

SECTION 017329
CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RESPONSIBILITIES

- A. If the Project involves a General Construction Contractor, the General Construction Contractor shall be responsible for the cutting of openings with area equal to or greater than thirty-six (36) square inches. The cutting of openings with area less than thirty-six (36) square inches shall be the responsibility of the Separate Prime Contractor whose work requires the cutting. The General Construction Contractor shall be responsible for all patching work, regardless of the size of the opening.
- B. If the Project does not involve a General Construction Contractor, cutting and patching shall be the responsibility of the Separate Prime Contractor whose work requires the cutting. The Contractor shall employ competent individuals, approved by the University, to do the cutting and patching.
- C. If the cutting of openings into newly constructed walls, partitions, floors, or ceilings is required due to lack of coordination between Separate Prime Contractors, or due to ill-timed or defective work by one or more Separate Prime Contractors, the Separate Prime Contractor primarily responsible for the lack of coordination or the ill-timed or defective work shall bear all costs involved in cutting and patching. The University may direct the General Construction Contractor to actually perform the cutting and patching.

1.02 SUBMITTALS

- A. When cutting and patching procedures are required to be approved prior to the work, the Contractor shall submit a plan for cutting and patching well in advance of the work. The submittal shall describe the procedures and request approval to proceed. The submittal shall include the following, as applicable.
 - 1. A description of the limits of cutting and patching required, how it is to be performed, and why it cannot be avoided.
 - 2. A description of the anticipated results in terms of changes to existing construction, including changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
 - 3. A listing of products to be used and firms or entities that will perform work.
 - 4. Identification of the dates when cutting and patching is to be performed.
 - 5. Identification of any utilities that will be distributed or affected, including those that will be relocated and those that will be temporarily out of service, and an indication of how long service will be disrupted.
 - 6. Where cutting and patching involves addition of reinforcement to structural elements, details and engineering calculations to show how reinforcement is integrated with the original structure.

- B. Approval by the University to proceed with cutting and patching does not waive the right of the University to later require complete removal and replacement of any part of the work found to be unsatisfactory.

1.03 MATERIALS

- A. Materials used shall be identical to existing materials.
- B. If identical materials are not available or cannot be used where exposed surfaces are involved, materials used shall match existing adjacent surfaces to the fullest extent possible with regard to visual effect.
- C. All materials used shall have installed performance equal or greater than that of existing materials.
- D. All materials used shall be compatible with adjacent existing materials and shall have no deleterious effect on the existing construction.

1.04 INSPECTION

- A. Before cutting existing surfaces, the Contractor shall examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
- B. The Contractor shall avoid any unsafe or unsatisfactory conditions, and if unsafe or unsatisfactory conditions are encountered, corrective action shall be taken before proceeding.

1.05 PREPARATION

- A. Work to be cut shall be provided with temporary support.
- B. Existing construction shall be protected during cutting and patching to prevent damage by cutting and patching operations.
- C. Protection from adverse weather conditions shall be provided for portions of the project that might be exposed during cutting and patching operations.
- D. Cutting and patching operations shall be conducted so as to avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- E. The Contractor shall take all precautions necessary to avoid cutting existing pipe, conduit, or ductwork that serve the facility and are scheduled to be removed or relocated, until provisions have been made for bypass installations.

1.06 PERFORMANCE, GENERAL

- A. Skilled workmen shall be employed to perform cutting and patching.
- B. Cutting and patching shall be undertaken at the earliest feasible time and completed without delay.
- C. Cutting, fitting, and patching for installation of components or the performance of other construction activities shall be performed so as to restore surfaces to their original condition.
- D. Openings shall be temporarily covered when not in use.

- E. Where excavating and backfilling are required, the Contractor shall comply with requirements of applicable sections of the Technical Specifications.
- F. For utility services shown or required to be removed, relocated, or abandoned, the Contractor shall ensure the utility service is shut off or not active prior to performing any work on the system. If the utility service requires continued operation during the Work, the Contractor shall by-pass the service before cutting service pipe or conduit. Any pipe or conduit that is to remain shall be sealed with a cap, valve, or plug to prevent entrance of moisture or other foreign matter.

