

SECTION 01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Examination of existing conditions and acceptance of conditions.
- B. Administrative and procedural requirements for cutting and patching, including attendant excavation and backfill as required to complete the Work. Contractor is responsible for all cutting and patching work, including but not limited to:
 - 1. Perform all cutting, altering, patching, and fitting of the Work (new and existing) as necessary for the Work and the existing improvements. Fully integrate with existing and new construction, all cutting, alterations and patching, to present the visual appearance of an entire, completed, and unified project.
 - a. Make all products and their components of the work fit together properly.
 - 2. Provide openings in elements of the Work, and the patching of same, for penetrations required by all trades, including but not limited to mechanical, plumbing, fire protection and electrical work.
 - a. Individual trades are responsible for designated types of coring and drilling penetrations for piping, conduit, ducts and other penetrations as defined elsewhere in this Section.
 - 3. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
 - 4. Remove and replace work not conforming to requirements of the Contract Documents or as otherwise determined to be defective.
 - 5. Patch and match all surfaces and products disturbed or damaged by the Work.
 - 6. Remove samples of installed work as specified for testing.

1.2 RELATED SECTIONS

- A. Special administrative and procedure requirements related the Owner's goals of energy conservation and efficiency, indoor air quality, and natural resource efficiency.
- B. Individual product specification Sections:
 - 1. Cutting and patching of not -exposed -to-view materials incidental to work of the Section.
 - 2. Core drilling (up to 8 inches in diameter) of interior building components, incidental to work of individual Sections.
 - 3. Cutting and Patching work of particular exposed -to-view finish work, performed by trades as specified herein.

1.3 SUBMITTALS

- A. Submit written proposals to perform cutting and patching under provisions of Section 01 33 00 SUBMITTAL PROCEDURES Describe cutting and patching procedures in advance of the time cutting and patching.
 - 1. Submit a written request when cutting work affects the following:
 - a. Structural integrity of any element in the project.
 - b. Integrity of weather-exposed or moisture -resistant elements.
 - c. Integrity of any fire suppression, fire alarm, or life safety system.
 - d. Interruption or disturbance of utilities service. List utilities that will be relocated and those that will be temporarily out -of-service. Indicate how long service will be disrupted.
 - e. Efficiency, maintenance, or safety of operational elements and systems.
 - f. Aesthetic and visual qualities of exposed -to-view elements.

- g. Efficiency, operational life, maintenance, or safety of operational elements.
 - h. Work of Owner or work performed under separate Contract.
 - i. Owners on-going operations or schedule.
- 2. Include in the request:
 - a. Identification of project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Alternatives to cutting and patching.
 - e. Scope of proposed cutting, patching, alteration or excavation.
 - f. List of tradespeople who will execute the work.
 - g. Description of products to be used.
 - h. Extent of refinishing and cleaning to be performed.
 - i. Effect on work by Owner or work performed under separate Contract, and written permission of affected party.
 - j. Date and time cutting and patching is scheduled to be executed.
 - k. Cost proposal, when applicable.
 - l. Written permission of separate contractor(s) whose work will be affected.
- 3. Review by the Architect does not waive the Architect's right to later require complete removal and replacement of Work found to be unsatisfactory.
- 4. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit a request for substitution for technical review by Architect and approval by Owner's Project Manager.

1.4 PERFORMANCE REQUIREMENTS

- A. General performance requirements: Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. Structural elements: Do not cut and patch structural elements in a manner that would reduce the load-carrying capacity or load deflection ratio. Always obtain written approval of the cutting and patching proposal before cutting and patching structural elements.
 - 1. Do not drill through structural beams, slabs or columns. Core drilling through concrete block walls and stair platforms must be approved by the Structural Engineer.
 - 2. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
- C. Exposed elements:
 - 1. Employ original installer of new construction to perform cutting and patching for weather exposed and moisture resistant elements, and sight exposed surfaces.
 - 2. Employ an appropriate tradesperson to perform cutting and patching of existing weather exposed and moisture-resistant construction, and exposed -to-view surfaces.
- D. Penetrating elements: Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with fire rated materials in accordance to applicable codes and regulations, and compatible to surrounding construction.
- E. Visual requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
 - 1. General: Restore work with new products in accordance with the requirements of the Contract Documents.
 - 2. Engage a firm recognized and experienced in the trade or specialty operation required to cut and patch the exposed -to-view work listed below.
 - a. Processed concrete finishes, including cast stone and pre-cast architectural concrete

