

## **SECTION 04901 - CLAY MASONRY RESTORATION AND CLEANING**

### **PART 1 GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. This Section includes restoration and cleaning of brick as follows:
  - 1. Repairing clay masonry, including replacing damaged units.
  - 2. Reanchoring veneers.
  - 3. Repointing mortar joints.
  - 4. Removing plant growth.
  - 5. Cleaning exposed clay masonry surfaces.
- B. Related Sections include the following:
  - 1. Division 7 Section "Sheet Metal Flashing and Trim" for metal flashing installed in or on restored clay masonry.
  - 2. Division 7 Section "Joint Sealants" for sealing joints in restored clay masonry.
- C. Unit Prices: Unit prices for clay masonry restoration and cleaning are specified in Division 1 Section "Unit Prices."
  - 1. Unit prices apply to authorized work covered by quantity allowances.
  - 2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.

#### **1.03 DEFINITIONS**

- A. Low-Pressure Spray: 100 to 400 psi; 4 to 6 gpm .
- B. Medium-Pressure Spray: 400 to 800 psi; 4 to 6 gpm.
- C. High-Pressure Spray: 800 to 1200 psi; 4 to 6 gpm.

#### **1.04 SUBMITTALS**

- A. Product Data: For each product indicated. Include recommendations for application and use. Include test reports and certifications substantiating that products comply with requirements.
- B. Restoration Program: For each phase of the restoration process, provide detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.
- C. Cleaning Program: Describe cleaning process in detail, including materials, methods, and equipment to be used and protection of surrounding materials on building and Project site, and control of runoff during operations.

#### **1.05 QUALITY ASSURANCE**

- A. Chemical Manufacturer Qualifications: A company regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project site inspection and assistance at no additional cost.

- B. Source Limitations: Obtain materials for masonry restoration from a single source for each type of material required (face brick, cement, sand, etc.) to ensure a match of quality, color, pattern, and texture.
- C. Mockups: Prepare mockups of restoration and cleaning as follows to demonstrate aesthetic effects and qualities of materials and execution. Prepare mockups on existing walls under same weather conditions to be expected during remainder of the Work.
  - 1. Locate mockups on the building where directed by Architect.
  - 2. Patch three small areas as directed for each type of masonry material indicated to be patched.
  - 3. Clean an area approximately 25-sq. ft. in area for each type of masonry and surface condition.
    - a. Test cleaners and methods on samples of adjacent materials for possible adverse reactions, unless cleaners and methods are known to have a deleterious effect.
    - b. Allow a waiting period of not less than 7 days after completion of sample cleaning to permit a study of sample panels for negative reactions.
  - 4. Rake out joints in two separate areas as directed for each type of repointing required and repoint one of the two areas.
  - 5. Notify Owner and Architect 7 days in advance of the dates and times when samples will be prepared.
  - 6. Obtain Architect's approval of mockups before starting the remainder of clay masonry restoration and cleaning.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons.
- B. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with type and name of products and manufacturers.
- C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened more than two days.
- E. Store sand where grading and other required characteristics can be maintained and contamination avoided.
- F. Comply with manufacturer's written instructions for minimum and maximum temperature requirements for storage.

#### **1.07 PROJECT CONDITIONS**

- A. Repoint mortar joints and repair masonry only when air temperature is between and 40 and 80 deg F (4 and 27 deg C) and is predicted to remain so for at least 7 days after completion of Work.
- B. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and patching materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above.

- C. Patch masonry only when air and surface temperatures are between 55 and 100 deg F and are predicted to remain above 55 deg F for at least 7 days after completion of work. On days when air temperature is predicted to go above 90 deg F, schedule patching work to coincide with time that surface being patched will be in shade or during cooler morning hours.
- D. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and predicted to remain so for at least 7 days after completion of cleaning.

## **1.08 SEQUENCING AND SCHEDULING**

- A. Order replacement materials at the earliest possible date, to avoid delaying completion of the Work.
- B. Perform masonry restoration work in the following sequence:
  - 1. Protect adjacent surfaces to remain.
  - 2. Remove plant growth.
  - 3. Repair existing masonry, including replacing existing masonry with new masonry materials.
  - 4. Rake out joints that are to be repointed.
  - 5. Point mortar joints.
  - 6. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
  - 7. Clean masonry surfaces. Remove paint before general cleaning.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to the products specified.
  - 2. Products: Subject to compliance with requirements, provide one of the products specified.
  - 3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.
  - 4. Manufacturers: Subject to compliance with requirements, provide products by manufacturers specified.

