

## SECTION 08290 – WOOD DOOR REFINISHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Restoring wood door
  - 2. Cleaning door hardware.
- B. Related Sections include the following:
  - 1. Division 6 Sections

#### 1.3 DEFINITIONS

- A. Unit Prices: Door refinishing to be provided under unit prices are described in Division 1 Section "Unit Prices."

#### 1.4 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. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. If alternative materials and methods to those indicated are proposed for any phase of restoration work, provide a written description, including evidence of successful use on other comparable projects, and a testing program to demonstrate their effectiveness for this Project.
- D. Samples:
  - 1. Submit sample of wood stain and finish for approval of Architect.
  - 2. Prepare a sample refinishing area for review of color and finish.

#### 1.5 QUALITY ASSURANCE

- A. Restoration Specialist: Engage a firm with at least 5 years experience in hardware cleaning. The firm must submit Qualification Data that it has completed work similar in material, design, and extent to that indicated for this Project.
- B. Mock-Ups: Prior to beginning work, the Contractor shall prepare examples of each type of hardware to be cleaned for the Architect's approval.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original and unopened containers, labeled with type and name of products and manufacturers.
- B. Comply with manufacturer's written instructions for minimum and maximum temperature requirements for storage.

#### 1.7 PROJECT CONDITIONS

- A. Environmental Requirements: Dispose of all used solutions, finishing products, solvent residue and soiled rags in sealed noncombustible containers to prevent a fire hazard daily.

#### 1.8 SEQUENCING AND SCHEDULING

- A. Coordinating Work: Coordinate hardware cleaning so that it will not conflict with the work of other trades.

#### 1.9 QUALITY ASSURANCE

- A. The intent of refinishing is to restore the color, finish and overall surface uniformity of the historic doors, consistent with the original design intent. A like new appearance is neither expected nor desired.
- B. Splotches, streaks, runs or other inconsistencies caused by improper application of finishing products will not be accepted.
- C. Regulatory Requirements: Comply with municipal and Federal regulations governing the refinishing operations, chemical waste disposal and scaffolding.

#### 1.10 PROJECT/SITE CONDITIONS

- A. Existing Conditions: Determine that surfaces to which finishes are to be applied are even, smooth, sound, clean, dry and free from defects affecting proper application. Correct or report defective surfaces to Contracting Officer. Paragraph below is an example only. Revise and expand to suit Project.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. The Sherwin Williams Company 101 Prospect Ave. N.W. Cleveland, OH 44101  
216/566-2000
- B. 3M Company; P.O. Box 33053 St. Paul, MN 55133-3053 612/737-6501 or 800/364-  
3577
- C. Klean Strip, Inc., Division of W.M. Barr Inc.; P.O. Box 13146 Memphis, TN 38113  
901/775-0100
- D. Pyrock Chemical Co.; Long Island city, NY

## 2.2 MATERIALS

- A. Commercial Stripper such as "Kwick Superfast paint and Varnish Remover" (Klean Strip, Inc.), "Rock Miracle" (Pyrock Chemical Co.), or approved equal.
- B. Stain: Penetrating, permanent oil-based stain such as "Oil Stain" (Sherwin Williams), or approved equal, colored to match existing interior and exterior wood.
- C. Varnish: Linseed-tung-oil modified phenolic spar varnish such as "Rexpar" (Sherwin Williams), or approved equal.
- D. Solvent: Mineral spirits, turpentine or denatured alcohol.
  - 1. Mineral Spirits: A petroleum distillate that is used especially as a paint or varnish thinner.
    - a. Other chemical or common names include Benzine\* (not Benzene); Naphtha\*; Petroleum spirits\*; Solvent naphtha\*.
    - b. Potential Hazards: TOXIC AND FLAMMABLE.
    - c. Safety Precautions:
      - 1) AVOID REPEATED OR PROLONGED SKIN CONTACT.
      - 2) Always wear rubber gloves when handling mineral spirits.
      - 3) If any chemical is splashed onto the skin, wash immediately with soap and water.
  - 2. Turpentine: Typically used as a solvent and thinner.
    - a. Potential Hazards: TOXIC AND FLAMMABLE.
    - b. Safety Precautions:
      - 1) Work in a well ventilated area.
      - 2) Observe safety rules as turpentine is flammable, and the fumes can trip an ionization smoke detection system.
      - 3) Store soiled cloths in a metal safety container to guard against spontaneous combustion.
  - 3. Denatured Alcohol: Other chemical or common names include Methylated spirit.
    - a. Potential hazards: TOXIC AND FLAMMABLE.
    - b. Denatured alcohol should be a satisfactory substitute for ethyl alcohol for stain removing purposes.

- c. Alternative Solvent: A mixture of 75% toluene, 24% acetone and 1% butyl acetate.
4. Toluene (C<sub>7</sub>H<sub>8</sub>): A liquid, aromatic hydrocarbon that resembles benzene but is less volatile, flammable and toxic; Is produced commercially from light oils from coke-oven gas and coal tar and from petroleum, and is used as a solvent, in organic synthesis and an antiknock agent for gasoline. Other chemical or common names include Toluol.
  - a. Potential Hazards: TOXIC AND FLAMMABLE.
5. Acetone (C<sub>3</sub>H<sub>6</sub>O): A volatile fragrant flammable liquid ketone used chiefly as a solvent and in organic synthesis. Other chemical or common names include Dimethyl ketone; Propanone
  - a. Potential Hazards: VOLATILE AND FLAMMABLE SOLVENT
6. Detergent containing trisodium phosphate, such as "Spic n' Span", or approved equal.
7. Steel Wool: Grade 000 steel wool
8. Aluminum oxide sandpaper - 220 grit
9. Silicone carbide paper - 400 grit
10. Bronze wool
11. Sandpaper - 80 and 120 grit
12. Shellac burn-in sticks
13. Tack rag
14. Clean cotton cloths
15. Soft, natural bristle brushes
16. Mild soap such as "Ivory Liquid", "Joy", or approved equal.
17. Abrasive pad such as "Scotch-brite" (3M Company), or approved equal.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: Inspect the work for any serious defects or conditions which would interfere or prevent a satisfactory application of materials under this Section.