- b. Acoustical ceilings.
 - c. HVAC enclosures, cabinets, or covers.
- 3. Engage a firm recognized and experienced in firestopping for patching of existing firestopping, smoke seals and firesafing in compliance with applicable codes and as additionally required by authorities having jurisdiction. Comply with requirements of Section 07 84 00 – FIRESTOPPING.
- F. Operational and safety limitations: Do not cut and patch operating elements or safety components in a manner that would reduce their capacity to perform as intended, or would increase maintenance, or decrease operational life or safety.
 - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
 - a. Primary operational systems and equipment.
 - b. Fire resistance rated barriers and smoke barriers.
 - c. Fire protection systems.
 - d. Noise and vibration control elements and systems.
 - e. Control systems.
 - f. Communication systems.
 - g. Electrical wiring systems.

1.5 WARRANTY

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void existing applicable warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Patching Materials: Use patching materials identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible. Use materials whose installed performance will equal or surpass that of the existing materials. Comply with specifications and standards for each specific product involved.
 - 1. All materials used shall be approved by the Architect for consistency with the existing surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- 1. Pre-bid examination: General Contractor and its subcontractors shall inform themselves of existing conditions before submitting bids, and are fully responsible for carrying out all work required to completely and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. No claim for extra compensation or extension of time will be allowed on account of actual conditions which are inconsistent with those assumed, except for fully concealed conditions.
- 2. Examination: Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, inspect conditions affecting performance of work. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

3.2 PREPARATION

- 1. Protection:
 - a. Provide temporary supports to ensure structural integrity of the Work.
 - b. Protect existing construction during cutting and patching to prevent damage.
 - c. Provide protection from adverse weather conditions.

- d. Provide protection from elements for areas which may be exposed by uncovering work.

3.3 GENERAL CUTTING AND PATCHING

- A. Performance: Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive repairs, patching, and finishing.
- B. Execute cutting, fitting, and patching, including excavation and fill, to complete the work.
 - 1. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not permitted without prior approval, from Architect
 - 2. Fit products together, to integrate with other work.
 - 3. Uncover work to install ill -timed work.
 - 4. Remove and replace defective or non -conforming work.
 - 5. Remove samples of installed work for testing, when requested.
 - 6. Provide openings in the work for penetration of mechanical and electrical work.
- C. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
 - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
 - 4. Comply with requirements of applicable Sections where cutting and patching requires excavating and backfilling.
 - 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut -off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

3.4 FINISHING OF PATCHED AREAS

- A. General: Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break; for assemblies, refinish entire unit.
 - 1. Patching: Patch with durable seams that are as invisible as possible, showing no evidence of patching and refinishing. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction. Comply with specified tolerance s.
 - a. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with fire rated materials in accordance to applicable codes and regulations, and compatible to surrounding construction.
 - b. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Provide vapor and air seal when penetrating existing vapor and air seals.
 - c. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and

second coat. Extend re-painting to entire surface plane up to where plane changes direction.

3. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.5 CORING AND DRILLING

- A. Coring and Drilling of holes incidental to work of individual sections shall be performed by the trade requiring the penetration, except as follows:
 1. Coring and Drilling of holes greater than 8 inches in diameter in concrete decks and slabs.
 2. The Contractor is responsible for performing core drilling in wall and roof surfaces leading to, or from, the outside of the Building.
 3. The Contractor is responsible for coordination of all coring and drilling and resultant patches necessary for the completion of this Contract and for the quality and appearance of all patch Work in exposed-to-view finished materials.

3.6 CLEANING

- A. Cleaning patched areas: Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove paint, mortar, oils, putty and similar items.

END OF SECTION