

**SECTION 07 01 50.19
PREPARATION FOR RE-ROOFING**

SPEC WRITER NOTES:

1. Delete text between // _____ // not applicable to project. Edit remaining text to suit project.
2. Edit Summary article below after establishing re-roofing scope and editing section to correspond to Project requirements.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Complete roof removal for new roof system installation.
2. Partial roof removal for new roof system installation.
3. Roofing membrane and selective roofing system component removal for new roof membrane installation.
4. Existing roofing membrane preparation for new roofing // membrane // system // installation.

SPEC WRITER NOTE: Modify paragraph below to describe existing roofing system.

- B. Existing Roofing System: // Built-up asphalt // Built-up coal tar // EPDM // CSPE // PVC // TPO // Modified bituminous //. System components include:

SPEC WRITER NOTE: System components are listed in order from top down. Edit to suit existing roofing system.

1. Vegetation with growing media // water retention mat // and root barrier.
2. Pavers and paver supports.
3. Aggregate ballast.
4. Roof insulation // and drainage board //.
5. Aggregate surfacing.
6. Roofing membrane.
7. Cover board.
8. Roof insulation.
9. Vapor retarder.
10. Substrate board.

1.2 RELATED REQUIREMENTS

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this section.

- A. Asbestos Removal: Section 02 82 13.21, ASBESTOS ROOFING ABATEMENT.
- B. Replacement Roof Deck: Section 05 31 00, STEEL DECKING.
- C. Replacement Roof Deck and Parapet Sheathing: Section 06 10 00, ROUGH CARPENTRY.
- D. New Roofing System: // Section 07 51 00, BUILT-UP BITUMINOUS ROOFING // Section 07 51 00.11, BUILT-UP BITUMINOUS ROOFING, HOT-APPLIED // Section 07 51 00.13, BUILT-UP BITUMINOUS ROOFING, COLD-APPLIED // Section 07 52 16, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE ROOFING, HOT APPLIED // Section 07 52 16.13, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE, ROOFING, COLD APPLIED // Section 07 53 23, ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING // Section 07 54 16, ETHYLENE INTERPOLYMER (KEE) ROOFING // Section 07 54 19, POLYVINYL-CHLORIDE (PVC) ROOFING // Section 07 54 23, THERMOPLASTIC POLYOLEFIN (TPO) ROOFING // Section 07 56 00, FLUID-APPLIED ROOFING // Section 07 57 13, SPRAYED POLYURETHANE FOAM ROOFING //.
- E. Sheet Metal Counterflashing: Section 07 60 00, SHEET METAL FLASHING AND TRIM.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. American National Standards Institute/Single-Ply Roofing Institute (ANSI/SPRI):
 - 1. FX-1-01(R2006) Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
- C. American Society for Nondestructive Testing (ASNT):
 - 1. SNT-TC-1A - Personnel Qualification and Certification for Nondestructive Testing.
- D. ASTM International (ASTM):
 - 1. C208-12 - Cellulosic Fiber Insulating Board.
 - 2. C578-15 - Rigid, Cellular Polystyrene Thermal Insulation.
 - 3. C728-15 - Perlite Thermal Insulation Board.
 - 4. C1177/C1177M-13 - Glass Mat Gypsum Substrate for Use as Sheathing.

5. C1153-97(2003)e1 - Location of Wet Insulation in Roofing Systems Using Infrared Imaging.
 6. C1278/C1278M-07a(2015) - Fiber-Reinforced Gypsum Panel.
 7. D4263-83(2012) - Indicating Moisture in Concrete by the Plastic Sheet Method.
- E. U.S. Department of Commerce National Institute of Standards and Technology (NIST):
1. DOC PS 1-09 - Structural Plywood.
 2. DOC PS 2-04 - Performance Standard for Wood-Based Structural-Use Panels.

1.4 PREINSTALLATION MEETINGS

- A. Conduct preinstallation meeting minimum 30 days before beginning Work of this section.

SPEC WRITER NOTE: Edit participant list to ensure entities influencing outcome attend.

1. Required Participants:
 - a. Contracting Officer's Representative.
 - b. // Architect/Engineer. //
 - c. // Inspection and Testing Agency. //
 - d. Contractor.
 - e. Installer.

SPEC WRITER NOTE: Include manufacturer's representative when work affects existing warranted roof.

- f. // Manufacturer's field representative. //
- g. Other installers responsible for adjacent and intersecting work, including mechanical and electrical equipment installers.

