

DIVISION 6-WOOD AND PLASTICS

SECTION 06150-WOOD RESTORATION

PART 1-GENERAL

1.01 GENERAL CONDITIONS

AS SPECIFIED IN SECTION 0700.

1.02 GENERAL REQUIREMENTS

Provide labor and materials to restore the integrity of termite and rot damaged major framing members as indicated on the plans.

1.03 RELATED WORK IN OTHER SECTIONS: Section 06100-Rough Carpentry

1.04 SUBMITTALS

Product Data: Submit Producer's or Manufacturer's Representative specifications and installation instructions for plastic resin injection and plastic paste fillers.

1.05 QUALITY ASSURANCE

A) Submit Materials Product data sheets indicating resin injection materials are primarily used to fill voids in damaged wood members.

B) Injection resin must be a rigid low viscosity two component polyurethane resin.

C) Applicator must have two years prior experience using plastic resin injection for wood restoration.

PART 2-PRODUCTS

2.01 MATERIALS

A) Asbestos Prohibition: No asbestos containing materials or equipment shall be used under this section.

B) Injection resin: Acceptable products: Burtin "BUC CU15", PDL "Castmaster" or Innovative Polymers "Easycast". Other urethane resin products may be acceptable demonstrating physical properties approximately equal to, or greater than the following:

Tensile Strength=3,135 psi

Flexural Modulus=142,000 psi

Density=75 lb/cu. ft.

Elongation=7%

Viscosity: Component A=150+ 50 cps component B=250+ 50 cps

C) Polyester paste to fill surface imperfections and replace minor rot and drywood termite damage. Polyester paste may be common "body Filler" paste with fiber reinforcement.

D) Materials for project must be delivered in unopened containers and stored in a cool dry area. Uncured urethane resins are highly susceptible to moisture damage. Resin in opened containers must either be protected by moisture sieves or be completely used within 48 hours. Materials must be removed from the job if not used within this time frame.

E) Miscellaneous Materials:

A) Formwork: Either rigid plastic panels or plastic coated lumber.

PART 3 -EXECUTION

3.01 INSTALLATION

A) Ground termite damage

1) Installation personnel to wear impervious clothing, splash proof goggles and impervious gloves.

2) Mask off adjoining surfaces to member under repair. Cover areas, below work, for at least eight lineal feet in all directions with plastic drop cloth. Canvas drop cloths are not acceptable.

3) Surface preparation: Seal holes and cracks in wood members to prevent resin leaks. Suitable materials may be duct tape for minor cracks and holes. For high amounts of surface damage use polyester paste fill, spreading filler evenly so as to minimize sanding later. For heavy surface damage and warped wood surfaces screw flat plastic panels or plastic coated wood boards to the wood surface. Choice of surface seal materials shall be used at the discretion of the Contractor, however the seal material must have sufficient resistance to mitigate bulging and drips.

4) Sound wood member by tapping with a hammer. Drill injection holes at sufficient spacing to insure complete filling of voids. For vertical members begin injection at the lowest port and continue to the highest port. For horizontal members begin at one end and continue until the opposite end is reached.

5a) Injection machines: Machines must be two component pumps specifically made for rigid urethane injection. Urethane pumps must have impingement or swirl tip nozzles, capable of completely mixing components. Machines must be capable of maintaining a one to one ratio at 30 psi with an allowable variation of 15%. Machines must be checked at three equally spaced intervals, during the work day, by dispensing sample batches. Resin batches must reach a rigid state within 90 seconds after dispensing.

5b) Manual Injection: Empty cartridges, bulk load guns or prepackaged cartridges may be used. Chambers must be able to withstand 45 psi pressures without leaking or bursting. Measure equal amounts of "A" and "B" resin and stir for several seconds. Immediately load into cartridges and dispense materials while resin is still liquid.

6) Once resin protrudes from the next adjacent port, seal the current port with a wood or plastic dowel and continue to the next port. Locate all voids using hammer tapping and test drilling. Continue injection until all voids are filled. If leaks occur, hold rags against leak until resin hardens. Continue process until no further voids are detected.

7) Finishing: Chisel off major drips and bulges. Sand surfaces to provide a smooth surface and shaping to the original form of the member. Use spackle of polyester paste to fill remaining surface imperfections.

B) Rot and Drywood Termite Damage

1) Use chisels or wire brushes to remove rotted and loose termite damaged wood. Continue removal until solid wood is encountered.

2) On rotted patches completely dry exposed surfaces revealed after removing deleterious wood. Drive nails or screws into the exposed wood surfaces to anchor new patch.

3) Fill void area by either forming and pouring urethane injection resin into the cavity, or filling with fiber reinforced polyester paste.

4) Once cured sand repair patch to follow the shape of the original member. fill minor imperfections with more polyester paste or spackle.

END OF SECTION