### 3.2 PREPARATION

- A. Surface Preparation: Remove all non-original door louvers, panels and transom panels taking care not to damage the remainder of the door, frame or paneling.
  1. Replace the non-original elements with new wood which matches the species of the original wood and which matches the detailing of the original millwork.

2. Hardware: Remove existing hardware, door numbers, and other applied elements, and store for reinstallation.
  3. Make minor repairs to doors as required:
    - a. Fill holes exceeding 1 inch in diameter with matching dutchmen.
    - b. Fill smaller holes with patching compound tinted to match wood.
- B. Protection:
1. Make sure work area is well-ventilated and wear protective clothing and rubber gloves. Do not allow smoking in the work area.
  2. Place a fire extinguisher for Class B fires at entrances for emergency use.
  3. Change clothes as often as necessary to be effective in cleaning.
  4. Daily, dispose of all used solutions, finishing products, solvent residue and soiled rags in sealed noncombustible containers to prevent a fire hazard.
  5. Protect all surfaces adjacent to wood being refinished.
  6. Maintain a healthy level of air circulation within the space being treated. Regularly employ and maintain exhaust fans or other air moving devices to the satisfaction of the Architect.
  7. Curtain off areas being treated from other trades and occupants to prevent fumes from reaching other parts of the building.
  8. Wear appropriate safety devices such as respirators fitted with the correct cartridge, gloves, and other protective clothing.

### 3.3 APPLICATION

- A. Strip the existing varnish finish:
1. Wet steel wool with solvent and rub over the door to remove varnish build-up and smooth out checked surface. Replace soiled steel wool frequently with clean and continue with wiping process until a smooth, even-colored surface is achieved. Use no water on wood surface under any circumstances.
    - a. Work only one 4' square area at a time. Work area should be within a comfortable arms reach.
    - b. If solvent affects the stained color of the wood, discontinue use and use an alternative solvent mixture as listed in Section 2.02 Materials.
  2. Allow surface to dry thoroughly; no less than 24 hours.
- OR-
1. Apply commercial stripper following manufacturer's instructions.
  2. Wash the surface with acetone to remove stripper residue.
  3. Lightly sand the surface with 220 grit aluminum oxide sandpaper as needed to remove carbon soiling and finish damage not removed by solvent application.
  4. Wipe surface with a tack rag to remove traces of bronze wool, sand and dust prior to applying new finishes.

- B. Remove shallow scratches:
1. Lightly sand, in the direction of the grain only to remove shallow scratches, against the grain sanding, and finish damage not removed by stripper application.
  2. Remove scratches using 80 grit sandpaper. Finish using 120 grit sandpaper until smooth surface is attained. Smooth surface sufficiently to ensure uniform stain absorption.
  3. Wipe surface with a tack rag to remove traces of steel wool, sand, and dust prior to applying new finishes.
- C. Apply the Stain:
1. Color mix stain to match original finish.
  2. Apply stain to bare wood surfaces using a soft cloth or bristle brush.
  3. Allow stain to set as required for proper color match and maximum surface uniformity.
  4. Wipe off excess stain by rubbing parallel to the grain with a soft dry cloth.
  5. Allow surface to dry for at least 24 hours.
- D. Fill deep scratches and gouges with shellac burn sticks tinted to match the wood stain.
- E. Apply the finish coating:
1. Make sure that surface is clean, level and free of defects. Promptly report to the Architect any unanticipated conditions which may affect the quality of the finish.
  2. Brush or spray apply 3 coats of varnish to produce a uniform sheen and appearance.
  3. Allow each coat to dry for at least 4 hours.
  4. Lightly sand with #400 grit silicone carbon paper or rub with fine steel wool between coats. Vacuum surface and wipe with a dry tack rag to remove all grit and dust prior to applying next finish coat.
  5. After curing, lightly rub surface with fine steel wool to replicate original finish.
- F. Replace glazing as required.
- G. Clean glazing as required:
1. Remove adhesive residues, paint splatters, and other soiling using soft cloths and detergent.
  2. Use a mild solvent and Scotch Brite pad or bristle brush to remove stubborn residues.
  3. Remove paint splatters with solvent or by scraping gently with a razor blade held at a shallow angle. **DO NOT USE TOOLS OR CLEANING PRODUCTS WHICH MAY ETCH THE GLASS.**

- H. Reinstall kickplates and other hardware as required.
- I. Remove and repaint louvers to match original as required.
- J. Refinish jambs and frames to match original as required.

#### 3.4 ADJUSTING/CLEANING

- A. Adjust door to assure proper operation. Replace or rehang doors which are hinge bound and do not swing or operate freely. Replace worn hinge pins with replicates.
- B. Refinish or replace job-finished doors damaged during installation.

END OF SECTION 08290