
- D. Notify the owner's representative seven (7) days in advance of the dates and time when the test panels will be installed.

### **1.7 PROJECT/SITE CONDITIONS**

- A. Contractor shall be responsible for protecting all existing adjacent materials such as doors, windows, flashings, roofing, and other existing materials that are not intended to be treated in order to prevent product from entering building.
- B. Contractor shall be responsible for the repair of all damaged adjacent materials due to the execution of the work at no additional expense to the owner. Repairs shall be made by qualified mechanics skilled in the type of repairs required, to the satisfaction of the owner's representative.

- C. Protect adjacent areas and surfaces not being treated with barriers suitable for the product being used. Appropriate care should be taken at air intakes, air conditioning vents and similar openings that may come in contact with the product.
- D. Contractor to wash down all adjacent materials not being treated with D/2 using potable water, after each specific area has been cleaned. If using pressure washer, do not exceed 600 psi.
- D. Take appropriate precautions to avoid harm to building occupants, pedestrians and nearby property.
- E. Safety: For any number of reasons it is essential to maintain a high degree of worker and occupant safety while working with biological solution.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

- A. D/2 Biological Solution
  - a. D/2 Biological Solution shall be used. D/2 is biodegradable, pH neutral, and contains no chlorine or acids. Products containing chlorine or acids shall not be used. D/2 Biological Solution is available nationwide; for a distributor in your region see the D/2 website [www.d2bio.com](http://www.d2bio.com) or call (917) 693-7441.
- B. Miscellaneous Equipment
  - a. Natural bristle brushes
  - b. Soft clean rags
  - c. Clean, potable water
  - d. Rubber gloves
  - e. Eye and skin protection
  - f. Low-pressure applicator, such as pump sprayer or electric/battery powered sprayer.
  - g. Pressure washers using 600 psi or less.

## **PART 3 – EXECUTION**

### **3.1 GENERAL APPLICATION OF INITIAL CHEMICAL TREATMENT**

D/2 is most effective when surface and air temperature is 45°F or above.

- A. Follow manufacturer's instructions (see Data Sheet) and as follows:
  - a. Apply undiluted D/2 Biological Solution with a brush, roller, hand pump sprayer (garden style pump sprayer) or low pressure power sprayer.
  - b. Allow undiluted D/2 to remain on the substrate for a minimum of 10-15 minutes and a maximum of 24 hours depending on site conditions.
  - c. Reapplication of D/2 is required if more than 24 hours has elapsed since initial application.
  - d. Apply additional D/2 as necessary to maintain a wet surface.
  - e. Scrub with soft nylon or natural bristle brush and potable water. **DO NOT USE METAL BRUSH.**
  - f. Lightly mist with water and continue scrubbing.
  - fg Rinse thoroughly with clean, potable water.
- B. Work sections that can easily be applied in one shift.
- C. Clearly mark or identify time of application and dwell time.
- D. Wash down in the same sequence of sections in which product was applied.
- E. Thoroughly rinse application areas and surrounding adjacent surfaces.

### **3.2 CLEAN UP**

- A. Thoroughly rinse application areas and surrounding adjacent surfaces.

## **PART 4 – CONTRACTOR QUALITY CONTROL**

### **4.1 QUALITY CONTROL**

- A. The implementation of a Contractor Quality Control Program does not relieve the Contractor from the responsibility to provide work in accordance with the Contract Documents, applicable codes, regulations, and governing authorities. The Contractor Quality Control Program shall include, but not be limited to, the elements herein. These elements are provided only as a minimum starting point for the Contractor to use to generate the complete Contractor's Quality Control Program.

END OF SECTION  
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