### **2.02 MASONRY MATERIALS**

- A. Face Brick and Accessories: Provide face brick and accessories, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
  - 1. Provide units with color, surface texture, size, and shape to match existing brickwork.
- B. Building Brick: Provide building brick complying with ASTM C 62, of same vertical dimension as face brick, for masonry work concealed from view.
  - 1. Grade SW where in contact with earth.
  - 2. Grade SW, MW, or NW for concealed backup.

### **2.03 MORTAR MATERIALS**

- A. Portland Cement: ASTM C 150, Type I or Type II.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Sand: ASTM C 144, unless otherwise indicated.

1. Match size, texture, and gradation of existing mortar as closely as possible.

D. Water: Potable.

#### **2.04 PAINT REMOVERS**

- A. Low-Odor, Solvent-Type Paint Remover: Manufacturer's standard low-order, water-rinsable solvent-type gel formulation, containing no methanol or methylene chloride, for removing paint coatings from masonry.
  1. Available Products:
    - a. ProSoCo; Safety Peel #3

#### **2.05 CLEANING MATERIALS**

- A. Water for Cleaning: Potable.
- B. Hot water: Heat water to a temperature of 140 to 160 deg F.
- C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate (TSPP), 1/2 cup of laundry detergent, and 20 quarts of hot water for each 5 gal. Of solution required.
- D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of tetrasodium polyphosphate (TSPP), 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for each 5 gal. of solution required.
- E. Non acidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents and chelating agents and is specifically formulated for cleaning masonry surfaces.
  1. Available Products:
    - a. ProSoCo: Sure Klean 600 Masonry Cleaner.
- F. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.
  1. Available Products:
    - a. ProSoCo: Enviro Klean EK Restoration Cleaner.
- G. Mild Acidic Cleaner: Manufacturer's standard mildly acidic cleaner containing no hydrochloric, hydrofluoric, or sulfuric acid; chlorine bleaches; or caustic soda.
  1. Available Products:
    - a. ProSoCo: Sure Klean Light-Duty Restoration Cleaner.

#### **2.06 MISCELLANEOUS MATERIALS**

- A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry, is vapor- and water permeable, exhibits low shrinkage, and develops high bond strength to all types of masonry.
  1. Formulate patching compound used for patching brick in colors and textures to match brick being patched. Provide number of colors needed to enable matching each brick.
  2. Available Products:
    - a. Cathedral Stone Products, Inc. Jahn Restoration Mortar.
    - b. Edison Coatings, Inc. Custom Systems 45

- B. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.
  - 1. Available Products:
    - a. ProSoCo: Sure Klean Strippable Masking.
- C. Masonry Repair Anchors, Spiral Type: Type 304 stainless-steel spiral rods designed to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.
  - 1. Provide driven-in anchors to be installed in drilled holes and relying on screw effect rather than adhesive to secure them to backup and veneer.
  - 2. Available Products:
    - a. Helifix HRT60; Helifix Ltd.

## **2.07 MORTAR MIXES**

- A. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
  - 1. Mixing Pointing Mortar: Thoroughly mix cementitious and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Do not use admixtures of any kind in mortar, unless otherwise indicated.
- C. Mortar Proportions: Mix mortar materials in the following proportions:
  - 1. Pointing Mortar for Brick: 1 part portland cement, 6 parts lime, and 12 parts sand.

## **2.08 CHEMICAL CLEANING SOLUTIONS**

- A. Dilute chemical cleaners with water to produce solutions of concentration recommended by chemical cleaner manufacturer.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from injury resulting from masonry restoration work.
- B. Comply with chemical cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
  - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. So not apply liquid masking agents to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
  - 2. Keep wall wet below area being cleaned to prevent streaking from runoff.

