

SECTION 03521

LIGHTWEIGHT CONCRETE INSULATING FILL REPAIRS

PART 1 - GENERAL

1.01 RELATED SECTIONS

- A. Section 02050 - Roof Demolition and Disposal
- B. Section 05315 – Steel Deck Repair or Replacement
- C. Section 06100 – Rough Carpentry
- D. Section 07220 – Roof Insulation
- E. Section 07513 – Modified Bitumen Cap Sheet Built-Up Roofing

1.02 SUMMARY

- A. This Section includes repairs or replacement cast-in-place lightweight concrete insulating fill for roof decks.

1.03 SUBMITTALS

- A. As provided in Section 01330 and 01340, and as directed by the project consultant.
- B. Product Data: For each type of product indicated. Include mixing and application instructions for each type of lightweight concrete insulating fill.
- C. Shop Drawings: Include plans, sections, and details showing roof slopes, fill thicknesses, roof penetrations, roof perimeter terminations and curbs, control and expansion joints, and roof drains.
- D. Design Mixes: For each lightweight concrete insulating fill repair mix.
- E. Material Test Reports: From a qualified testing agency indicating and interpreting test results of the following for compliance with requirements indicated, based on comprehensive testing of current materials:
- F. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:

1. Product Mix Designs.

G. Research/Evaluation Reports: Evidence of materials compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

1.04 QUALITY ASSURANCE

A. As provided in Section 01330 and 01340.

B. Rejection – In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the roof at all times.

C. Replacement – In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.05 REGULATORY REQUIREMENTS

A. As provided in the General Conditions.

1.06 PRECONSTRUCTION CONFERENCE

A. As provided in Section 01312.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.

B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.

1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.

2. Polyethylene roll stock material is not an acceptable tarp material.

3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the Contractor.
- E. Coordinate delivery with Consultant.

1.08 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule all phases of the Work of the Contract Documents with the, Consultant, Subcontractors, Material Suppliers and other parties as necessary to ensure the smooth and orderly transition of separate phases, or portions, of the Work, the timely placement of components and materials, including the complete cooperation between parties and proper execution of the Work.
- B. Work shall not be performed outside of normal business hours without the prior approval of the City's representative.
- C. Work is to be performed on a daily basis, with each section completed before progressing to the next days work.

1.09 GUARANTEE AND WARRANTIES

- A. The Contractor shall warrant all Work performed under this Contract for a period of 5 years from the date of Substantial Completion. The Contractor shall accept responsibility for the correction of defects in materials and workmanship and shall repair defects promptly upon notice by the City and at no cost to the City. The Contractor shall reimburse the City for repairs performed by others should the Contractor not remedy defects within five working days after written notice of said defects by the City.

1.10 PROJECT CONDITIONS

- A. Do not place lightweight concrete insulating fill repair materials unless ambient temperature is 40°F and rising.
- B. Do not place lightweight concrete insulating fill repair materials during rain or snow or on surfaces covered with standing water, snow or ice.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Siplast, “Zono-Patch” quick setting cementitious material.
- B. Filler Insulation boards as recommended by the manufacturer for thicknesses greater than 2-inches.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Control Joints: Where required, install control joints at perimeter of roof deck and at junctures with vertical surfaces, including curbs, walls, and vents, for full depth of lightweight concrete insulating fill. Fill control joints with joint filler.
- B. Ensure that all surfaces to receive repair materials free of oil, grease, paints/primers, loose mill scale, dirt, or other foreign substances which may impair proper adhesion to the substrate.

3.02 MIXING AND PLACING

- A. Mix and place repair materials according to manufacturer’s written instructions, using equipment and procedures to avoid segregation of mix.
- B. Finish top surface smooth, free of ridges and depressions, and maintain surface in condition to receive subsequent roofing system.
- C. Air cure repair materials according to manufacturer’s written instructions.
- D. If ambient temperature falls below 32°F, protect repair materials from freezing and maintain temperature recommended by manufacturer.
- E. When thickness of cementitious patch material would exceed 2-inches install a manufacturers approved insulation board mechanically fastened to the metal decking prior to installing the cementitious patch material.

3.03 PROTECTION

- A. Provide proper protection at penetrations and perimeters to prevent water from migrating down to the substrate.

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- B. Avoid rooftop traffic over the roof insulation system until twenty-four hours have elapsed after last placement of repair materials.
- C. Within forty-eight hours, or after concrete can withstand foot traffic, seal all penetrations and perimeters.
- D. Commence roofing work as soon as proper curing of repair materials has occurred.

3.04 CLEAN-UP

- A. Remove equipment after the completion of the roof insulation system application.
- B. Completely remove all traces of repair materials from surfaces on which it was not scheduled to be placed.

3.05 EFFECTIVE WORK

- A. Refinish, or remove and replace, repair materials if surfaces are excessively scaled or too rough to receive roofing, according to roofing membrane manufacturer's written requirements.

END OF SECTION