SPEC WRITER NOTE: Edit meeting agenda to incorporate project specific topics.

2. Meeting Agenda: Distribute agenda to participants minimum 3 days before meeting.
 - a. Removal and installation schedule.
 - b. Removal and installation sequence.
 - c. Preparatory work.
 - d. Protection before, during, and after installation.

- e. Removal and installation.
 - f. Temporary roofing including daily terminations.
 - g. Transitions and connections to other work.
 - h. Inspecting and testing.
 - i. Other items affecting successful completion.
3. Document and distribute meeting minutes to participants to record decisions affecting installation.

1.5 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
 - 1. Show size, configuration, and installation details.
- C. Manufacturer's Literature and Data:
 - 1. Description of each product.
 - 2. Description of temporary roof system and components.
 - 3. List of patching materials.
 - 4. Recover board fastening requirements.
 - 5. Temporary roofing installation instructions and // removal instructions. // preparation instructions to receive new roofing. //

SPEC WRITER NOTE: Retain paragraph below when existing roof is under warranty.

- 6. Existing roofing warrantor's instructions.
- D. Photographs: Document existing conditions potentially affected by roofing operations before work begins.

SPEC WRITER NOTE: Include field inspection report only when existing roof is under warranty.

- E. Field Inspection Reports:
 - 1. Certify warrantor inspected completed roofing and existing warranty remains in effect.

SPEC WRITER NOTE: Retain paragraph below if Infrared Roof Moisture Survey is conducted as specified in Part 3 for partial roof replacement.

- F. Infrared Roof Moisture Survey Report.

1.6 QUALITY ASSURANCE

A. Installer Qualifications:

1. Same installer as // Section 07 51 00, BUILT-UP BITUMINOUS ROOFING // Section 07 51 00.11, BUILT-UP BITUMINOUS ROOFING, HOT-APPLIED // Section 07 51 00.13, BUILT-UP BITUMINOUS ROOFING, COLD-APPLIED // Section 07 52 16, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE ROOFING, HOT APPLIED // Section 07 52 16.13, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE, ROOFING, COLD APPLIED // Section 07 53 23, ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING // Section 07 54 16, ETHYLENE INTERPOLYMER (KEE) ROOFING // Section 07 54 19, POLYVINYL-CHLORIDE (PVC) ROOFING // Section 07 54 23, THERMOPLASTIC POLYOLEFIN (TPO) ROOFING // Section 07 56 00, FLUID-APPLIED ROOFING // 07 57 13, SPRAYED POLYURETHANE FOAM ROOFING //.
2. Licensed to perform asbestos abatement in Project jurisdiction when removal of asbestos-containing material is required.
3. Approved by existing roofing system warrantor when work affects existing roofing system under warranty.

1.7 FIELD CONDITIONS

- ### A. Building Occupancy: Perform work to minimize disruption to normal building operations.

SPEC WRITER NOTE: Retain subparagraph below only when impaired deck areas exist and building will be occupied during work.

1. Verify occupants are evacuated from affected building areas when working on structurally impaired roof decking above occupied areas.
2. Provide notice minimum 72 hours before beginning activities affecting normal building operations.

B. Existing Roofing Available Information:

1. The following are available for Contractor reference:

SPEC WRITER NOTES:

1. Retain three subparagraphs below if applicable.
2. If roof moisture survey results are not available, include testing specified in Part 3.

- a. Roof moisture survey.

- b. Test cores analysis.
 - c. Construction drawings and project manual.
2. Examine available information before beginning work of this section.

SPEC WRITER NOTE: Insert section number
and title of Division 07 roofing section
used for roof replacement.

- C. Weather Limitations: Proceed with reroofing preparation only during dry weather conditions as specified for new roofing installation in Section // Section 07 51 00, BUILT-UP BITUMINOUS ROOFING // Section 07 51 00.11, BUILT-UP BITUMINOUS ROOFING, HOT-APPLIED // Section 07 51 00.13, BUILT-UP BITUMINOUS ROOFING, COLD-APPLIED // Section 07 52 16, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE ROOFING, HOT APPLIED // Section 07 52 16.13, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE, ROOFING, COLD APPLIED // Section 07 53 23, ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING // Section 07 54 16, ETHYLENE INTERPOLYMER (KEE) ROOFING // Section 07 54 19, POLYVINYL-CHLORIDE (PVC) ROOFING // Section 07 54 23, THERMOPLASTIC POLYOLEFIN (TPO) ROOFING // Section 07 56 00, FLUID-APPLIED ROOFING // Section 07 57 13, SPRAYED POLYURETHANE FOAM ROOFING //.
1. Remove only as much roofing in one day as can be made watertight in same day.