3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
  4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
  5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- C. Prevent mortar from staining face of surrounding masonry and other surfaces.
1. Cover sills, ledges, and projections to protect from mortar droppings.
  2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
  3. Immediately remove mortar in contact with exposed masonry and other surfaces.
  4. Clean mortar splatters from scaffolding at end of each day.

### **3.02 BRICK REMOVAL AND REPLACEMENT**

- A. Carefully remove by hand, bricks that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry in a manner that permits replacement with full size units.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Owner and Architect/Engineer of unforeseen detrimental conditions including voids, cracks, bulges, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged conditions as many whole bricks as possible.
1. Remove mortar, loose particles, and soil from salvaged brick by cleaning with brushes and water.
  2. Store brick for reuse.
- E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- F. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
- G. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g per 30-sq. in. per min. (30 g per 194-sq. cm per min.). Use wetting methods that ensure units are nearly saturated but surface dry when laid. Maintain joint width for replacement units to match existing units.
1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.

### **3.03 REANCHORING VENEERS**

- A. Install masonry repair anchors in bricks from the building interior and according to manufacturer's written instructions. Install at not more than 16-inches (400 mm) o.c. vertically and 32-inches (800 mm) o.c. horizontally, unless otherwise indicated. Secure anchors to wood studs. Stagger vertical placement of anchors at adjacent studs. Install at locations to avoid penetrating flashing.

### **3.04 CLEANING MASONRY, GENERAL**

- A. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and

from one end of each elevation to the other. Work from bottom to top of the building for each scaffold drop.

- B. Use only those cleaning methods indicated for each masonry material and location.
  - 1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
  - 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
    - a. Equip units with pressure gages.
  - 3. For chemical cleaner spray application, use a low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with a cone-shaped spray tip.
  - 4. For water spray application, use a fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
  - 5. For heated water spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.
- C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
- D. Removing Plant Growth: Completely remove plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.
  - 1. Apply ammonium sulfamate or another acceptable root-killing material to plant roots according to manufacturer's written instructions. Do not apply materials to plants that are to remain.
- E. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
  - 1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
  - 2. Remove paint and calking with alkaline paint remover.
    - a. Comply with requirements for paint removal.
    - b. Repeat up to two times if needed.
  - 3. Remove asphalt and tar with solvent-type paint remover.
    - a. Apply only to asphalt and tar by brush without prewetting.
    - b. Allow paint remover to remain on surface for 10 to 30 minutes.
    - c. Rinse off with hot water using low-pressure spray.
    - d. Repeat application if needed.
- F. Water Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6-inches (150 mm) from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

- G. Chemical Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical cleaner manufacturer's written instructions; use brush or spray application methods, at Contractor's option. Do not spray apply chemical cleaners at pressures not exceeding 50 psi (345 kPa). Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.
- H. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
  - 1. Apply neutralizing agent and repeat rinse, if necessary, to produce tested pH of between 6.7 and 7.5.
- I. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

### **3.05 PAINT REMOVAL**

- A. Paint Removal with Solvent-Type Paint Remover:
  - 1. Apply thick coating of paint remover to painted masonry with natural-fiber cleaning brush, deep-nap roller, or large paintbrush.
  - 2. Allow paint remover to remain on surface for period recommended by manufacturer. Agitate periodically with a stiff-fiber brush.
  - 3. Rinse with cold water applied by low-pressure spray to remove chemicals and paint residue.

### **3.06 CLEANING BRICKWORK**

- A. Cold-Water Wash: Use cold water applied by low-pressure spray.
- B. Cold water Soak:
  - 1. Apply cold water by intermittent soaking.
  - 2. Use perforated hoses or other means that will apply a fine water mist to entire surface being cleaned.
  - 3. Apply water in cycles with at least 30 minutes between cycles.
  - 4. Continue water application until surface encrustation has softened sufficiently to permit its removal by water wash, as indicated by cleaning tests.
  - 5. Remove soil and softened surface encrustation from masonry with cold water applied by low-pressure spray.
- C. Hot-Water Wash: Use hot water applied by low-pressure spray.
- D. Steam Cleaning: Apply steam at pressures not exceeding 80 psi (550 kPa).
- E. Detergent Cleaning:
  - 1. Wet masonry with cold water applied by low-pressure spray.
  - 2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.
  - 3. Rinse with cold water applied by low-pressure spray to remove detergent solution and soil.
  - 4. Repeat cleaning procedure above where required to produce the cleaning effect established by mockup.
- F. Mold, Mildew, and Algae Removal:
  - 1. Wet masonry with cold water applied by low-pressure spray.