1.07 PERFORMANCE, CUTTING

- A. Cutting of existing construction shall be performed using methods least likely to damage elements to be retained or adjoining construction. Where possible, proposed procedures shall be reviewed with the original installer and shall comply with the original installer's recommendations.
- B. Where cutting is required, hand or small power tools designed for sawing or grinding shall be used. Hammering and chopping shall not be done. Holes and slots shall be cut neatly to the size required with minimum disturbance of adjacent surfaces.
- C. To avoid marring existing finished surfaces, cutting or drilling shall be done from the exposed or finished side into concealed surfaces.
- D. A cutting machine such as a carborundum saw or diamond core drill shall be used to cut through concrete and masonry.

1.08 PERFORMANCE, PATCHING

- A. Patching shall be performed with durable seams that are as invisible as possible. Patching shall meet specified tolerances.
- B. Where feasible, patched areas shall be inspected and tested to demonstrate integrity of the installation.
- C. Exposed finishes of patched areas shall be restored, and finished restoration shall be extended into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- D. Where patching occurs in a smooth painted surface, the final paint coat shall be extended over entire wall plane (wall corner to corner) containing the patch. The patched area itself shall receive a primer and second coat.
- E. Where the removal of walls or partitions extends from the new space into another existing space, the floor and wall surfaces in the new space shall be patched and repaired to provide an even surface of uniform color and appearance. If uniform color and appearance cannot be achieved, the existing floor and wall coverings in the existing space shall be removed and replaced with new materials.
- F. Existing ceilings shall be patched, repaired, or re-hung as necessary to provide an even plane surface of uniform appearance.

1.09 COORDINATION

- A. Structural elements shall not receive any cutting and patching that would reduce their load-carrying capacity or load-deflection ratio. Structural elements include:
 - 1. Foundation construction
 - 2. Bearing and retaining walls

3. Structural concrete
 4. Structural steel
 5. Lintels
 6. Structural decking
 7. Stair systems
 8. Miscellaneous structural metals
 9. Exterior curtain wall construction
 10. Equipment supports
 11. Piping, ductwork, vessels, and equipment
 12. Structural systems of Special Construction in the Technical Specifications
- B. Safety-related components and operating elements shall not receive cutting and patching in a manner that would result in reducing their capacity to perform as intended, result in increased maintenance, or result in decreased operational life or safety. For those components and elements covered by a warranty, the Contractor shall coordinate cutting and patching with the warranting party, and the cutting and patching shall not void the warranty. Safety-related components and operating elements include:
1. Shoring, bracing, and sheeting
 2. Primary operational systems and equipment
 3. Air or smoke barriers
 4. Water, moisture, or vapor barriers
 5. Membranes and flashings
 6. Roofing systems and membranes
 7. Fire protection systems
 8. Noise and vibration control elements and systems
 9. Control systems
 10. Communication systems
 11. Conveying systems
 12. Electrical wiring systems
 13. Special Construction specified in the Technical Specifications
- C. Visually-exposed components and construction that is exposed on the exterior or exposed in occupied spaces shall not receive cutting and patching in a manner that will reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. If possible, the original installer or fabricator shall be retained to cut and patch the following categories of exposed work:
1. Processed concrete finishes
 2. Ornamental metal
 3. Matched-veneer woodwork
 4. Window wall system
 5. Stucco and ornamental plaster
 6. Acoustical ceilings
 7. Carpeting
 8. HVAC enclosures, cabinets, or covers
- If it is not possible to engage the original installer or fabricator, another recognized, experienced, and specialized firm shall be engaged. For those components and construction covered by a warranty, the Contractor shall coordinate cutting and patching with the warranting party, and the cutting and patching shall not void the warranty.
- D. The General Construction Contractor shall be responsible for removing, storing, and replacing removable ceilings where work is to be provided above an existing removable ceiling not indicated for replacement.

1.10 CLEANING AND RESTORATION

- A. Thorough cleaning shall be performed for areas and spaces where cutting and patching is performed or used as access.

- B. Paint, mortar, oils, putty, and items of similar nature shall be completely removed.
- C. Piping, conduit, and similar features shall be thoroughly cleaned before painting or other finishing is applied.
- D. Pipe covering and insulation damaged incidental to cutting and patching shall be restored to its original condition.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION 017329