SPEC WRITER NOTE: Retain paragraph below
when no known hazardous materials exist.

- D. Hazardous materials are not expected in existing roofing system.
- 1. Known hazardous materials were removed before start of work.
 - 2. Do not disturb suspected hazardous materials. When discovered, notify Contracting Officer's Representative.
 - 3. Hazardous materials discovered during execution of the work will be removed by Government as work of a separate contract.

SPEC WRITER NOTE: Retain paragraph below
when hazardous materials exist.

- E. Hazardous Materials are known to exist in existing roofing system.
- 1. See Section 02 82 13.21, ASBESTOS ROOFING ABATEMENT for hazardous material removal and disposal.
 - 2. Coordinate reroofing preparation with asbestos roofing abatement to prevent water from entering existing roofing system and building.

SPEC WRITER NOTE: Ensure report of hazardous material is available or attached.

3. Hazardous material report is // attached at the end of this section // available in _____ // for review and use.

1.8 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

SPEC WRITER NOTE: Retain this article if portions of existing roof still under warranty are to remain or if an adjoining existing roof is under warranty.

- B. Existing Warranties: Perform work to maintain existing roofing warranty in effect.
 1. Notify warrantor before beginning, and upon completion of reroofing.
 2. Obtain warrantor's instructions for maintaining existing warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

SPEC WRITER NOTE: Retain first paragraph below when patching and retaining portions of existing roofing system.

- A. Patching Materials: Match existing roofing system materials.
- B. Plywood Sheathing: See Section 06 10 00, ROUGH CARPENTRY.
- C. Metal Flashing: See Section 07 60 00, SHEET METAL FLASHING AND TRIM.
- D. Temporary Protection Materials:
 1. Expanded Polystyrene (EPS) Insulation: ASTM C578.
 2. Plywood: NIST DOC PS 1, Grade CD Exposure 1.
 3. Oriented Strand Board (OSB): NIST DOC PS 2, Exposure 1.
- E. Temporary Roofing System Materials: Contractor's option.
- F. Recover Board: One of the following:

SPEC WRITER NOTE: Retain one of paragraphs below when new roofing is installed over existing roofing.

1. Insulation: See Section 07 22 00, ROOF AND DECK INSULATION.
 2. Fiber Board: ASTM C208, Type II, fiber board; 13 mm (1/2 inch) thick.
 3. Glass Mat Gypsum Board: ASTM C1177/C1177M, water-resistant; // 6 mm (1/4 inch) // 13 mm (1/2 inch) // Type X, 16 mm (5/8 inch) // thick.
 4. Fiber Reinforced Gypsum Board: ASTM C1278/C1278M, water-resistant; // 6 mm (1/4 inch) // 10 mm (3/8 inch) // 13 mm (1/2 inch) // 16 mm (5/8 inch) // thick.
 5. Perlite: ASTM C728; // 3 mm (1/2 inch) // 19 mm (3/4 inch) // 25 mm (1 inch) // thick.
- G. Fasteners: Type and size required by roof membrane manufacturer to resist wind uplift.

PART 3 - EXECUTION

3.1 EXAMINATION

SPEC WRITER NOTE: Where partial removals are indicated, it is advisable to perform moisture testing to confirm extent.

- A. Infrared Roof Moisture Survey: Ground-based, walk-over type performed according to ASTM C1153.
1. Record the entire survey on DVD and provide one copy to Contracting Officer's Representative with report.
 2. Include in report thermograms of suspect areas and corresponding daytime photos of same locations.
 3. Conduct inspection by NDT test technician certified to at least Level 2 in Thermal/Infrared test method according to ASNT SNT-TC-1A.
 4. Mark out roof areas determined to be wet to indicate // minimum // areas to be removed.

3.2 PREPARATION

- A. Examine and verify substrate suitability for product installation.

SPEC WRITER NOTE: Retain first paragraph below when portions of existing roof will remain.

- B. Protect existing roofing system indicated to remain.