2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
  3. Scrub masonry with medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in mold, mildew and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
  4. Rinse with cold water applied by low-pressure spray to remove mold, mildew and algae remover and soil.
  5. Repeat cleaning procedure above where required to produce the cleaning effect established by mockup.
- G. Nonacidic Gel Chemical Cleaning:
1. Wet masonry with cold water applied by low-pressure spray.
  2. Apply nonacidic gel cleaner by brush in thickness recommended by manufacturer, working into joints and crevices. Apply quickly and do not brush out excessively so area will be uniformly covered with fresh cleaner and dwell time will be uniform throughout area being cleaned.
  3. Let cleaner remain on surface for period of time recommended by chemical cleaner manufacturer.
  4. Remove bulk of nonacidic gel cleaner by squeegeeing into container for disposal.
  5. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
  6. Repeat cleaning procedure above where required to produce the cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.
- H. Nonacidic Liquid Chemical Cleaning:
1. Wet masonry with cold water applied by low-pressure spray.
  2. Apply cleaner to masonry by brush or low-pressure spray.
  3. Let cleaner remain on surface for period of time recommended by chemical cleaner manufacturer.
  4. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
  5. Repeat cleaning procedure above where required to produce the cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.
- I. Mild Acidic Chemical Cleaning:
1. Wet masonry with cold water applied by low-pressure spray.
  2. Apply cleaner to masonry by brush or low-pressure spray.
  3. Let cleaner remain on surface for period of time recommended by chemical cleaner manufacturer.
  4. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
  5. Repeat cleaning procedure above where required to produce the cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.

### **3.07 REPOINTING MASONRY**

- A. Rake out and repoint mortar joints to the following extent:
1. All Joints indicated.
  2. Joints where mortar is missing or where they contain holes.
  3. Cracked joints where cracks can be penetrated at least ¼-inch by a knife blade 0.027-inch thick.
  4. Cracked joints where cracks are 1/8-inch or more in width and of any depth.
  5. Joints where they sound hollow when tapped by metal object.

6. Joints where they are worn back 1/4-inch or more from surface.
  7. Joints where they are deteriorated to point that mortar can be easily removed by hand.
  8. Joints, other than those indicated as sealant-filled joints, where they have been filled with substances other than mortar.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows:
1. Remove mortar from joints to depths equal to 2-1/2 times their widths, but not less than 1/2-inch (13-mm) or not less than that required to expose sound, unweathered mortar.
  2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
  3. Do not spall edges of masonry units or widen joints. Replace damaged masonry units as directed by Architect/Engineer.
    - a. Cut out mortar by hand with a chisel and mallet. Do not use power-operated grinders without Architect's/Engineer's written approval based on submission by Contractor of a satisfactory quality-control program and demonstrated ability of operators to use tools without damaging masonry. Quality-control program shall include provisions for supervising performance and preventing damage due to worker fatigue.
- D. Notify Architect/Engineer of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Point joints as follows:
1. Rinse masonry-joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at the time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen masonry-joint surfaces before pointing.
  2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8-inch (9 mm) until a uniform depth is formed. Compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.
  3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8-inch. Fully compact each layer and allow to become thumbprint hard before applying the next layer. Where existing bricks have rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar over edges onto exposed masonry surfaces or to feather edge mortar.
  4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
- F. Cure mortar by maintaining in thoroughly damp condition for at least 72 hours including weekends and holidays.
1. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

### **3.08 FINAL CLEANING**

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes and clean water, spray applied at a low pressure.
1. Do not use metal scrapers or brushes.
  2. Do not use acidic or alkaline cleaners.

- B. Wash adjacent woodwork and other nonmasonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean masonry debris from roof. Rinse off roof.
- D. Sweep and rake adjacent pavement and grounds to remove masonry debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt, and stains.

**END OF SECTION 04901**

2019