1. Cover roof membrane with temporary protection materials without impeding drainage.
 2. Limit traffic and material storage to protected areas.
 3. Maintain temporary protection until replacement roofing is completed.
- C. Protect existing construction and completed work from damage.
- D. Protect landscaping from damage.
- E. Maintain access to existing walkways and adjacent occupied facilities.
- F. Coordinate use of rooftop fresh air intakes with Contracting Officer's Representative to minimize effect on indoor air quality.
- G. Ensure temporary protection materials are available for immediate use in case of unexpected rain.
- H. Ensure roof drainage remains functional.
1. Keep drainage systems clear of debris.
 2. Prevent water from entering building and existing roofing system.
- I. Coordinate rooftop utilities remaining active during roofing work with Contracting Officer's Representative.

3.3 RE-ROOFING PREPARATION - GENERAL

- A. Notify Contracting Officer's Representative of planned operations, daily.
1. Identify location and extent of roofing removal.
 2. Request authorization to proceed.

3.4 OVERBURDEN REMOVAL

SPEC WRITER NOTE: Retain first paragraph below for loose laid roofing membrane and decorative ballast.

- A. Remove aggregate ballast.
1. Store aggregate ballast for reuse.
- B. Remove loose aggregate from bituminous membrane surface.
- C. Remove pavers and paver support.
1. Store undamaged pavers and paver supports for reuse.
 2. Dispose of damaged pavers.
- D. Remove plants, planting medium, // water retention mat, // and root barrier from vegetated roof assembly.
1. Store materials and plants for reuse.
 2. Protect plants from root exposure and drying.

SPEC WRITER NOTE: Retain first paragraph
below for protected roofing membrane.

E. Remove insulation // and drainage board // from protected roofing membrane.

1. Store insulation and drainage board for reuse.

3.5 COMPLETE ROOFING SYSTEM REMOVAL

A. Remove existing roofing system completely, exposing structural roof deck.

SPEC WRITER NOTE: Retain subparagraph
below when roofing system components are
known. Edit to suit existing conditions.

1. Remove // cover board, // roof insulation, // vapor retarder, // and // substrate board //.
2. Remove or cut-off roofing system fasteners.

3.6 PARTIAL ROOFING SYSTEM REMOVAL

A. Remove existing roofing completely, exposing structural roof deck at locations and to extent indicated on drawings.

1. Remove // cover board, // roof insulation, // vapor retarder, // and // substrate board //.
2. Remove or cut-off roofing system fasteners.

SPEC WRITER NOTE: Retain article below if
removal is limited to existing roofing
membrane and selected components within
roofing system identified for removal.

3.7 ROOFING MEMBRANE AND SELECTIVE ROOFING SYSTEM COMPONENT REMOVAL

A. Remove existing roofing membrane, only, in locations and to extent indicated on drawings.

B. Visually inspect // cover board, // roof insulation, // vapor retarder, // and // substrate board // for moisture immediately after roof membrane removal.

1. Coordinate with Contracting Officer's Representative to observe inspections.
2. Identify wet roofing system components required to be removed.
3. Mark roofing system removal locations and extents.

C. Remove wet roofing system components.

1. Remove or cut-off roofing system fasteners when removals expose structural roof deck.

- D. Patch selective roofing system removals immediately after inspection and repair.
- E. Install patching materials to match existing roofing system.
- F. Patch roofing membrane to maintain building watertight, unless new roofing membrane is installed same day as removal and repair.

3.8 DECK PREPARATION

- A. Inspect structural roof deck after roofing system removal.

SPEC WRITER NOTE: Retain first paragraph below for concrete deck.

- B. Concrete Roof Decks:

- 1. Visually confirm concrete roof deck is dry.
- 2. Perform moisture test according to ASTM D4263 each day for each separate roof area.
 - a. Proceed with roofing work only when moisture is not observed.

SPEC WRITER NOTE: Retain first paragraph below for steel roof deck.

- C. Steel Roof Decks:

- 1. Visually inspect structural roof deck installation and fasteners.
 - a. Notify Contracting Officer's Representative of unsuitable conditions and inadequate fastenings potentially affecting roof system performance.

SPEC WRITER NOTE: Retain first paragraph below and revise to add fastening requirements.

- 2. Secure roof deck with additional fastenings as // indicated on drawings. // determined by Contracting Officer's Representative. //

SPEC WRITER NOTE: Retain paragraph below and revise to include replacement criteria. Coordinate specification of type of deck with "Related Requirements" Paragraph in Part 1 "Summary" Article.

- 3. Replace roof deck as // indicated on drawings. // determined by Contracting Officer's Representative. //
 - a. Replacement Roof Deck: See // Section 05 31 00, STEEL DECKING. // Section 06 10 00, ROUGH CARPENTRY. //

3.9 TEMPORARY ROOFING

- A. Install temporary roofing to maintain building watertight.

SPEC WRITER NOTE: Retain one of two paragraphs below.

- B. Remove temporary roofing before installing new roofing.
- C. Prepare temporary roofing to receive new roofing.

3.10 EXISTING MEMBRANE PREPARATION FOR NEW ROOFING

SPEC WRITER NOTE: Retain this article when new roof is installed over existing roofing membrane.

- A. Remove existing roofing surface projections and irregularities. Produce smooth surface to receive recover boards.
 - 1. Broom clean existing surface.

3.11 BASE FLASHING REMOVAL

- A. Expose base flashings to permit removal.
 - 1. Two-Piece Counterflashings: Remove cap flashing and store for reuse.
 - 2. Single Piece Counterflashings: Carefully bend counterflashing.
 - 3. Metal Copings: Remove decorative cap and store for reuse.
- B. Remove existing base flashings.
 - 1. Clean substrates to receive new flashings.
- C. Replace counterflashings damaged during removal.
 - 1. Counterflashings: See Section 07 60 00 SHEET METAL FLASHING AND TRIM.

SPEC WRITER NOTES:

1. Retain paragraph below if replacing parapet sheathing.
2. Parapet sheathing is specified in Section 06 10 00, ROUGH CARPENTRY.

- D. Remove existing parapet sheathing and inspect parapet framing.
 - 1. Notify Contracting Officer's Representative of damaged framing.
- E. Install // pressure-preservative treated // exterior fire-retardant-treated // plywood sheathing, // 15 mm (19/32 inch) // thick.

3.12 RECOVER BOARD INSTALLATION

- A. Install recover boards over existing // roof insulation // roofing membrane // with butted joints. Stagger end joints in adjacent rows.

- B. Fasten recover boards to resist wind-uplift.

SPEC WRITER NOTES: Insert Division 07
roofing section number and title for new
roofing membrane installation.

1. Fastening Requirements: See // Section 07 51 00, BUILT-UP BITUMINOUS ROOFING // Section 07 51 00.11, BUILT-UP BITUMINOUS ROOFING, HOT-APPLIED // Section 07 51 00.13, BUILT-UP BITUMINOUS ROOFING, COLD-APPLIED // Section 07 52 16, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE ROOFING, HOT APPLIED // Section 07 52 16.13, STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS MEMBRANE, ROOFING, COLD APPLIED // Section 07 53 23, ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING // Section 07 54 16, ETHYLENE INTERPOLYMER (KEE) ROOFING // Section 07 54 19, POLYVINYL-CHLORIDE (PVC) ROOFING // Section 07 54 23, THERMOPLASTIC POLYOLEFIN (TPO) ROOFING // Section 07 56 00, FLUID-APPLIED ROOFING // Section 07 57 13, SPRAYED POLYURETHANE FOAM ROOFING //.
2. Uplift Resistance: Base on pull out resistance determined by specified field testing.

3.13 FIELD QUALITY CONTROL

SPEC WRITER NOTE: Section 01 45 29,
TESTING LABORATORY SERVICES includes VA
provided testing for large projects and
contractor provided testing for small
projects. Coordinate testing
responsibility.

- A. Field Tests: Performed by testing laboratory specified in Section 01 45 29, TESTING LABORATORY SERVICES.

SPEC WRITER NOTE: ANSI/SPRI FX-1 sets
testing frequency as 10 tests for first
4,650 sq. m (50,000 sq. ft.) and five
tests for each additional 4,650 sq. m
(50,000 sq. ft.). Specify frequency to
suit project conditions.

1. Fastener Pull Out Tests: ANSI/SPRI FX-1.
- B. Existing Roofing System Warrantor Services:
1. Inspect reroofing preparation and roofing installation to verify compliance with existing warranty conditions.

2. Submit reports of field inspections, and supplemental instructions issued during inspections.

3.14 DISPOSAL

- A. Collect waste materials in containers.
- B. Remove waste materials from project site, regularly, to prevent accumulation.
- C. Legally dispose of waste materials.

- - E N D - -